

**Land Degradation and Livelihood Strategies in Rural Zimbabwe:
The Case of Two A1 Farms in Shurugwi District**

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Thesis Submitted in Fulfilment of the

Requirements for the Degree of

DOCTOR OF PHILOSOPHY OF

RHODES UNIVERSITY

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Department of Sociology

February 2022

Abstract

Land degradation is a global phenomenon which is having serious negative consequences for rural livelihoods, which depend quite fundamentally on land and its resources. At the same time, one of the key conditions contributing to land degradation relates to rural livelihood practices, insofar as these practices fail to protect the land. Hence, there sometimes exists a mutually-reinforcing process of decline, in relation to both land vitality and livelihoods vitality over time. This thesis seeks to investigate and understand this complex land-livelihoods process through a case study of two fast track farms in the Shurugwi District of contemporary Zimbabwe. In the year 2000, the Zimbabwean government introduced the fast track land reform programme which fundamentally reconfigured the rural landscape. In particular, it led to the formation of A1 farms (containing small-scale farming units called A1 plots), onto which people were resettled for purposes of enhancing their livelihoods. The case study focuses on two A1 farms in the district, namely, Selukwe Peak and Adare farms. Through a longitudinal study of land and livelihoods on these A1 farms, this study seeks to identify the multi-faceted character of land degradation on the farms, the multi-layered conditions (or causes) facilitating land degradation (specifically, the farm-based livelihood practices) and the effects of this land degradation on these very livelihood practices. This includes a focus on farmers' understandings of land degradation and how these understandings may or may not condition livelihood practices on the two farms. Of particular importance is the presence of not only agricultural practices, but also high levels of illegal and legal mining on the farms and in the surrounding areas. In pursuing this study, the thesis draws upon the Sustainable Livelihoods Approach alongside Margaret Archer's morphogenetic sociological perspective. Combined, they provide an intricate understanding of the relevance of both structure and agency to the analysis. A qualitative methodology was used, and this involved a questionnaire survey, in-depth interviews, life histories, focus group discussions and transect walks. The study concludes that the livelihood strategies undertaken by the villagers of Selukwe Peak and Adare farms are key causes of land degradation, as are the land-degrading activities of illegal and legal miners. The A1 villagers are aware that their activities are causing land degradation but they continue these activities because they are pushed by circumstances beyond their control. Hence, both proximate and underlying causes are of some significance in understanding land degradation and livelihoods on the two farms, and their interrelationships.

Acknowledgements

This thesis was a long journey which came about through the assistance of various people. It would not have been a success without these important people. Firstly, I thank my Almighty Lord for being with me throughout the research despite all the ups and downs I faced. This thesis would not have been possible without the Almighty God and it is only God who knows all the details of what I went through to complete this work.

I want to thank my supervisor Professor Kirk Helliker who was the most important person who walked with me from the beginning to the end. It was through his encouragement, constructive criticism, guidance and support that this thesis is complete. Professor Helliker, it was difficult but you guided me and made this possible. This journey started with you and ended with you. You were never absent from this work. I want to thank you a million times. I have learnt quite a lot of things from you. May the Almighty Lord protect you and your loving family.

In following the ethical procedures of doing research, I would like to thank the important people who gave me entry into the research site and accepted me to do my fieldwork. The research would not have been a success if they had denied me entry. The District Development Coordinator (DDC) Mr Mupeta was very welcoming and assisted me in various ways and opened doors for me to carry out my fieldwork. I would also want to thank the councillor Mr Kapeta who also assisted me and introduced me to various people inclusive of farm chairpersons.

To Mrs Chitubura I would like to say thank you for welcoming me into your home. I remember the first time I came to Selukwe Peak and Adare Farm, it was you who opened your home for me and made me feel at home. My journey into the field began at your home and you hosted everyone involved in Focus Group Discussions. You understood me in various ways which went a long way in making this research a success. To Mr Nyamande the farm chairperson, thank you so much for all the transect walks you did with me in both Selukwe Peak and Adare farm. You never got tired. You showed so much interest and had so much passion which led to the writing of this thesis. The walks that we covered together, as you made me familiarise with Selukwe Peak and Adare farm, will forever be cherished.

To Mr Harold thank you very much for giving me your insights on farming as an A2 farmer. You showed me that there is success in farming and with dedication a lot can be achieved. Again you welcomed me on your farm and it was a day well spent as you showed

me all the projects you are working on. It was an educative experience which transformed me up to this day. Thank you Mr Harold. Keep up the good work. You inspired me!

To Mr Kurirai Chakanyuka, whenever I think about this research I think about you. The walks I had with you gave me a lot of detailed information as we explored the Boterekwa together. It was difficult to walk in that terrain but you made it possible for me. I would not have gone to those daunting places without you. You walked with me in the Boterekwa forest and not just for a single day, but for that whole entire period I came. And with you I discovered a world I never knew existed. All your efforts are forever cherished.

I would also like to thank Dr Dzimbanhete from Great Zimbabwe University (GZU), you were my mentor when I worked at GZU. It was you who made me see that it was possible. During difficult times you told me to go on. When I felt like the world was crushing down on me, you opened doors for me. I have done it Dr Dzimbanhete. And it was because of your encouragement and endless support. You gave me a shoulder to lean on every time I came and surprisingly you never got tired. It was only you, who knew how difficult things were for me, it was only you I could talk to and it was only you who listened. You are forever well kept in my heart. You made this possible for me! May the Lord above bless you abundantly.

They say you get wise as you get old. Mr Gwishiri you are very wise. You had time to sit with me and explain to me your life experiences which you shared with me through your life history. You had so much time to explain what you went through and you had so much patience with me. Your life history was so detailed that I became involved in what you were explaining. The time you gave me cannot be measured. You had so much passion about this research and that encouraged me to go on. Such insightful information you gave me has produced something beautiful. Thank you Mr Gwishiri, you have shared history from your early life which shall be passed from generation to generation.

To Edmore Ngoni Chauraya my friend, towards the completion of this thesis my laptop crashed and you rushed and assisted me. It was a stressful moment but you told me not to worry and you quickly came to my desperate need. Again you made it possible.

To the people of Selukwe Peak and Adare farm, I would like to thank you. This is your project. These are your experiences, your narratives. You shared them with me. You welcomed me into your home. I was your daughter and I never had any problems because you accepted me. Thank you very much. Together we have made this a success.

Lastly to my family, my dad Amon Nciizah, my mom Vangrista Nciizah, to my brothers Alfred Nciizah and Dr Adornis Nciizah, to my sister Dr Elinah Nciizah and to my niece Amora

Mushoriwa thank you very much. It was you all the way. Nothing can surpass family. In those short words you know what I mean. Thank you!

Acronyms

AGRITEX	Agricultural Technical and Extension Services
BSAC	British South African Company
CENRG	Centre for Natural Resource Governance
DDC	District Development Coordinator
DFID	Department for International Development
DRC	Democratic Republic of Congo
ELD	Economics of Land Degradation
EMA	Environmental Management Agency
FAO	Food Agricultural Organisation
FAOSTAT	Food Agricultural Organisation Statistics
FC	Forest Commission
FGDs	Focus Group Discussions
FTLRP	Fast Track Land Reform Programme
GEF	Global Environment Facility
GoZ	Government of Zimbabwe
ICLEI	International Council for Local Environment Initiatives
IRP	International Recovery Platform
LMCs	Licensed Mining Companies
SLA	Sustainable Livelihoods Approach
SLM	Sustainable Land Management
SPSS	Statistical Package for the Social Sciences
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environment Programme
ZANU(PF)	Zimbabwe African National Union (Patriotic Front)
ZIMSTAT	Zimbabwe Statistics
ZIMASCO	Zimbabwe Alloy and Steel Company
ZELA	Zimbabwe Environmental Law Association
ZPA	Zimbabwe Poverty Atlas

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Chapter 1: Introduction and Methodology

1.1 Introduction

The livelihoods of rural people are closely linked to, and dependent upon, the natural habitat in which people live (Soini, 2006; Peng et al., 2017). At the same time, rural livelihood activities in turn powerfully shape and reshape the natural environment including with reference to the viability of land as a basis for agricultural and other activities (Andersson et al., 2011; McDonagh et al., 2006). This makes land a very crucial resource particularly for those rural people who directly rely on it for survival. However, today, there is striking evidence globally of the degradation of the natural environment (including of land), and this has become a major problem affecting the vitality of rural livelihoods in the short- and long-term. In fact, land degradation threatens food security for many of the poorest and most marginalised people living in rural Asia, Latin America and Africa (Gashaw et al., 2014).

This is certainly the case with Zimbabwe, as it has faced an increase in land degradation over the past few decades (Mharapara et al., 2010; Madembwe, 2005; Whitlow, 1988; Prince et al., 2009; Matsa et al., 2010; Makanyisa et al., 2012; Makwara, 2012). For instance, currently, Zimbabwe loses approximately 70,000 to 100,000 hectares of forest area per year (ZIMSTAT, 2016), as compared to an average of 52,000 hectares between 1963 and 1977 (Campbell et al., 1989). In terms of land mass, woodland cover declined from 53.00% in 1992 to 42.34% in 2008, while cropland expanded from 27.48% in 1992 to 41.24% in 2008 (Convention of Biological Diversity, 2013; ZIMSTAT, 2016) – with the increase in cropland linked to the decline in woodland cover. The deforestation rate in the country is hovering at 1.9% compared to the southern African deforestation average-rate of 0.5% (World Bank, 2015). Furthermore, Zimbabwe is losing an average of 1.6 million tonnes of nitrogen and 240,000 tonnes of phosphorous each year through soil erosion (FAO, 2014).

Scholars argue that the level, form and rate of land degradation is likely changing in recent years due the introduction of the Fast Track Land Reform Programme (FTLRP) from the year 2000, which expanded small-scale farming especially and opened up forests for agricultural expansion (Mubvami, 2004; Njaya et al., 2014b; Scoones et al., 2010; Hove et al., 2012; Makanyisa, 2012; Nyikadzino, 2014). The fast track programme saw the redistribution of large swathes of land owned by white commercial farmers to black farmers (Njaya, 2014), with two farm models central to the FTLRP: A1 schemes focusing on smallholder production which involve either villagised or self-contained farms/farm plots, and A2 schemes focusing

on commercial production on a larger scale (Scoones, 2010). One of the main purposes of the A1 farms was to decongest – and decrease land pressure in – the long-established communal areas (Fox et al., 2007, GoZ, 2001; Matondi, 2011; Mlambo, 2010), previously called Native Reserves and then Tribal Trust Lands in colonial Zimbabwe. Before independence, and then after independence but before fast track, land degradation was mostly confined to the communal areas.

However, there is increasing evidence that the FTLRP has led to land degradation in the former white commercial farming areas now called A1 farms (Mubvami, 2004). For instance, Fox et al. (2007) argue that the FTLRP produced major land changes in rural settlements, including the clearing of woodland, bushland and grassland for settlement and cultivation; and that certain agricultural practices carried out by A1 farmers tend to exacerbate land degradation processes. While this may be true, another key point relates to an argument put forward by Mkodzongi and Spiegel (2019), namely, that the change in the agrarian structure caused by the FTLRP has led to increased mobility into and across formerly inaccessible large-scale commercial farms. Prior to fast track, the white commercial farms were held under private freehold rights and farmers controlled these spaces quite tightly. Fast track land, like communal area land, is owned by the government and the boundaries of fast track farms are far more porous when compared to the pre-2000 white commercial farms. In areas of rural Zimbabwe where minerals are located (or discovered), the opening up of these once closed-off farms has resulted in the inward movement of artisanal and small-scale gold miners. Their mining activities, which are typically illegal, also contribute to processes of land degradation on A1 farms. Indeed, FTLRP resulted in new and diverse compositions of people on A1 farms with an array of livelihood strategies (Scoones et al., 2010).

The aim of this thesis is to identify and examine processes of land degradation on A1 farms in contemporary Zimbabwe under conditions where not only agricultural activities exist, but artisanal and other forms of mining do as well. It thus considers the ways in which, and the extent to which, farming and mining activities configure land degradation, while also recognising the complementary and antagonistic relationships which might exist between these two sets of activities. In pursuing this, the study makes use of a case study – Ward 18 in Shurugwi District and specifically two A1 farms in Ward 18 (Selukwe Peak and Adare farm). This district is a well-known mining area in rural Zimbabwe (including gold mining) and a number of A1 farms also have been established in the district. The livelihood strategies carried out by the A1 farm villagers include agriculture, mining, selling firewood, brick moulding and fishing. Thus, many farmers on the two A1 farms studied are themselves engaged in illegal

mining on their own farms, and other illegal artisanal miners as well as legal mining companies are also active in the area (including on the two farms). Land degradation in Shurugwi District, and on Selukwe Peak and Adare farms, is a serious problem, and identifying, unpacking and analysing the land degradation processes and practices in all their complexity is the key focus of this thesis.

1.2 Background to the Study

Conceptually, land degradation involves a temporary or permanent reduction in the productive capacity of land, or a decline in its potential to produce benefits from a particular land use under a specific land tenure system (Bai et al., 2008; Enters, 1998; Lal, 1994; Pieri, 1995; Salehi et al., 2017; UNEP, 2015).

Land degradation directly affects the livelihoods of millions of people globally, particularly in the world's drylands, where more than 500 million hectares of land is degraded (Global Environment Facility, 2014). During the 1981-2003 period, it is estimated that almost a quarter of the earth's land surface had become degraded, affecting some 1.5 billion people (UNCCD, 2012). In addition, every year about 12 million hectares of arable land is lost, and along with it the potential to produce 20 million tonnes of grain (UNCCD, 2012). As a way of showing the importance of land and to try and stop further land degradation, the Food and Agricultural Organisation (FAO, 2014) declared 2015 as the International Year of Soils. However, land degradation continues to take place at a rapid pace with scientists recently warning that 24 billion tons of fertile soil is being lost per year, largely due to unsustainable agricultural practices (Global Environment Facility, 2019). If this trend continues, 95% of the earth's land areas could become degraded by 2050. This makes land degradation a major global problem that is affecting every continent and, further, it is a threat-multiplier due to its huge impacts on human security (including food security) (Behrend, 2016).

Africa is one continent that is particularly vulnerable to land degradation and is the most severely affected region (Kirui et al., 2015a; Nachtergaele et al., 2011; Nellemann et al., 2009; Obalum et al., 2012), with severe negative implications for food vulnerability and security. This is mainly because 70% of the African population directly rely on land for their livelihoods which mainly centre on agricultural activities. Any negative trends regarding land vitality and productivity are bound to be detrimental for rural livelihoods and food security. To date, land degradation in Africa has been very detrimental to agricultural ecosystems and crop production and thus it is an impediment in achieving food security and improving livelihoods (ELD and UNEP, 2015). On the southern edge of the Sahara, some 65,000km² of once-

productive land has become a desert over the past 50 years (FAO, 2014). Over a decade ago, it was estimated that 65% of Africa's agricultural land was degraded due to erosion and/or chemical and physical damage, and 31% of its pasture lands and 19% of its forests and woodlands were classified as degraded (UNEP, 2008).

The effects of land degradation are deeply troublesome. Anywhere from 40% to 75% of the world's agricultural land productivity is reduced due to land degradation (Baylis et al., 2012; Deresa et al., 2015). Constanza et al. (1997), D'Odorico and Ravi (2016) and McDonagh et al. (2006) all argue that land degradation affects directly and indirectly billions of people around the world and leads to: overexploitation of soil resources and food insecurity, declines in the productivity of croplands and rangelands, and loss of both ecosystem productivity and rural livelihoods. Food insecurity, higher food prices, climate change, environmental hazards and the loss of biodiversity and ecosystems are constantly cited as some of the major effects of land degradation across the globe (Poufoun, 2006; Aradottir et al., 2013).

There are various proximate and immediate causal factors leading to land degradation, which make it a complex and interactive process, with land use/cover changes being central to degradation processes (Li et al., 2015; Foley et al. 2005). Generally, some of the causes of land degradation include the growth and spread of populations, inappropriate land-use practices, excessive use of chemicals, mechanised agriculture and natural phenomena such as floods and drought. However, while some land cover changes may be a result of strictly natural processes without any human influence, there are many natural happenings which are human induced or conditioned. Also, at the local level, land degradation may be set in motion by factors outside of the immediate realm and scope of the land user and his land (Soini, 2006). Natural causes affect land degradation through periodic stresses of extreme and persistent climatic events (Li et al., 2015), though the occurrence and effects of so-called natural phenomenon such as floods and droughts are configured in many instances by human activities. Yet, these natural events are still different to fully anthropogenic causes which relate directly and explicitly to human activities, including by way of for example deforestation, removal of natural vegetation, urbanisation, unsustainable agricultural practices and population growth (Li et al., 2015).

The need to understand the character and dynamics of land degradation has led to a significant body of literature globally which focus on the wider structural and systemic causes of land degradation, and not just the proximate causes (Andersson et al., 2011; Bowyer et al., 2009; Grepperud, 1996; Gerber, 2013; Kirui, 2015a). Many of these studies concentrate on the relationship between land degradation and economic growth (Aggrey et al., 2010; Bucknall et

al., 2000; Carr et al., 2009; Duraiappah, 1998; Everett et al., 2010; Hetzler, 2012; Jehan et al., 2003; Lappe et al., 2003; Opschoor, 2007; Panayotou, 2000). Other studies, however, highlight economic decline and poverty, market and institutional failure, and deficient policy making and implementation, as underlying causes of land degradation (African Development Bank, 1986; Angelsen et al., 1998; Southgate, 1998). In Africa, underlying and proximate causes of land degradation are said to include agricultural practices, poverty, economic pressure, increase in population growth, migration, insecure land tenure, unsustainable land management practices, deforestation, overgrazing, mining, and social/cultural conflicts (Bationo et al., 2006; Diagana, 2003; Nkonya et al., 2011; Wanjala, 2012).

Most of these causes point to the significance of human influence and, in particular, the pursuit of local livelihoods and national economic development. This thesis focuses specifically on local (rural) livelihoods in the Shurugwi case study. In this regard, it is through land use that the intersection between – and interaction of – livelihoods and land is clearly evident (Soini, 2006), with the contingent dynamics between land and livelihoods having implications for processes and practices of land degradation. Rural livelihood strategies are heavily reliant on the natural resource base, notably the land, as households and communities pursue multiple ways of achieving livelihood goals and well-being.

As articulated by the Sustainable Livelihoods Approach (SLA), livelihood strategies include a range and combination of choices and activities in order to achieve some level of sustainability over time as functioning household units in rural spaces, including production activities, investment strategies and social reproduction arrangements (DFID, 2001; Ellis, 2000; Peng et al., 2016). These strategies entail access to levels and forms of social, human, financial, physical and natural (i.e. land and natural resources) capital (Rakodi, 2002), with households often adapting their livelihood strategies over time in response to changing environmental, social and economic conditions. In addition, shocks and stresses are experienced by rural communities and households (de Haan, 2000). All this takes place within, and is structured by, sets of power relations and forms of inequality.

Numerous studies of developing nations have focused on rural livelihood strategies in relation to land and land degradation (Chambers et al., 1992; Dhar, 2001; De Haan, 2015; Ellis, 1998, 2000; Nyantika, 2015; Peng et al., 2017; Sallu et al., 2010; Tittonell, 2013). For example, Peng et al. (2017) and Wanjala (2012) both conclude that rural people's activities such as wood cutting, cultivation methods and livestock keeping were the main causes of land degradation. Nhapi (2000) argues that, in Namibia and Kenya, land reform areas are facing significant degradation due to people encroaching into grazing land for crop farming purposes. Regassa et

al. (2011) discovered that resettled farmers in Ethiopia were carrying out activities which were depleting the forest and affecting soil fertility and wildlife resources. Kirui (2015) likewise notes that land degradation in Tanzania and Kenya is a serious impediment to improving rural livelihoods. Putting all this into consideration, rural livelihood strategies have become an impediment to attaining land sustainability and, at the same time, land degradation is undercutting these very livelihood strategies.

1.3 Significance of the Study

The study is important and relevant in the 21st century as it addresses one of the major environmental and social problems that the world in general and Zimbabwe in particular are currently facing. There has been a dramatic increase in land degradation in recent years and this has led to the depletion of the natural resource base for human sustainability. Human activities such as deforestation, over-grazing, mining and quarrying have deepened land degradation around the globe, making land degradation an unquestionable global issue with serious implications worldwide for biodiversity, eco-safety, poverty eradication, socio-economic stability and sustainable development. It thus becomes fundamental to study land degradation as people depend on land for survival, including in relation to food security. In order to address land degradation and bring about land sustainability, land, land use, and livelihoods need to be understood in all their complexity (Soini, 2016). In addition, if sustainable livelihood practices are to be fostered, there is a need to study and understand unsustainable land practices and the reasons behind practicing such strategies. This involves analysing the factors that influence household livelihood choices and identifying the land-based consequences of these choices (Peng et al., 2017).

In order to understand fully the dynamics of land degradation, locality becomes crucial – as this study seeks to show in the examination of two A1 farms. Although land degradation and livelihoods (and their interactions) around the globe are subject to a multitude of influences (or structural conditioning) from the national and global contexts, locality and proximate conditioning continue to play an important role in sustainable-livelihood thinking mainly because natural resources and their usages are place-specific (Soini, 2006). This makes this study of some significance as it seeks to understand land degradation from a micro-level perspective, including by using the farm-villagers' own understandings of land degradation and analysing their livelihood strategies in this light. Hence, it is crucial not to assume that the causes of land degradation are the same all over the world. What is particularly striking about the Shurugwi District in Zimbabwe is its mineral wealth. An understanding of land degradation

on the two fast farms studied is not possible if the story of mining (including illegal mining) in the area and on the farms is left untold. The shocks and stresses faced by the Shurugwi farmers also have a pronounced local element to them as do the pertinent power relations and inequalities.

In pursuing the topic of land degradation and livelihoods on A1 farms in Shurugwi, the study operates at different levels of theoretical analysis – using both a macro-and micro-level approach. Unlike most studies which make use of the Sustainable Livelihood Framework (SLA), this study seeks to ‘merge’ it with Margaret Archer’s morphogenetic approach. The SLA offers a micro-level analysis, but this is grounded in Archer’s more abstract macro-theorising about social life, including questions around structure and agency. As Moseley (2001) highlights, the ultimate causes of land degradation are linked to social, structural and power inequalities that can be found at local, national and indeed global levels. Land-use and land degradation is, as noted, locally specific, and it becomes important to understand the localised livelihood choices of households by drawing upon the SLA. But, the SLA is under-theorised sociologically, and therefore I turn to Archer’s work to give my analysis a firmer sociological footing, including by incorporating macro-factors more fully into the study.

1.4 Thesis Questions and Objectives

In order to address the major concerns of this study, the following questions guided the research:

- What are the past agricultural and other livelihood practices dating back to the pre-colonial period and local historical memories of these?
- What are the trends and trajectories of A1 farmers’ livelihood strategies in Shurugwi?
- What are the proximate and underlying causes of land degradation on the A1 farms in Shurugwi?
- What are the narratives of the A1 farmers in Shurugwi in relation to land degradation?
- How does land degradation affect livelihood strategies of A1 farmers in Shurugwi?

The main objective of the thesis is to examine the interrelationships between land degradation and rural livelihoods on two A1 farms in Shurugwi District in Zimbabwe. The subsidiary goals are:

- a. To examine past agricultural and other livelihood practices dating back to the pre-colonial period and local historical memories of these.
- b. To examine the trends and trajectories of A1 farmers’ livelihood strategies in Shurugwi.

- c. To examine the proximate and underlying causes of land degradation on the A1 farms in Shurugwi.
- d. To examine the narratives of A1 farmers in Shurugwi in relation to land degradation.
- e. To examine the manner in which land degradation affects livelihood strategies of A1 farmers in Shurugwi.

1.5 Background to Research Site

Shurugwi is situated in the Midlands Province, 33 kilometres away from Gweru, in the southern part of Zimbabwe. The district is well-known as the home of the former Prime Minister of Rhodesia (Ian Smith), who owned the 4,000 acre Gwenzoro Farm near Gwenzoro Dam. The district was formerly known as Selukwe in the colonial era and was established in 1899 by the British South Africa Company and Willoughby's Consolidated Company (Britannica, 2018). The name Selukwe was derived from a nearby bare oval granite hill that resembled the shape of a pigpen (translated *Selukwe*) of the local Karanga people (Britannica, 2018). Today, Shurugwi is known as a beautiful scenic town in Zimbabwe's Midlands Province and sits on the famous mineral-rich belt known as the Great Dyke (CNRG, 2020; Matsa et al., 2011). The Great Dyke stretches some 550 kilometres diagonally from north to south of the country, with a width ranging between 4 and 11 kilometres (Matsa et al., 2011). Minerals mined in Shurugwi include gold, nickel, chrome and platinum, and the district is also one of Zimbabwe's largest producers of chrome (Britannica, 2018). Within the district is situated a most scenic road, known as the Wolfshall pass, locally referred to as the Boterekwa, a six kilometre winding road constructed between mountains by an Italian Company.

Shurugwi lies within semi-arid agro-ecological region III, receiving an average rainfall of between 600 and 800 millimetres (Madebwe et al., 2005; Maroyi, 2013). Granite is the dominant parent rock in the area and the soils derived from the granite range from a sandy to loamy texture (Britannica, 2014). The district typically receives rainfall between November and April of each year. It is characterised by a number of land uses including residential settlement, agriculture, mining, industrial and forest areas (Madebwe, 2005). It is not unusual for small-scale farmers in the district to depend on non-farm activities as a source of income. The livelihood strategies of small-scale farmers in Shurugwi (in both communal and resettlement areas) thus include agriculture, illegal gold mining, selling firewood and sand poaching all of which are linked to the natural environment and land specifically. Maize cultivation is the main crop cultivated with a few households planting sorghum and millet (Maroyi, 2013). In terms of livestock, cattle and goats are the main animals kept for both

draught power and as a store of economic value. Shurugwi district is made up predominantly of the Karanga ethnic people with a few Ndebele speaking people. There are also a few people of Malawian descent who are ex-employees of a steel company named Zimasco.

The population of Shurugwi in the 2012 census was 77,460 people (ZIMSTATS, 2012). At the time of this research, the next census had not yet been carried out. Shurugwi district is divided into two constituencies: the North and the South which falls under the Tongogara Rural Council. There are a total of 37 wards in Shurugwi and ward 18 (the focus of this study) is found under Tongogara Rural Council. Ward 18 surrounds Shurugwi town and it is the largest ward in the district with 72 villages, 3,204 households and 19 A1 farms. It has a population of 6,344 people including on both A1 and A2 farms; with, according to the census of 2012, 1,100 poor households and 400 non-poor households (ZIMSTATS, 2012). The poverty prevalence in the ward stands at 71.6% (Zimbabwe Poverty Atlas, 2015).

1.6 Research Methodology

The essence of the research process is the researcher's understanding of what is worth knowing and how to collect the knowable and later to interpret and explain it. Notably, methodology is the bridge that brings our philosophical standpoint (on ontology and epistemology) and research design and methods together. In this respect, before detailing issues around the research design and methods, this section first lays bare the ontological and epistemological claims underpinning this study.

1.6.1 Ontological and Epistemology Claims

In order to gain knowledge about the social world, there exist ontological and epistemological commitments that guide the research methodology, design and methods (Scott, 2014). Notably, each and every research methodology depends quite fundamentally upon philosophical issues related to the questions of ontology (i.e. the nature of reality) and epistemology (i.e. the nature of knowledge) (Tuli, 2010).

Guba and Lincoln (1994) (in Sutrisna, 2009) thus state that ontology refers to the claims and assumptions that are made about the fundamental character of reality, that is, claims about what exists, what it looks like, what units make it up and how these units interact with each other. Broadly speaking, there are three main ontological positions present in sociology: that reality consists of things (positivism) that reality consists of intersubjective meanings (constructivism) and that reality consists of underlying relations (often associated with Marxism). Roy Bhaskar (Bhaskar, 1989, 1998), as a critical realist with a pronounced Marxist

imprint, speaks though about a stratified ontology in which there are different domains of reality, namely, the empirical, the actual and the real. The empirical consists of experiences while the actual consists of both events and experiences; in addition to events and experiences, the real also incorporates underlying relations and mechanisms with causal powers which generate events and experiences in indirect, mediated and refracted ways. These underlying relations (with their generative properties and mechanisms) ultimately have foundational ontological status (Scott, 2010, 2014; Sayer 2000).

Margaret Archer (Archer, 1995) has sought to incorporate Bhaskar's approach into sociology by constructing a social realist perspective. Archer speaks about the emergent properties of humans and social structures, both of which also have causal powers (Elder-Vass, 2008). These causal powers (of human agency and social structures) are distinct from, and not reducible to each other, and combined they generate events and experiences. This involves what Archer labels as analytical dualism, as discussed in chapter 2. Briefly, Archer's analytical dualism calls for a separate analysis of structure and agency in order to avoid different forms of conflation (Archer, 1998; Priestley, 2011). This means that the social world is configured in dynamic ways by the complex interaction of human agential power and structural power, a point drawn upon in examining land degradation and rural livelihoods in Shurugwi. In doing so, I tend to pay particular attention to the human agency of the A1 farmers in Shurugwi, without ignoring the structural traces conditioning this agency (and conditioned by this agency). Hence, with a constructivist angle into the topic, I focus on the world as experienced, interpreted and constructed by the farmers, but in a relational way – i.e. in the context of the social relations in which they are entangled (Maxwell, 2006; Guba and Lincoln 1985; Mutch, 2005).

Ontological claims tend to have a significant influence on epistemological claims. If the world is constituted ontologically in a particular way, then it is necessary to adopt an epistemological position that is able to identify, examine and analysis this world. In this regard, I choose a strongly constructivist epistemology as I sought to understand the perspectives, experiences and practices of the A1 farmers, and hence their agential powers. Agential powers are only potential powers. Hence, in studying the A1 farmers, I sought to identify the many factors that enable or disable the realisation of agential powers, as manifested in the details of their farm-based lives and livelihoods. This led me, as discussed below, to a largely qualitative methodology, but one which – to emphasis – allowed me to identify the underlying structures and structural traces flowing through their everyday existence.

1.6.2 Case Study Research Design

Case studies are a valuable way of looking at and understanding the world around us. This research used a case study design in order to understand the real life experiences, perspectives and practices of a specific grouping of rural people with regard to land degradation and their livelihood strategies. According to Rowley (2002) and Yin (2013), a case study is a type of enquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not necessarily clear or evident. Creswell (2007) further stipulates that a case study design involves a researcher investigating a bounded system or multiple bounded systems over time. For this thesis, ‘over time’ is of significance, as land degradation is understood as a process and not merely as a condition. A case study entails detailed and in-depth data collection, often involving multiple sources of information such as observations and interviews. This implies an intensive analysis of a particular event, situation, organisation or social unit.

There are different types of case studies (exploratory, descriptive and analytical) and, for this study, I adopted an analytical case study (Tuli, 2010; Jackson, 2016). This type of case study was critical because the very objective of the study is explanatory – i.e. not only to identify, but also to analyse the complex relationships between land degradation and rural livelihoods. What makes a particular case study analytical is the concern with cause-effect relationships. While causal relations are often associated with positivism, this study speak about the presence of these relations, given the notion of causal powers used already – but I do not pursue causality in any strong statistical sense. Often, I prefer to use the term ‘conditioning’ rather than ‘causing’, as a soft and not hard form of socially determined and one consistent with sociology’s pronounced focus on qualitative and relational understandings of the social world. Additionally, though there are seemingly two cases (Selukwe Peak and Adare farms), this does not entail a comparative case-study analysis. The two sites, as one case study, were selected to ensure a more robust understanding of the situation that prevails in Shurugwi District. At the same time, important differences across to the two A1 farms will be brought to the fore where relevant.

The case under study (two A1 farms in ward 18 of Shurugwi district) Selukwe Peak and Adare) was used as a way of developing a detailed and in-depth analysis of land degradation in the context of the livelihood strategies undertaken by the people on a daily basis. The flexibility of the case study design, which is a qualitative one for this particular study, facilitates the possible use of various methods of data collection. The data collection methods for this case study include interviews, observations, life histories and focus group discussions.

Though, as indicated below, the sampling procedures for this study were by no means strictly random sampling, the analysis contained in this case study will likely have relevance for similar A1 farm sites in Shurugwi and elsewhere in rural Zimbabwe.

1.6.3 Main Case Study: the Two A1 Farms

The two A1 farms in Shurugwi District comprise the case under study, and non-probability sampling, specifically purposive sampling, was used in selecting the district in the first instance, and then the two farms. As Edmonds and Kennedy (2017) note with reference to purposive sampling, the researcher selects specific places, practices or individuals for a study based on a specific need or purpose. Given the thesis topic and focus (land degradation and rural livelihoods on fast track farms), the district itself was chosen because it was widely known to attract both illegal and legal miners who, it is said, are causing land degradation in rural Shurugwi. Furthermore, there are a number of A1 farms in the district, with 118 of its white commercial farms falling under fast track between 2000 and 2003 (Marongwe, 2013).

The FTLRP led to the division of the commercial farms into A1 (and some A2) farms; and the opening up of once closed-off forests and bush areas on the ex-commercial farms (thought to be rich in minerals) contributed to the influx into the Shurugwi area. Quite possibly, the most practiced livelihood strategy in Shurugwi District is illegal gold panning. As well, the A1 farmers, like elsewhere in the country, were converting previously-wooded areas into cultivated areas, thereby likely contributing to land degradation as well. It is notable that there has been considerable land use and land cover change in the Shurugwi area, with cropland cover expanding by 52.6% in the period 2000-2009 as compared to 35.3% in the (pre-fast track) 1991-2000 period (Matsa et al., 2011).

Clearly, then, Shurugwi district made for an ideal study site for the thesis. Additionally, though, and again using purposive sampling, the study focuses more specifically on ward 18 in Shurugwi, and this is because of the sheer intensity of land degradation in this particular ward. There are 19 A1 farms in ward 18 and, in order to collect in-depth and comprehensive evidence about land degradation on A1 farms, I decided to select two A1 farms for study: Selukwe Peak Farm which holds 153 households and Adare Farm which has 68 households. The two A1 farms were chosen on a non-random basis, mainly because of their close proximity to Boterekwa and the high prevalence of mining activities taking place on them. Boterekwa is a very popular place in Zimbabwe (it is known as a tourist attraction) and also the Great Dyke (with many mineral deposits) passes through it, making it an attraction for miners. The two farms also share a boundary which made it easier for collection of data during field trips.

Moreover, although there is a boundary between the two, it is as if the farms are one; in this sense, the livelihood activities carried out by the A1 villagers transcend formal boundaries and they jointly share the same mountains and forests.

I discuss the sampling of households on the two A1 farms later. Overall, the sampling of the district, farms and households was not done on a strictly random basis. This means that I do not claim that the case study is statistically representative of A1 farms more generally, though the results of the study uncover processes, practices and perspectives which likely resonate with what is taking place on other A1 farms around the country particularly where mining is taking place on a significant scale.

My case study covers a 21-year time span, beginning in 2000 and ending in 2021, as I was guided by the changing events that took place in the District as a result of the FTLRP which commenced in 2000. Before the FTLRP, Shurugwi district had many commercial farms, which had left small-scale farmers to be confined in the main to the congested communal areas. The FTLRP changed all this as it led to the division of commercial farms into A1 farms. It was therefore necessary to trace land degradation processes and practices back to the year 2000 in order to understand the condition of the land when the villagers first began residing in the ex-commercial farms. An examination of this period was long enough to identify changes in land use and land cover in the area and with reference to the livelihood strategies pursued by A1 farmers and others (for instance, in-migrant illegal miners) during this extended period.

1.6.4 Access to the Research Site

My fieldwork took place from March 2021 to November 2021. The major current livelihood strategy in the area, mining, is an all year round activity and did not require any specification of seasons in terms of timing of the fieldwork. However, it was necessary to take note of the end and the beginning of the farming season in order to observe the full duration of farming activities as well as the character and rhythms of these activities.

In accessing the study site, I first received permission from Rhodes University by being issued with an ethic approval letter that enabled me to carry out my research in Shurugwi. This, coupled with the letter I received from my supervisor, assisted me greatly in approaching all the necessary gatekeepers. I began by seeking permission from the Provincial District Administrator in Gweru who then refereed me to the DDC at district level in Shurugwi. After this, I was able to meet up with the ward councillor (for ward 18), government officials and local leaders on the two farms. This allowed me access to the two farms for purposes of my academic study, and ensured the cooperation of the A1 farmers.

1.6.5 Data Collection Methods

According to Tuli (2010), a qualitative methodology makes use of a range of methods aimed at gathering a deep understanding of the world as experienced and interpreted, thereby facilitating the construction of an insider's perspective on social phenomena. At the same time, social reality is not reducible to subjective perspectives and hence, simultaneously, it is necessary to be sensitive to the social context within which the perspectives and practices of those studied exist (Neuman, 2003). Hence, it became important to understand local land degradation perspectives and practices on the two A1 farms studied in Shurugwi without losing sight of how these are conditioned by underlying structures. The data collection methods used for this study were of relevance especially with regard to local processes, practices and perspectives, but I seek to understand these within the broader political economy of Zimbabwe (as detailed in chapter 4).

The fieldwork for this study involved the use of questionnaires, in-depth interviews, focus group discussions, observation and life histories. Combined, these data collection methods allowed for both an extensive and intensive understanding of land degradation and livelihoods in Shurugwi, both synchronically and diachronically. They enabled me to capture the experiences and narratives of A1 farmers and others in the area, and the ways in which they seek to pursue livelihoods in the face of troubling local and national conditions. By focusing on ordinary events in natural settings, the qualitative data methodology and methods gave me a strong handle on what every-day 'real life' is like on Selukwe peak and Adare A1 farms.

1.6.5.1 Questionnaire

The first method I used to collect data was the questionnaire. A questionnaire is, potentially, an important part of any research project and it facilitates the gathering of evidence from a significant number of respondents (Abawi, 2013). For this study, it was important for collecting quantitative data about the lives and livelihoods of the A1 farmers, thus developing an overall profile. For research findings to be generalised to a wider universe with a limited degree of error, the random sample should comprise about 10% of the population under study (Burgess, 1982). Random sampling was used to choose respondents for the questionnaire, as everyone had an equal probability of being chosen. Randomly, I selected 12% of the total number of households in each of the farms as the sample group. In Selukwe Peak, the total population of households is 153 and therefore 18 were chosen as the sample group. The same was done in Adare farm – it has 68 households and 12% were selected as the sample. The total sample (comprising of Selukwe Peak and Adare farm) therefore added up to 26 households.

Among the 26 households selected, 65% were male headed, 12% were de jure headed by females, and 23% were female headed on a de facto basis. In terms of age groupings, there was the following breakdown: the 18-24 age grouping had one respondent, as did the 25-34 grouping; the 35-44 grouping had 3 respondents, 45-54 had 10 respondents, 55-64 had 7 respondents and those who were above 64 were 4. I realised that the age grouping of 45-54 had a significant number of respondents because, in the two A1 farms, most of the people were given land during the FTLRP when they were still young. For the questionnaires, household heads were used as the respondents. However, in a few cases where they were not available, the most suitable person to represent the household was selected, considering age and period of stay in the area as relevant factors.

The questionnaire was the first method used in the field and they were administered in April 2020. The use of the questionnaire in the early stage of the fieldwork allowed me to engage in a scanning and scoping exercise, as it provided me with an initial understanding of local conditions and practices on the two farms. In order to collect data using questionnaires, I was assisted by two research assistants who were doing undergraduate studies at a local university. For the questionnaires, 60% of them were conducted by me while 40% were done by the research assistants. I spoke in depth to the two assistants about my study, familiarising with the research concerns of the study and the ethics involved.

The questionnaire consisted of both closed-ended questions focusing on basic socio-economic data for the A1 households and open-ended questions which referred to the perspectives and practices of the A1 farmers in relation to land use, livelihoods and land degradation. Open-ended questions gave some liberty to the research subjects to express their views in some detail. The questionnaire was written in English and, for those respondents who were having difficulty in understanding a question, it was translated to the vernacular language (Shona) by the research assistants. (The questionnaire appears as Appendix 1). The interviews were done door-to-door which gave me time to observe the area and also to undertake informal conversations during the walks. Since the questionnaire was semi-structured, it took between 30 to 40 minutes to complete a single interview. I also used a tape recorder where consent was given and took notes in cases where it was denied.

1.6.5.2 Key Informant In-Depth Interviews

The second method of data collection I used was in-depth interviews with key informants. In-depth, informal interviews are a central research method when it comes to qualitative research (Shkedi, 2019), as they facilitate the gathering of quite detailed information about a research

subject's thoughts and views on social phenomenon (Showkat and Parveen, 2017). Boyce and Neale (2006), define an in-depth interview as a qualitative method involving intensive individual interviews with a small number of respondents to explore, identify and understand their perspectives on a particular idea, programme or situation. As Kvale (1996) (in Showkat and Parveen, 2017) puts it, 'knowledge is understood as buried metal and the interviewer is a miner who unearths the valuable metal'. In many instances, they entail interviewing participants who have a particularly well-informed knowledge base on an aspect of the study under research, or occupy a central position within the study site (and, hence, whose views are significant). Thus, this entailed key informant interviews, with a series of open-ended questions.

I used purposive sampling in choosing the participants for these interviews, as I was looking for individuals who would be able to provide in-depth insights or important perspectives about the livelihoods of the A1 farmers on Selukwe Peak and Adare farms, and the land changes taking place in the area. All of the key informants had first-hand knowledge of the two A1 farms, and they also were able to offer some degree of contextual evidence within which to locate the happenings on the two farms.

In-depth interviews with the key informants began in May 2021 and ended in October 2021. In all, there were 13 key informants' interviews: six of the participants were from relevant government offices with the remaining seven from the villages. The government grouping consisted of the following: the Shurugwi District Development Coordinator (DDC) and the Ward Councillor (see Appendix 2 for their key informant interview schedule), the Ministry of Lands official (Appendix 3), the Environmental Management Agency (EMA) official (Appendix 4), and the AGRITEX official and the Ministry of Mechanisation official (Appendix 5). The other grouping comprised of the two farm chairpersons (one from Selukwe Peak and one from Adare farm, chosen because of their knowledge of the two A1 farms), one illegal miner (chosen in order to understand more about illegal mining, one A1 farmer (chosen because of his sole interest in farming, without venturing into mining), two local elders (chosen for their overall knowledge of the area), and one A2 farmer (chosen because of his success in the area) (see Appendix 8 for their key informant interview schedule).

The interviews were done at the work places of the informants or at their homesteads, and appointments were made prior to each interview. Each in-depth interview took between 40 minutes and 1 hour to complete, and a tape recorder was used by me in cases where the informant permitted this, while note taking was used in cases where an informant refused to be recorded.

All of the key informant interviews involved one-on-one face-to-face interviews, rather than by phone or via a social media platform. This was advantageous in that it allowed both the research and key informant to be more relaxed and it made it easier to ask more probing and complex questions and obtaining detailed responses in return. At the same time, these interviews also helped me to raise and discuss sensitive topics that might prove difficult in group-based discussions. One example of this is the interview with the illegal miner, who raised issues that he would not otherwise raise when in the company of others. I was also able to make use of these in-depth interviews to clarify certain matters which at first appeared confusing to me.

1.6.5.3 Focus Group Discussions

Focus group discussions (FGDs) were the third data collection method used. They were used to stimulate the collective memory and reflections (Shneiderman and Plaisant, 2005) of Selukwe Peak and Adare villagers with regard to land degradation and livelihood activities. The use of FDGs helped in cross checking participants' opinions with other opinions gathered. Using multiple data collection methods enables the confirmation of issues raised, therefore increasing reliability of results. Two FGDs, one for each farm, were used and they comprised of 10 people each. Each group included some who had been part of the questionnaire-survey (four people) and the other six were not part of any questionnaires or interviews previously carried out.

Non random sampling was used to identify the respondents who participated in FGDs. Purposive sampling was used to select 4 people from Selukwe Peak and 4 people from Adare farm who had participated in questionnaires. These respondents were selected given the information that they gave in questionnaires which triggered me to include them again in FGDs. Some of the people who participated in the questionnaires, and who were part of the FGDs, had raised intriguing issues that required further fleshing out and also confirmation (or otherwise) from other villagers during an FGD. Convenience sampling was used to select the other 12 FGD members – 6 from Selukwe Peak and 6 from Adare farm.

The FGDs were carried out in May 2021 and June 2021. All age groups were represented, that is, 18-24, 25-34, 35-44, 45-54, 55-64 and above 64. The FGDs had a good representation in terms of gender with five females and five males per each group. This was to ensure, as much as possible, an accurate representation of people found on the farms and to allow for different views and perspectives on land degradation and livelihoods. During the actual group discussions, I made sure that there was a balance in terms of both women and men

airing their concerns, so as to ensure a comprehensive narrative on issues transpiring on the two A1 farms. The FGDs took between 1 hour to 1 hour 30 minutes to complete and the Shona vernacular was used in cases where respondents failed to understand English. Note taking was used to record the information (The FGD interview schedule appears as Appendix 6).

1.6.5.4 Life Histories

The fourth data collection method used was the life histories. Life histories capture people's own perceptions of their lives (Goodson and Sikes, 2001), with the aim of exploring the culture and history of places through the memories and recollections of its people (Cross et al., 1994). As Davies et al. (2018:6) put it,

Life histories provide a deeper understanding of the events that have shaped a person's life, one that goes beyond a broad consideration of the macro-scale social, cultural and economic conditions that have given rise to particular events, to delve into the subjective perspectives and meanings that people ascribe to personal experiences.

In this way, the intention of a life history is to understand how patterns of different life stories can be related to their wider historical, social and political context. Hence, they provide insights into long-term change and continuities (social, economic, natural, cultural and political). The subjective nature of life histories allows for a more contextual understanding of why and how certain decisions are made. In this regard, I employed the use of life histories in order to know more about the villagers, their way of living and their culture.

Through life histories, I managed to capture the lives of A1 farmers over the long-term, including livelihood trends and trajectories in the communal areas prior to FTLRP (as most A1 households moved from communal areas). I was able to construct a more intimate understanding of the changes that took place in terms of land use and land cover and how human activities have influenced these changes. As well, life histories provided me with insights on cultural beliefs and their connection to land issues among the villagers, both at a community level and individual level. Through life histories, I managed to delve into the dynamics of cultural arrangements on the two farms and how the villagers' disregard of cultural practices was a contributory factor to the land degradation taking place.

I conducted life histories from May 2021 to July 2021 with two people, one from Selukwe peak and the other from Adare farm. The two were elderly people (one male and one female chosen, because of their knowledge about cultural issues and length of stay in the area). Non-random purposive sampling was used in selecting the two participants in order to identify

individuals who had specific knowledge on important events that took place in the area over time. Life histories were carried out at the informant's homestead and each life history took an average time of 1 hour to complete. The life histories involved a combination of tape recording and note-taking. The Shona vernacular was used as the informants who participated in life histories were elderly and did not have any form of education to permit English to be used (The life history schedule appears in Appendix 7).

1.6.5.5 Observation

Observation was used simultaneously with other methods. Observation is essential for identifying what is in fact taking place in the research site, rather than relying exclusively on claims about what is taking place (Cuka et al. 2015). Observation was very crucial in this research as it gave me the opportunity of observing the physical setting, land cover, land uses, landscape and livelihoods in Selukwe Peak farm and Adare farm, and to relate all this to what the research subjects were saying about these issues. It was also necessary to observe and see the form and levels of degradation existing on the two farms and how the livelihood practices observed were contributing to this and being affected by it in turn. Observation let me witness first-hand the type of vegetation, the deforestation rate, the mining-pits in the area and the changes brought by farming and mining.

Observation also gave me an opportunity of carrying out informal conversations with people I met along the way. By engaging in informal and casual discussions during transect walks, an appreciation of events, practices and narratives were obtained (Bryant, n.d.). These informal conversations gave me important perceptions and pointers about the area in relation to land degradation and livelihoods. Overall, then observation was used to provide an understanding of the natural habitat and the levels and forms of land degradation on Selukwe Peak and Adare farm. This provided a deeper understanding and appreciation of the immediate contexts of the lives of A1 farmers, as well as the ways in which livelihood practices related to land degradation. The many photographs appearing in the empirical chapters bear testimony to the character and extent of observation undertaken. During my observations, I took notes of what I observed and also on what I heard during the informal conversations.

1.6.6 Data Analysis

Qualitative data analysis comprises of preparing and examining raw data for analysis, by reducing the data to themes through coding and recoding processes (Parish et al., 2016; Creswell, 2007). This allows for making connections between evidence gathering, thereby

making connections and identifying patterns which then form the basis for analysis (Glesne and Peshkin, 1992). I began my data analysis process by first typing up my raw field data, or transcribing audio recordings from for instance interviews and life histories. I then engaged in several readings and reviewing of all data collected and, in the process, sought to discover and identify broad patterns or themes as a basis for organising the wealth of evidence collected. This was not an easy process and I had to thus revisit, rework and refine the themes in order that they capture the evidence faithfully and correctly. In the end, then, thematic analysis was used to identify, organise, describe, analyse and ultimately report the themes found within the data set (Braun et al., 2006; Namey et al., 2008). The broad themes eventually decided upon formed the basis for the subsidiary objectives which appear earlier in this chapter and which then guided the writing of the empirical chapters for the thesis.

Narrative analysis was also drawn upon in this study through the use of life histories and in-depth interviews from participants who gave their insights about land and livelihoods over a number of years, including highlighting relevant changes that are taking place. This involves understanding a life or a series of events as they unfold, in meaningful progression. It makes individuals, cultures, societies and historical epochs comprehensible as wholes (Richardson, 1995). Riessman (2008) defines narrative analysis as a qualitative analysis whereby the analyst focuses on how respondents try to arrange order regarding the flow of experiences in their lives, and make sense of events and actions in which they have participated. This facilitates an understanding of the meanings that participants give to themselves, their surroundings, their lives and their lived experiences through story telling (Riessman, 2008). Through narrative analysis, I was able to understand human experiences through stories – as displayed in the empirical chapters.

The Statistical Package for the Social Sciences (SPSS) was used in analysing quantitative data from the questionnaires. It assisted in the drawing up of tables and presentation of graphs showing frequencies and percentages, something that qualitative data analysis could not do.

1.6.7 Challenges in the Field

My venturing into the field unfortunately coincided with the Covid-19 pandemic and lockdowns. The restrictions introduced by the government in order to limit the spread of the virus made it a challenge to travel and meet up with many participants as restrictions were put in place around travelling and gathering in crowds. This might have limited the number of possible participants during the fieldwork. However, the diverse range of research methods

used ensured that I was able to collect evidence to the point where data saturation was starting to arise near the end of the fieldwork period. I was also able to take the advantage of times when the lockdown restrictions were temporally lifted in order to move to and from the field. Therefore I managed to counter the challenge of the pandemic and carry out all my fieldwork process on a viable basis.

The other challenge that I faced was aligned with respondents' disclosure of their involvement in mining activities. At first, the respondents associated me with government officers looking for information on A1 farmers who are mining illegally so as to pursue punitive measures. However, with the assistance of the DDC and farm chairpersons I later gained their trust and they comprehended that this was only for academic purposes with no dangers posed to them. The same applied to the (non-farming) illegal miners who felt that I wanted to expose their questionable activities. It was again through the assistance of the DDC and farm chairpersons that they were made to understand that this was for academic purposes and that all ethics were in place to ensure their security.

1.6.8 Ethical Considerations

Sutrisna (2009) states that ethical issues are an essential component in demonstrating the credibility of research and research findings, and I was very cognisant of ethical procedures at all times during this research. As noted earlier, I sought permission from the pertinent gatekeepers (starting at provisional level) to ensure that I was granted access to the study sites on an official basis. During the series of meetings I had with the gatekeepers, I was open and honest about the purposes of my study.

Subsequent to this, when I met up with the research subjects, I made sure that I sought informed consent from them. During all processes of collecting data (including interviews, FGDs, questionnaires and life histories), research participants were reminded that participation was completely voluntary and that they may choose to stop the research process at any time. Following professional ethical codes are essential to protect participants in social research from harm, while ensuring the right of privacy by adhering to the action of informed consent and avoiding deception (Mermon, 1998). (The consent form appears in Appendix 9).

1.7 Thesis Outline

The following three chapters (chapters 2 to 4) are contextual chapters for the empirical study. In chapter 2, the theoretical framing for the thesis is set out, including both the Sustainable Livelihoods Approach (SLA) and the morphogenetic theory of Margaret Archer. Chapter 3

provides a literature review about land degradation and rural livelihoods from a global perspective, while chapter 4 focuses on land degradation and rural livelihoods with specific reference to Zimbabwe, including by way of a historical analysis dating back to pre-colonial times. The next three lengthy chapters (chapters 5 to 7) are the empirical chapters which detail land degradation and rural livelihoods in relation to the case study, namely, Selukwe Peak and Adare farms in Shurugwi. Chapter 5 offers an overview of the two A1 farms and then discusses the array of livelihood strategies pursued by the villagers on the farms, both agricultural and mining activities. After this, chapter 6 examines the causes of land degradation at Selukwe Peak and Adare, with a particular emphasis on mining, as well as villagers' own conceptions of land degradation. The final empirical chapter (chapter 7) concerns identifying the complex relationships existing between rural livelihoods and land degradation practices on the two farms, and the intense local conflicts immersed in these relationships. The concluding chapter (chapter 8) demonstrates how the main and subsidiary objectives of the thesis have been addressed via the case study, along with also indicating how the theoretical framing for the thesis contributed to addressing the main objective.

Chapter 2: Understanding Land Degradation and Livelihoods using the Sustainable Livelihoods Approach and Archer's Morphogenetic Theory

2.1 Introduction

This chapter introduces the two theories that were used in this study namely the Sustainable Livelihoods Approach (SLA) and Margaret Archer's morphogenetic approach. It is through these theories that the livelihood strategies and land degradation in Shurugwi A1 farms were analysed. The SL Approach was used as a middle-level theory that sought to bring clear in-depth examination of the rural livelihood strategies whilst Archer's morphogenetic theory was used as a macro-level theory that sought to distinctly analyse structure and agency. The chapter begins by looking into the term 'livelihood' in order to pave way for the understanding of agents and how their livelihoods are influenced by structures around them. SL Approach is looked into in detail with a focus on its sustainability, principles, dimensions and finally the vulnerability context. The strengths and the relevance of the approach in this study can be deduced from all this. The chapter ends up by looking at Archer's Morphogenetic approach which aims to show how agents and structure are two distinct concepts that should be analysed separately in order to avoid conflation. She achieves this through her analytical dualism concept and reflexivity concept. The two theories (SLA and Morphogenesis), greatly complemented one other and led to the examination, analysis and understanding of the rural livelihood strategies of the two A1 farms under study, in relation to the land degradation that is taking place in the two areas.

2.2 Sustainable Livelihoods Approach

The Sustainable Livelihoods Approach (SLA) has a pronounced prescriptive and programmatic element to it, in part because it arose with one foot in the worldwide development system and one foot in the academic world. With the development system seeking to successfully build resilient rural livelihoods, it became imperative to understand (analytically) the specific needs and capabilities of rural people and the contexts under which they forge their livelihoods (Thornton et al., 2019).

The SLA thus arose a few decades ago in this context, with a focus on examining livelihoods as well as intervening to enhance livelihood wellbeing and sustainability. It came to the fore from the early 1990s under an amalgam of diverse analytical and programmatic influences (including Robert Chambers, Amartya Sen, United Nations Human Development Programme, and Institute of Development Studies). It is now a well-established and legitimate

analytical framework within development studies, and is used and supported by many scholars (Chambers, 1991; Ellis, 2004; Scoones, 1998, 2009, 2015; Serrat, 2017; Sati, 2014; Plummer and Armitage, 2007). Initially, it was used to examine rural livelihoods but it is now increasingly used for urban livelihood studies as well.

Based on the SLA, livelihoods research is aimed at understanding the multifaceted context and conditions within which individuals, households or communities set and pursue their livelihood goals, in combination with focusing directly and in detail on the livelihood activities themselves and the many challenges faced in ‘making a living’ (Manlosa, 2019). In this regard, it is crucial to conceptualise the meaning of the term ‘livelihood’, and of what it comprises. The term ‘livelihood’ is normally applied within the SLA to the household as the unit of analysis (Ellis, 1998, 1999; 2007; Scoones, 2015; Prowse, 2008; Chambers, 1991). A working paper by Chambers and Conway (1992:6) defined a livelihood and specifically a sustainable livelihood as follows:

A livelihood comprises the capabilities, assets (including both material and social resources) and activities for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks; maintain or enhance its capabilities and assets, while not undermining the natural resource base.

In this way, a livelihood comprises of people, their capabilities and their means of living which includes food, income, assets (including material, cultural and social resources) and the many activities which are enacted to support (for example) household well-being and sustainability (Chambers, 1991, 1994; Chambers and Conway, 1992). Typically, household wellbeing is identified and measured in material terms, but it might also incorporate other important issues irreducible to material factors, such as having a life-affirming sense of belonging to locality or experiencing at least a deserved level of human dignity and worth (Scoones, 1998).

As indicated, the SLA is used as a lens to analyse the context, conditions and tendencies that affect individuals, households and collectives (for instance, communities) as well as the capitals (assets or resources) which they possess and draw upon in pursuing their livelihoods in hopefully a productive, uplifting and sustainable manner (Gutierrez-Montes et al., 2009). In this light, it offers an important lens for perhaps addressing successfully complex rural development questions, including rural poverty (Scoones, 2009; DFID, 1999; Ashley and Carney, 1999; Morse and McNamara, 2013; Farrington 2001; Mazibuko, 2013; Cornell and Kalt, 2000). Sustainability, by virtue of the title of the approach, is central and is articulated forcefully in the quotation by Chambers and Conway. As Morse and McNamara (2013:x) put

it, “the inclusion of the term sustainable taps into a strong theme of making sure that what we do now does not damage future generations or restrict their livelihood choices”.

Chambers (1991) made a distinction between a livelihood that is socially sustainable and one that is environmentally sustainable. Socially sustainable refers to a livelihood pathway which can cope with and recover from stress and shocks (i.e. risk-factors) and provide for future generations (Chambers, 1991). In order to cope with and recover from these, household livelihoods need to be resilient as this is the only way that they can be able to avoid, withstand and recuperate from often-unexpected stresses and shocks (Nikolakis and Grafton, 2015), such as a death in the family or a lengthy period of drought. Environmental sustainability takes place when a household livelihood maintains or enhances the natural assets on which rural livelihoods depend, which thereby has net beneficial effects on all other local livelihoods. Natural assets refer to land and land-based resources which are critical to the livelihoods of rural households (Ellis and Freeman, 2004). Environmental sustainability focuses on global and local concerns such as pollution, global warming, deforestation, overexploitation of non-renewable resources and physical (including land) degradation.

In analysing the case study for this research, a focus on social sustainability will entail evaluating the resilient capacity of local livelihoods in the face of shocks and stresses, while a focus on environmental sustainability will consider the relationship between local household livelihood activities, land and land degradation. The relationship between environmental and social sustainability vary across time and space. Ideally, they should be (and often are) mutually reinforcing. However, social sustainability might exist – at least over the medium-term – at the expense of environmental sustainability, with the consequences of environmental degradation appearing over a longer-time horizon. This point speaks directly to this study, given that current livelihoods in the research site (as will be shown) are contributing to land degradation and even deeper challenges for local livelihoods in the future.

Analytically, the SLA is people-centred in various ways (Satge, 2002; Serrat, 2017), primarily though because its main emphasis is on human activity (and agency) at local levels. However, it does offer multi-level, multi-layered and holistic understandings of livelihoods by considering the global, national and sub-national conditions which configure ‘the local’ and local livelihoods. It thus recognises the importance of economic, social, political, institutional and policy macro-contexts that either help or hinder households in their pursuit of viable or sustainable livelihoods (Ellis and Allison, 2004; Carney, 1998; Scoones, 2009; Moser, 1998; Majale, 2002). This also entails a focus on a multiplicity of organisational formations, including the state, non-governmental organisations and business enterprises (Morse and

McNamara, 2013). Undoubtedly, though, the key focus tends to be at the micro-level, with the unit of analysis being the household, and context being mainly just that: context. Also incorporated into the SLA is a sensitivity to the contingent and variegated character of household livelihoods in both a temporal and spatial sense (Scoones, 2015), because of contextual conditioning. The temporal dimension of livelihoods does not necessarily entail a linear process or progression, as it might involve ebbs and flows across generations of households or even within one generation (considering in particular the disruptive implications of stresses and shocks). As we shall discuss later, all this raises complex questions around the key sociological debate about structure and agency (de Haan and Zoomers, 2006).

2.2.1 Dimensions of the SLA

As per the SLA, households have access to a range of assets/capital which they use in order to carry out their different livelihood activities and secure livelihood outcomes (Satge, 2002). These resources provide a foundation for household capabilities, as the potential contained in these resources need to be activated and realised via household-based livelihood practices (Sen, 1984, 1987), with the broader structural configurations existing either enabling or disabling this. Hence, capabilities enable a household to ‘transform’ its assets into meaningful livelihood activities and outcomes.

The notion of assets (or resources and capitals) is key to the SLA. A household’s ability to even choose a particular livelihood activity depends on its assets and their activation (Rahut, 2014; Scoones, 2015). Bebbington (1999:2022) thus argues:

A person’s assets, such as land, are not merely means with which he or she makes a living but they also give meaning to that person’s world. Assets should not be understood only as things that allow survival, adaptation and poverty eradication: they are also the basis of agents’ power to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources.

Households assemble and combine available capitals/assets in a process that involves human agency and resourcefulness in constructing livelihood strategies and generating household well-being (Manlosa, 2019). Activating assets is mediated by household-based decisions and choices around livelihood options.

The types of capitals identified in the SLA literature vary at times, but they tend to include the following: human capital, physical capital, financial/economic capital, natural capital and social capital (Ellis and Allison, 2004). Political and cultural capital are also spoken about, if only as sub-categories of social capital. The assets of households constitute the

building blocks for livelihoods, with considerable unevenness existing between households in terms of the range, quality and quantity of assets available for constructing livelihoods. Households with a diverse asset base may have more livelihood options and the ability to switch between multiple livelihood activities in securing their livelihoods (DFID, 1999). At the same time, attempts at pursuing multiple livelihood activities may signify limited resources of any kind and indeed household desperation. The availability of household-capitals is deeply structured by the broader historical, political and economic context (Nikolakis and Grafton, 2015), a context which is also marked by significant inequalities as well as power differentials.

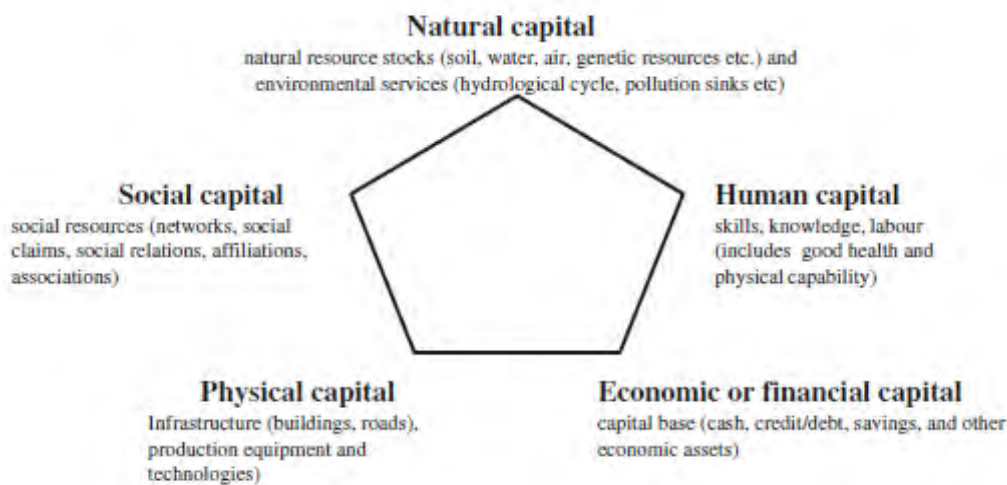
Human capital is the skills, knowledge, education, good health and ability to carry out labour (Satge, 2002). At the household level, household size, skills levels, leadership potential, health status and education are some of the key human capital elements that determine livelihood successes (DFID, 1999). Physical capital is the basic infrastructure and producer goods needed to support livelihoods, and it involves for instance farm equipment, shelter and infrastructure (Satge, 2002), including infrastructure provided by the state. Financial/economic capital includes money (from employment or informal economic activity), savings and loan access.

Natural capital are the natural resource stocks, such as land and natural resources, water and aquatic resources, trees and forest products, and wildlife (Serrat, 2017). Quite often, access to 'nature' is only possible through an array of cultural norms and arrangements, social relations and institutional formations ('resource management' broadly), which either facilitate or hinder access. In the case of rural households, as in this study's research site, natural capital becomes crucial in the pursuit of livelihoods.

Social capital refers to social institutions, networks and connections, including relations of trust, mutual understanding and support (Serrat, 2017). While social capital is often interpreted to incorporate bonding and bridging capital only (that, is relations which bring about inclusivity), social capital may also entail relationships of exclusivity and indeed domination (including on cultural, economic and political grounds) (Satge, 2002). Social capital may set the broad conditions for access to other assets (for example, financial capital) (Ellis, 2000). The kinds of social-cultural relationships which exist specifically at deeply local levels are quite important for studies like this one in Shurugwi, including the social relationships within which land (and land-rights and land-access) is embedded.

Figure 2.1 provides a summary of what the five main forms of capital include.

Figure 2. 1: Capitals in the SLA



Source: Morse et al. (2009: 5).

2.2.2 Livelihood Strategies

Livelihood activities and strategies, as indicated, are greatly influenced by accessibility to capitals and their activation. A livelihood strategy (or portfolio) refers to a household assembling and combining a set of livelihood activities so as to pursue livelihood outcomes (Sati, 2014; Koczberski et al., 2001; Martin and Lorenzen, 2016). Ideally, livelihood strategies will lead to increased well-being, reduced vulnerability and improved food security at household level, as well as a more sustainable use of the natural-resources base.

In rural areas, in seeking to address challenges around securing livelihoods, households might turn to one of three options (sometimes also called ‘strategies’ in the SLA literature). Scoones (1998) thus refers to agricultural intensification or extensification, migration and livelihood diversification. Processes of intensification might include increasing the level of (crop) outputs per unit area through capital investment or increases in labour inputs, while extensification means for instance increasing the sheer amount of land under cultivation. Migration constitutes moving away to seek an alternative livelihood elsewhere, either temporarily or permanently (Scoones, 2009; Nikolakis and Grafton, 2015). For those rural households involved historically strictly in farming, diversification involves moving into a range of non-agricultural activities on-farm (such as petty trading) or off-farm income earning activities (Ellis, 2000; Rahut, 2014). For many households, diversification rather than specialisation might reduce risk as risk is spread out across two or more livelihood activities (Chambers 1995). The fact that A1 farmers in Zimbabwe also engage in mining is testimony

to this. But it is commonly found throughout rural (and urban) Zimbabwe and across Africa. The diverse livelihood activities include gathering wild foods such as wild fruits, insects and honey; harvesting forage crops; collecting firewood and making charcoal for sale; cultivation, wage labour, hunting, herding, gathering, trading, mining and artisanal work (Walelign, 2015; Mamo et al., 2007; Ellis and Allison, 2004).

2.2.3 Vulnerability Context and Broader Structures/Processes

The vulnerability context is central to the SLA, particularly when it comes to examining the livelihoods of rural households, with there being an especially strong relationship between natural capital and the vulnerability context for these households. This is mainly because most of the shocks, stresses and crises appearing in the vulnerability context for rural households relate to natural capital.

The vulnerability context comprises an array of risk factors (Ellis and Freeman, 2004), including seasonalities (for example, around employment opportunities and commodity prices), critical trends (in relation to, for instance, the natural environment and the economy) and shocks (including war, floods, and droughts) (Serrat, 2017). As Morse and McNamara (2013) put it, a shock represents a quick and sudden pressure on a livelihood (for instance, the death of the household head) whereas stress represents a longer-term pressure (such as a downward turn in the economy). Assets can be destroyed by shocks (such as floods, storms and civil conflicts) and long-term stresses might also lead to significant losses (for example, disposal of cattle holdings over time to meet immediate household consumption needs) (DFID, 1999). The study by Kabonga (2020) of the Zimbabwean economic crisis between 2000-2008 demonstrates the many shocks and stresses on both rural and urban livelihoods. Being able to ‘weather the storm’ so to speak (i.e. to be sustainable as a household unit), in times of sudden or systemic crises, requires substantial levels of resilience – and rural households may be deficient in this regard.

Though typically discussed separately in the SLA literature, the vulnerability context is in effect part of the broader structures and processes (or underlying context) which condition rural livelihoods – a context which enables or disables livelihood activities (Sati, 2014) in quite fundamental and at times life-affirming or life-threatening ways. In other words, the ability to access and use assets in and through livelihood strategies and activities is affected by institutions, organisations, policies and social norms (Scoones, 2015).

2.2.4 Rejuvenating the SLA

Despite its importance, relevance and strengths for this study, the SLA does have certain weaknesses from a sociological perspective and hence it will be framed within (and bolstered by) Margaret Archer's social realist theory.

A key question pertinent to making use of the SLA is the extent to which it incorporates 'context', structure and the macro-level sufficiently into its analyses (including the power relations and inequalities which constitute this context). Undoubtedly, it is necessary to focus on the micro-level and the activities and agency of households as they pursue livelihoods. But there are structural 'traces' which exist not simply as context, as these traces enter into and become embedded in the micro-level activities of households. This also raises questions about how best to understand the relationship between structure and agency in livelihood studies (Nikolakis and Grafton, 2015).

Certainly, one key criticism of the SLA is that there is a marked tendency to over-emphasise the micro-level (i.e. the household at local level), thereby overplaying the role and potential of households in choosing their livelihood strategies and activities. This entails underestimating the significance of contextual-structural factors in conditioning and configuring local spaces. This has led to the SLA being criticised as placing far too much emphasis on assets and, regrettably, at the expense of political power (Scoones, 2013). Although many studies using the SLA do focus on local-level power dynamics, attention is not often drawn to power and politics beyond the local level to examine wider structures of power and inequality (Banks, 2015; Murray, 2002).

Further, with the focus on households as the key unit of analysis, a methodological individualism creeps into the analysis – households are treated as individual agents without a proper relational understanding of their embeddedness in social relationships (within which they exist and act). Furthermore, and consistent with this, a 'rational man' conception of agency appears, at least implicitly. Households, as actors, are depicted as consciously and deliberately setting livelihood goals and then rationally deciding on the best means to achieve these goals (Prowse, 2008; Scoones, 2009, 2015; Thiemes, 2011; van Dijk, 2009, 2011). At one level, this conception of agency – deliberate and conscious agency – is of some significance in analysing rural livelihoods, though the work of Sadapolrak (2014) does indicate that the thoughts of Pierre Bourdieu are an important counterweight in offering a more structurally-conditioned notion of agency. In particular, the notion of 'habitus' – as a set of unconscious dispositions – might explain why rural households tend to move along particular livelihood pathways without rationalising about it. Nevertheless, in her work, Archer is able to retain a sense of

deliberateness in agency while also incorporates the structurally-configured character of agency.

Overall, then, criticisms do exist about the SLA. But, they are not so severe as to discard with the SLA in sociological analyses of rural livelihoods, including in relation to land degradation. Rather, these criticisms point to the need to rejuvenate, strengthen and refine the SLA (Scoones, 2009).

2.3 Archer's Morphogenesis Theory

Archer's meta-theory provides a sophisticated view of the dynamics between structure and agency and embodies a unique view of human agency based on notions of internal conversations, historical memories, social concerns and personal projects. In doing so, it offers ways of addressing many of the criticisms of the SLA. I make no attempt to present the full complexities of Archer's arguments about structure and agency, as my fieldwork evidence simply does not express these complexities. Rather, my aim here is far less ambitious – I seek to suggest possible ways of using Archer in livelihood studies, and explore this tentatively in my thesis.

Quite simply, Archer seeks to offer a sociologically-grounded understanding of the relationship between structure and agency, as well as theorising about agency as well. For Archer, as with other sociologists who have tangled with the structure-agency debate (such as Bourdieu and Anthony Giddens), sociology and sociologists often overemphasise structure or overemphasise agency at the expense of the other. She brings structure and agency – and their mutual interactions – into her morphogenesis approach, giving them equal analytical weight in doing so and, further, without conflating the two or reducing one to the other.

In her analysis of agency and structure, Archer rejects what she labels as downwards, upwards and central conflation. There has been a unfortunate tendency for sociologists to make, if only unintentionally, one element (structure or agency) the dominant factor with the other becoming subordinate (Archer, 2013). 'Downwards conflation' places structure over agency (through the structural orchestration of agents) and 'upward conflation' stresses agency over structure. 'Central conflation' holds that agents and structure are mutually constitutive (to which she agrees) but in a manner that it is not possible to analyse their separate character and powers (which she rejects) (Archer, 1995), of which she claims both Giddens and Bourdieu are guilty. Archer's 'analytical dualism', as she calls it, resists these forms of conflation by acknowledging the relationship between structure and agency while retaining the ability to examine them separately (Olvitt, 2012).

Existing structures either constrain or enable agents, and the actions of agents (i.e. agency) produce intended and unintended consequences which reproduce (morphostasis), or transform (morphogenesis) these structures (Brock et al., 2017). Archer's use of the word morphogenetic implies that structures are never pre-existing, as she defines *morpho* as "an acknowledgement that the society has no pre-set form or preferred state", while *genetic* is "a recognition that society takes its shape from and is formed by agents, originating from the intended and unintended consequences of their activities" (Archer, 1995:5). The consequences of human activities may reproduce social structures (i.e. morphostasis), but they may change or transform them (i.e. morphogenesis) – and this takes place in open-ended and non-teleological ways.

For Archer, the social world is stratified in consisting of structure and agency – both possess their own distinct emergent properties (irreducible to each other) which are of causal efficacy. One of her arguments in this regard is that "structure and agency can only be linked by examining the interplay between them over time, and that without the proper incorporation of time the problem of structure and agency can never be satisfactorily resolved" (Archer, 1995:65). Because of this causal interplay, both structure and agency are forever, over time, in a state of emergence or becoming (and becoming something that they may have not been before) – this she calls the historicity of emergence (Archer, 1995). In this context, analytical dualism claims that given structures and agents are temporally distinguishable, thus making it possible to investigate the mutual interaction between the two over time and explain continuities and changes in both.

It is only after a clear distinction has been made between structure and agency along the lines of analytical dualism that, according to Archer, it becomes feasible to analysis agents and the character of their agency. This includes, for her, the acknowledgement that humans can and do reflexively examine their personal concerns in the light of their social circumstances and, additionally, that they can and do evaluate their social circumstances in the light of their concerns (Archer, 2007:41). She therefore argues:

We never do make history, including our life histories, under the times and circumstances of our choosing. We never live in an unstructured environment, even if the structural contours of global society are still in formation. Individuals still start from differently advantageous places, with different life chances, encounter constraints and enablements and causes to truncate or elastically their aspirations and designs. (Archer, 2007)

Structures of course have a key role to play in influencing agents' decisions as they pursue their lives.

However, Archer goes on to state that agents make their decisions after carrying out internal conversations (reflexivity) about their situations and they might even choose whether to be passive agents or active agents. The notion of reflexivity is central to Archer's thoughts. Brock et al. (2017:167) set out Archer's understanding of reflexivity in the following way:

[A]s the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their (social) contexts and vice versa. Reflexivity takes place through internal conversations as it is through internal conversation that people reflexively make their way through the world ... Internal conversation denotes the manner and way in which humans reflexively make their way in the world.

To quote Archer (2007:24) directly:

[R]eflexivity rests on the fact that all normal people talk to themselves within their own heads usually silently and usually from an early age. ... [I]t is the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their social contexts and vice versa.

Human reflexivity therefore works through the process and practice of internal conversations, thereby configuring the ways in which ordinary people make their way through the world. Agential power is exercised through these reflexive inner dialogues, including drawing upon historical memory and reflections upon the world currently around them, such that agents use internal conversations for delineating their concerns and defining their projects, including livelihood concerns and projects (Archer, 2007). Agents do take into account the (possibly activated) causal powers of the proximate and more distant structures around them, at least as interpreted by them, when they make decisions around courses of action (and hence these structures condition their actions, as mediated by their interpretations).

Lastly, in relation to her thinking, Archer speaks about the structure-agency dynamics taking place at different levels of scale and analysis, without necessarily privileging one over the others. She refers to:

[T]he micro-, meso- and macro-levels: dealing respectively with the situated action of persons or small groups, because there is no such thing as context less action; with 'social institutions', the conventional label for organisations with a particular remit, such as government, health, education etc. at the meso-level; and with the relation between structure and culture at the most macroscopic level. (Archer 2014: 95)

In some way, the SLA also seeks to operate on all these levels though, as suggested, its analyses tend to be strongest at the micro-level.

2.4 Relevance of the SLA and Margaret Archer

I draw primarily on the SLA to investigate and analyse the relationship between livelihoods and land degradation in this local case study (at the micro-level). The relevance of the SLA for this study is quite direct, as the SLA has a strong focus on rural livelihoods and natural capital. The SLA is conducive to understanding the livelihoods of rural people, including by identifying the multiple and diverse character of livelihoods and the principle factors implicated in heightening or diminishing vulnerability (Ellis and Freeman, 2004). It has a strong focus on human agency, with a particular focus on how households construct livelihood portfolios in the face of vulnerability contexts and structural conditioning. Regrettably, the agency of households comes across as being pursued in an atomised manner, leading to a non-relational understanding of agency. This occurs in part because agency remains under-theorised in the SLA, as does the dialectical relationship between agency and structure. For this reason, I have decided to bolster the SLA by drawing upon Archer's morphogenetic approach.

The morphogenesis approach, with its sensitivity to constant interaction between structure and agency over time, allows for a consideration of historical depth – which is central to this study of livelihoods and land degradation over a 20-year period. This entails a recognition of both structural and agential causal powers because both, in their ongoing cycle of inter-relationships, activate and configure the lives and livelihoods of rural people. Though, like the SLA, Archer's notion of agency is strongly based on reflexivity, it is not an atomised 'rational man' conception of agency as she adopts a relational sociology. Archer's theory also incorporates the need to understand continuity or change over time – in the case of this study, in relation to both livelihoods and land degradation in Shurugwi. In the course of all of this, land itself has causal power – being both an object of A1 farmers' livelihoods (producing for farmers but being degraded by them) and a subject enabling or disabling the livelihoods of these farmers. This is an open-ended process which does not necessarily have to end with a deepening of land degradation and rural (farming-based) poverty.

2.5 Conclusion

Chapter 2 aimed to bring an in-depth understanding of the two theories that were used in this study, showing their relevance to the study. The SL Approach was chosen specifically because of its strengths as a micro-household theory. Through the SL Approach, households in Selukwe

peak and Adare A1 farms were critically looked into and their livelihoods (assets, vulnerability context) were understood which in turn led to the understanding of the reasons behind the adoption of their livelihood strategies. In addition, the SLA captured the realities of the people in Shurugwi and showed their agency. In order to understand the wider horizon behind the livelihoods of the Shurugwi rural households, Archer's morphogenetic theory was used. Archer's morphogenesis theory lies its strengths as a macro-level theory that aims to link how structure influences agents and how in turn agents influences societal structure. Through Archer's theory, land issues were understood and all the political, economic, social and environmental structural dynamic effects were examined. Archer's theory also looks into culture as an important element in understanding rural livelihoods, leading to an understanding of the cultural issues in shaping the livelihood strategies and land issues in Shurugwi. All in all this chapter highlighted and explained in detail the reasons behind the use of the SL Approach and morphogenetic approach.

Chapter 3: Land Degradation and Livelihood Strategies – A Global Overview

3.1 Introduction

The chapter aims at giving a clear understanding of land degradation on a global level before moving on to show the mutual relationship that exists between land degradation and livelihood strategies. The chapter will begin by highlighting the importance of land and how significant it is to human life. It will then provide different definitions of land using various studies as a way of having a clear comprehension of what the term means. The causes and global estimates of the extent of land degradation will then be looked into as a way of giving more understanding on where the problem of land degradation stem from and how widespread it is. Finally the chapter will turn to look at livelihood strategies, showing the linkage that exists between land degradation and livelihood strategies.

3.2 Land Cover, Land Use and Land Degradation

There is a mutual relationship that exists between human life and the natural environment. This relationship is derived from the fact that land is a provider for humans of many natural resources for sheer survival, including the provision of food. Land has a major influence on human life making it a crucial natural resource for economic, social, infrastructural and other human activities. It is a provider of vital resources not only for survival but also for the prosperity of humanity, and for the maintenance of the entire terrestrial ecosystem (ELD Initiative, 2015). Land (along with the soil and water) is involved in conserving biodiversity, regulating hydrological regimes, cycling soil nutrients and storing carbon, among other functions (UN DESA, 2014; FAO, 2007). The following all involve land directly or indirectly: food and essential nutrients; clean water and air; shelter; medicines and medicinal compounds; wood; fuel; energy; regulation of climate; water purification; livelihoods; and cultural, spiritual and recreational enrichment (Corvalan et al., 2005; UNCCD, 2017; UNCCD, 2018; UNCCD, 2019; Gashu and Muchie, 2018) – the list is near endless. The link between land and livelihoods (notably, agriculture) is universal, including throughout human history (Somantri and Nandi, 2018; FAO, 2016). However, this heavy reliance by humans on land has contributed in significant ways to land degradation across the globe. If land (and its properties and capacities) are not sustained, then land degradation takes place.

This study focuses on how rural people make use of land and how these uses have effects on the land; thus, the notion of land-use is of some importance. Land use is characterised by the arrangements, activities and inputs of people with reference to a certain land-cover type (Silva, 2011). Land use is also linked to land cover in that, through the particular land use, the type of land cover might be reproduced or possibly altered (Gregorio and Jansen, 1998; FAO, 2016; Fisher et al., 2005; Silva, 2016; Jansen, 2006). Land-cover change at times does take place through strictly natural factors (either suddenly or slowly) but it primarily occurs through human land-use activities. The shifts in land-cover by way of human practices are not necessarily purposeful, as there may be unintended consequences. One of the unintended consequences is land degradation, which undercuts the resilience of land resources. This problem is exacerbated by the multiple simultaneous demands being placed on land (because of its multiple potential uses), and this sometimes entails minor or even major human conflicts over land (ELD Initiative, 2015). In certain instances, though, land degradation exists in a manner which seems intentional, or at least land-users turn a blind eye to the degradation taking place. Appropriate governance and management systems are not necessarily in place to prevent unbridled land-exploitation (and resource-extraction) from occurring, often on a grand scale. As Kusimi (2011:94) argues, land degradation “may be a physical process but its underlying causes are firmly rooted in the socio-economic, political and cultural environment in which land users operate”.

There is a wealth of scholarly and other literature pertaining to the character and causes of land degradation globally. However, measuring the extent of land degradation globally has proved to be difficult, but there have been estimates made by different scholars (UNCCD, 2017; Hamdy, 2014; Olsson, 2019). Some of the reasons for this difficulty include how land degradation is defined, how it can be measured, what baseline is relevant (Herrick et al., 2019) and over what time period (Prince et al., 2018). With reference to these challenges in measuring statistically the form and extent of land degradation at national and global levels, this thesis is mostly concerned about subjective understandings of land degradation with reference to livelihood practices at a deeply local level.

Land degradation has been defined by different scholars, with many referring to the deterioration in the condition of land and its properties due to different land-uses, leading to the loss in its value in sustaining human activities, including economic value (or land productivity) (Lumb, undated). Thus, a number of scholars (Lal, 1994; Pieri, 1995; Enters, 1998; Hamdy, 2014; Zorn and Komac, 2013) state that land degradation is the temporary or permanent reduction of the productive capacity of the land, or of its potential to produce

benefits from a particular land use under a specified form of land management. This means that it is a multi-faceted and complex socio-environmental phenomenon where land loses its capacity to contribute to some combination of biological productivity, economic productivity, and/or ecosystem functions and services (ELD Initiative, 2015; ICLEI, 2017; UNCCD 2019). This involves the loss of some or all of the following: productivity, soil, biomass, biodiversity, ecosystem services, environmental resilience (UNCCD, 2017), and vegetation cover such as pasture, woodland and forest (Hamdy, 2014). The loss of productive, quality or usable land, perhaps involving chemical re-composition of the land, is a result of interactions between bio-physical (natural) and socio-economic (human) determinants and factors operating at different spatial and temporal scales (ICLEI, 2017). Perhaps the most commonly used definition of land degradation currently in use is the following:

[T]he reduction or loss of biological or economic productivity in rain-fed cropland or range, pasture, forest and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns such as: soil erosion, long term loss of natural vegetation and deterioration of the physical, chemical and biological or economic properties of soil (UNCCD, 2017:140).

This implies the destruction or deterioration in the health of terrestrial ecosystems, affecting biodiversity, natural ecological processes and ecosystem resilience (Hamdy, 2014; UN DESA, 2015; Zorn and Komac, 2013; UNCCD, 2019; Bush, 2006; Olsson et al., 2019).

Humans have a long history of land-use and the conversions of one kind of land-cover to another, including converting forest areas to other land uses (FAO, 2016; UNCCD, 2017). Over time, the sheer quantity of land use and land-cover conversions has grown exponentially, and it has now reached unprecedented levels (Feeroz, 2009) in ways which are racking havoc on land and associated ecosystems in the form of land degradation processes. Olsson et al. (2019) trace land degradation to the Neolithic time, some 7,500 to 10,000 years ago, and it is particularly pronounced since the introduction of sedentary agriculture (Dotterweich, 2013; Butzer, 2005; Dotterweich, 2008). FAO (2016), estimates that there has been a decrease of an estimated 1.8 billion hectares of forest area over the past 5,000 years (a decline equivalent to nearly 50% of today's total forest area today). In Western Europe, 1,500 years ago, an estimated four-fifths of the land was covered with forests and swamps but about half of that forest was cleared in the following 800 years (Williams, 2003).

Deforestation has been central to land degradation over an extended period of human history, as forest areas are destroyed for agricultural purposes, both crops and grazing. An

example of deforestation is one that was caused by Alexander the Great who used Cyprus as a strategic site for shipbuilding because of its abundant oak trees (FAO, 2016). In the last two centuries, humans have cleared or converted not only 45% of the temperate deciduous forest and 27% of the tropical forest biome for agriculture but also 70% of the grassland and 50% of the savannah (UN DESA, 2014). Between 1985 and 2005, the world's croplands and pastures expanded by 154 million hectares (UN DESA, 2014). Evidence also suggests that, almost 3,000 years ago, expanding agriculture, clearing of forests and domestication of wild animals, led to an increase of levels of greenhouse gases (particularly carbon dioxide and methane (Olsson et al., 2019). Since 1850, about 35% of the human-caused emissions of carbon dioxide into the atmosphere came from land-use conversions and land degradation (Foley et al., 2005; Feeroz, 2009).

Estimates about land degradation in Africa are alarming. Although land degradation is a global phenomenon in scale, its impact on communities and individuals in Africa is more striking than elsewhere because most of the African people depend solely on natural resources for survival. In fact, 23% (184 million people), of the continent's rural population resided on degrading agricultural land in 2010, with 6% of the total rural population (47.6 million people) residing in remote degrading agricultural land with limited access to markets (UNCCD, 2017). According to UNCCD (2015), in 2008, Swaziland had the largest portion of its territory classified as degraded (95.22%), while Angola, Democratic Republic of Congo (DRC) and Zambia had between 50 and 60% of its area classified as degraded. West Africa has been affected with land degradation, with the Sahel in particular undergoing land degradation in the past 50 years. The intensity of land degradation in the Sahel has led to the area being always amongst the most cited parts of the globe with the most degraded lands (UNCCD, 2019).

Land degradation in Africa can be traced way back to the pre-colonial era and colonial era up until to the present. Activities that led to land degradation in pre-colonial Africa were mainly facilitated by the spread of iron-age farming which likely impacted on forests due to the use of charcoal for iron smelting and the availability of iron tools. However, colonialism in Africa led to a marked increase in land degradation because of the introduction of more intensive land activities that impacted the land.

Colonialism was characterised by exploitation and extraction (including industrial cropping and timber) in order to maximise production and profit, without any serious efforts at ensuring land sustainability. Nigeria lost more than 90% of its primary forest due to practices such as establishment of state-owned agricultural plantations, mechanised logging of forest reserves and mining ventures which were mostly initiated in the colonial era (FAO, 2016).

3.2.1 Types of Land Degradation

There are many types of land degradation, of which water degradation, soil degradation and vegetation degradation are of particular importance for this study.

Soil degradation entails the decline in the productive capacity of the soil as a result of adverse changes in the soil's biological, chemical, physical and hydrological properties as well as involving the removal of soil (notably, top soil) through erosion by water or wind (Bunning et al., 2016; Olsson et al., 2019). Causes also include agricultural mismanagement, deforestation, excessive use of fertilisers and pesticides, and industrial activities such as mining. Soil degradation affects agricultural livelihoods on a massive scale, namely, currently nearly half of the world's population (Piesik, 2019). Studies show also that erosion rates of conventionally tilled agricultural fields exceed the rate at which soil is generated by one to two orders of magnitude (Montgomery, 2007). The negative effects of soil degradation include the reduced capacity of the soil to support plant growth, food and fodder crops, livestock productivity on pasture and rangelands and forest growth and productivity (Hamdy, 2014). Soil erosion in particular affects soil depth which in turn affects crops yields and output (Piesik, 2019; Eswaran et al., 2001).

Vegetation cover is crucial as many rural people depend on it for their domestic energy requirements, building materials as well as pasture for their livestock (Kusimi and Yiran, 2011). It also protects the soil from erosion by wind and water and provides organic material to maintain levels of nutrients needed for healthy crop growth (Stocking and Murnaghan, 2002). Vegetation degradation, as a change in land-cover, involves a decline in vegetation production and variability due to natural or human disturbances (Johnson, 2006; Sun et al., 2017). This includes the doing away of forests, grasslands and shrub lands often for croplands and pastures. Human activities cause vegetation degradation through the over use or mismanagement of forests, grazing and croplands, uncontrolled burning or the unintended introduction of pests and diseases (Bunning, 2016; Kusimi and Yiran, 2011).

Given the centrality of water to life, water degradation is very serious. Water degradation occurs when the physical, chemical or biological characteristics of water become harmful to the environment or organisms, including humans, by which the usefulness of the water resource is in some way reduced (Melesse and Scinto, 2010). Water degradation also entails the sheer loss of water sources at local levels, including surface water depletion and ground water depletion. Water pollution is part of water degradation as well, and this typically derives from poor land management practices (for example, pesticides, fertilisers, leaching of

chemicals from industrial waste dumps, and erosion). Water pollution, in turn, can contribute to land degradation through contamination or salinisation (Jouanjan et al., 2014).

3.2.2 Causes of Land Degradation

The causes of land degradation, both proximate and structural causes, are multiple and complex, and specific causes also relate in part to the type of land degradation being discussed (Mirzabaev, 2016; Nkonya et al., 2011; von Braun et al., 2013). Three broad and related group of factors are normally identified, namely, the biophysical factors that determine or condition how land is used, the institutional and policy factors around land, and the socio-economic factors that affect the demand for and management of land (UNCCD, 2017). In the end, though, land degradation can either be caused by natural causes or anthropogenic/human activities, or a combination of both, as this is context-dependent (Berry, 2003). It now seems clear, as often argued, that land degradation is generally caused by human activities, exacerbated by natural processes, and often magnified by and closely intertwined with climate change and biodiversity losses (UNCCD, 2014).

Natural causes of land degradation include natural disasters such as floods and landslides, veld fires, severe and adverse climatic conditions like heavy rainfall, and non-anthropogenic climate change (for example, soil degradation as a result of a rise in air temperature) (ICLEI, 2017). Natural disasters may lead to land-use changes: for instance, the conversion of forests to other land uses if the forest does not regenerate naturally and there is no reforestation by humans (FAO, 2016). Anthropogenic causes of land degradation are particularly important for this study, given the intense mining and agricultural activities taking place in the research sites. In this regard, human-induced causal factors include soil erosion, poor farming practices and the absence of conservation works, loss of vegetation cover due to overgrazing, over exploitation and deforestation, overuse of irrigation water, veld fires, and inappropriate use of marginal land.

In order to clearly understand the anthropogenic causes of land degradation, it is necessary to distinguish between underlying/indirect/root and proximate/direct causes. The underlying causes of land degradation are regarded as the indirect causes as they are often complex, interlinked and operate at larger (macro) and longer-time scales and originate further from the area of degradation (UNCCD, 2017; Sena, 2019). There involve a range of economic, technological, social, political, cultural and institutional factors and forces (EEA, 2007), including at the global level. Typically, underlying/indirect causes are less easily detectable or quantifiable, as their effects are mediated through a range of sub-national and local conditions

and processes (Kissinger et al., 2012; Oesterwind et al., 2016; Nachtergaele et al., 2011). Intentionally or not, these factors can trigger land-use or land-use management shifts that in turn trigger land degradation (Olsson et al., 2019). Increases in demand on land for a particular purpose or variety for purposes (for instance, for energy), which arise at a spatial level far beyond ‘the local’, might result in local land conversions and land-use changes resulting in deforestation and grassland loss, thereby intensifying land degradation (ELD Initiative, 2015).

In this context, it is crucial to note that livelihood strategies adopted by local people in a particular locality (and changes in strategies) do not evolve and develop in a vacuum, as these are configured by factors and conditions prevalent in the immediate or proximate environment (Kristensen, 2004). At the same time, these proximate factors might only come into existence because of factorial changes at the macro-structural level far beyond the reach of local people and even without their knowledge or concern (Osbahr, 2001). It is important to note that the proximate factors prevailing in a particular locality at a particular time, do not determine local land-based activities in any rigid sense. At the local level, people seek to understand the context in which they exist, and they act out their lives (including livelihood activities) within the confines of their understanding and given the resources and capabilities at their disposal. Thus, just as underlying causes are mediated by various social-political processes before they impinge upon and possibly shape proximate causes, the effects of proximate conditions on land degradation are themselves mediated by the interpretations and agency of local people. The way in which people carry out their livelihoods depend on how they perceive specific contexts, either as opportunities or constraints, in shaping their livelihoods (Koku, 2002).

At the local level, a number of different pressures signify unsustainable land use and vulnerability to land degradation, including deforestation, over-cultivation, over-grazing, poor irrigation practices, unsustainable land use practices and expansion of agricultural, industrial and urban areas, sand poaching and illegal mining (UNCCD, 2017; Sena, 2019). Land use changes, certainly those involving unsustainable land governance, tend to be direct human causes of land degradation. This is mainly because the type of land use (for example, cropping or livestock) conditions the possible type of disturbance to the land (for instance, tillage) as well as applied inputs (such as synthetic fertilizers) (UNCCD, 2017).

Agriculture has been identified as a major contributor to land degradation globally (FAO, 2016), if only because it is practiced on such a widespread basis. Many years ago, McNeely and Scherr (2003) reported that some 40 percent of cropland in developing countries is degraded due mainly to heavy use for agriculture and unsustainable agricultural practices, leading to food insecurity. Olsson et al. (2019) argue that modern crop and livestock

management practices lead directly to soil erosion/compaction, reduced water filtration/availability and declining biodiversity both above and below ground (UNCCD, 2017). Inappropriate/traditional agricultural practices, and frequent shifting of crop cultivation due to natural calamities, are also causing land degradation (Feeroz, 2009). Agriculture is central as well to deforestation, which reduces the canopy cover of soil and disturbs the stability of soil (Forsyth, 2007; Kissinger et al., 2012; Geist and Lambin, 2001). In addition, though, cutting trees for fuelwood is one leading cause of deforestation. In Africa, for example, wood and charcoal accounts for over 80% of household fuel use (UNCCD, 2017). Mining is another direct cause of land degradation which has been increasing in recent years and impacting land resources on a large-scale (UNCCD, 2017) because of massive investments in mineral extraction. Mining pollutes surface and ground water, leads to siltation of rivers and also entails deforestation.

The underlying causes and the direct causes of land degradation are linked to one another. The relationship between the two exists in such a way that the direct causes (such as mining, deforestation and unsustainable agricultural practices) arise and are configured in large part by what is happening at the national level and global levels. Specific land-use changes as well as shifts in the character of land-cover might occur at local levels because of this, leading perhaps to processes of land degradation – this is contingent, though, on the choices and decisions made at local levels in pursuing livelihood outcomes.

3.3 Land Degradation and Livelihood Strategies

Numerous studies across the globe show that there is a clear and discernible link between rural livelihood strategies and land degradation (Chambers and Conway, 1992; Scoones, 1998; Ellis, 1998; Ellis, 2000; Dhar 2001, Sallu et al., 2010; Nyantika, 2015; Peng et al., 2017; Titttonell, 2013; De Haan, 2015; Poufoun, 2016; Feeroz, 2009; Wang, 2012). In this respect, it is mainly through pursuing livelihood activities (such as agriculture) that rural people connect with the land, gaining benefits from it and possibly causing problems for it (via degradation). Insofar as land enters into a process of degradation, this may become a vicious cycle, as degraded land becomes increasingly unable to support viable rural livelihoods (Andersson et al., 2011; McDonagh et al., 2006). As noted already, the SLA is directly relevant to land degradation and rural livelihoods, and will be drawn upon for this study.

The direct dependence of rural livelihoods on land makes it inevitable for a diverse array of livelihood strategies to leave some kind of mark on the land, as rural land is a source of food, energy, water and housing (Feeroz, 2009). A negative mark, involving land

degradation, tends to start if and when human demand outweighs the capacity of land to replenish itself (either naturally or facilitated by human interventions – for example, sustainable agricultural practices) (Platform, 2010). Unsustainable land-based activities put land at risk and, at the same time, threaten the overall ecosystems on which all human life depends (Hamdy, 2014). Indeed, as Soini (2006) argues in the case of East Africa at least, land degradation is often a direct effect of two of the broad strategies adopted by rural households in seeking to sustain themselves in times of trouble – namely, intensification of land use and agricultural extensification (particularly when this take place in environmentally fragile areas). For instance, households in particular with severe deficiencies in human, natural and social capital are likely to go into local forests after a shock for purposes of collecting wood fuels and wild food (Poufoun, 2016; Wunder et al., 2014; Angelsen et al., 2014). Likewise, Ellis (1998) and Scoones (1998) speak about rural households possibly complementing dwindling agricultural outputs through forest resource extraction and hunting bush meat.

The question as to why rural households engage in land degradation practices is an important one. Many studies show that local rural people have significant experiential knowledge about their natural habitat and the degradation problems existing within this habitat, including the reasons for these problems (Veihe, 2000; Fajardo, 2016). However, they may continue to engage in practices harmful to the land. Because of this, it might seem that rural households are motivated strictly in economic terms and with a short-term horizon – to maximise household wealth (or reduce household poverty) immediately without concerns about the future – and that this economic rationale animates rural households and all their livelihood endeavours. Whether or not this is true requires localised studies, in order to identify and understanding the subjectivity of rural households when it comes to land, land degradation and livelihoods (Osbaahr, 2011). Therefore, as this study does, it is crucial to understand local perspectives of rural people, in terms of the choices they make around land and livelihoods. In this light, I briefly consider a number of studies of this nature.

Peng et al. (2017) carried out a study in Miyun Reservoir Watershed (China), and came to the conclusion that people's activities were leading to significant deforestation and soil erosion. This is partially because farming households in the area relied mostly on firewood for cooking and heating. In addition, many farming households were using heavy pesticides and fertilizers as a way of increasing yields which ended up affecting soil fertility. Soltani et al. (2012) examined livelihood strategies, poverty and forest degradation in the rural areas of Zagros (Iran) and noted that the strategies of the poorest households are highly dependent upon forest extraction and livestock grazing, leading to overgrazing and forest degradation. Soini

(2006), in his study in East Africa, highlights that the lack of livelihood diversification beyond agriculture contributed immensely to land degradation, as agriculture was leading to soil degradation due to unsustainable farming practices.

Livelihood strategies such as deforestation for fuelwood, expansion of agricultural land, unsustainable irrigation practices and mining activities have also led to land degradation in Mongolia (UNCCD, 2019). This is the same with the Sahel region where land degradation has been deemed to be caused by deforestation, expansion of cultivated land and overgrazing (Kandji et al., 2006). In Ethiopia, Gashu and Muchie (2018) highlight that the livelihood strategies undertaken (which include sale of firewood and charcoal) were causing deforestation, as were poor land-use practices and population pressure. In Ghana, bushfires, which are about 99% human-induced, are a problem in contributing to land degradation (Koku, 2002). All these studies give evidence of the detrimental impact that rural livelihood strategies are having on the land leading to land degradation.

Wanjala (2012) carried out research in Lugari district in Kenya and concluded that livelihood strategies such as land cultivation and livestock keeping were the main causes of land degradation. There is observational changes in land use and land cover that is associated with the expansion and intensification of agricultural activities, causing chemical and physical degradation of the soils. Firewood collection for domestic use in Lugari district is another human activity spurring on land degradation. In Kenya more broadly, 72% of rural households consume fuel wood obtained by cutting down trees. The extent to which human activities on land have led to land degradation is quite dramatic in Lugari: forest plantation reduced has by 23.11%, open forests increased by 29.98%, rainfed agriculture increased by 0.91%, riverine vegetation lessened by 33.13%, sugarcane plantation increased by 10.00%, and wetlands reduced by 24.76% (Wanjala, 2012).

In as much as livelihood strategies have led to land degradation, land degradation also now undercuts people's livelihoods (Limeneh, 2004; Bizuayehu et al., 2002). Nachtergaele et al. (2010) are of the opinion that land degradation has very deep effects on the livelihoods and well-being of the poorest households in the rural areas of developing countries. The prolonged effect of land degradation has even resulted in erratic rainfall causing severe droughts at irregular intervals affecting the lives and livelihoods of millions of people (Nwokoro and Chima, 2017). In Central Mexico, in Mazahua, gullies were decreasing the area for cultivation and sheet erosion was also affecting crop production (Fajardo, 2016). Kirui (2015) observes that, in Tanzania and Kenya, land degradation is a serious impediment to improving rural livelihoods. In Ethiopia, land degradation has affected land productivity and threatens

livelihoods, and this has been observed in the reduction of crop production due to loss of soil fertility (Gashu and Muchie, 2018). In East Africa generally, land degradation poses a challenge to improving people's livelihoods (UNCCD, 2019). In this part of Africa, the deterioration of agro-ecosystems has a direct effect on the livelihoods through diminishing production of food crops (Soini, 2006). In Namibia, Imbamba (undated) found out that negative environmental changes were in turn impacting detrimentally on the livelihoods of rural people, as they were now facing declines in agricultural production, scarcity of fuelwood, the disintegration of common property management, increased food insecurity and an overall decline in the quality of life. Hence, although livelihood strategies cause land degradation, land degradation also affects the livelihood strategies of the rural people.

Typically, rural people are aware that their livelihood activities lead to land degradation but they continue to carry out these activities because they largely rely on land and its resources for their livelihoods. In one study, Kangalawe (2012) found out that about 80% of farmers were aware that their activities, such as continuous cultivation and overgrazing without resting the fields, lead to land degradation. He argues that rural people contextualise land degradation in relation to their socio-economic interests – more specifically, farmers become more concerned about environmental changes and damages to the land once they see this as affecting their agricultural productivity. They may even carry out land management programmes in order to stop degradation and protect their land's potential for the future. Similarly, Baatuuwi et al. (2017) note that communities in Ghana see that their activities are causing land degradation, including through deforestation, surface mining and overgrazing. In their study, the communities were prepared to carry out mitigation measures against land degradation. The measures involve controlled burning of forests, practicing crop rotation, minimum tillage and the use of mineral fertilizers.

Considering the effects that land degradation has on livelihoods, there is obviously the need to employ some form of Sustainable Land Management (SLM) in order to protect land from further and indeed ongoing degradation. The notion of SLM highlights the need to bring together and harmonise the complementary goals of providing environmental, economic and social opportunities of a sustainable kind for the benefit of present and future generations, while maintaining and enhancing the quality of the land (soil, water and air) (Smyth and Dumanski, 1993). Sustainable Land Management was defined by the United Nations at the Rio Earth Summit in 1992 as “the use of land resources including soils, water, animals and plants for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental

functions' (Sanz et al., 2017: 30). As well, the Food and Agricultural Organisation (FAO) (FAO 2009) defines SLM as the adoption of land use systems that, through appropriate management practices, enables users of land to maximise the economic and social benefits from the land while maintaining or deepening the ecological support functions of land and land-based resources. Thus, it entails knowledge-based procedures that help to integrate land, water, biodiversity and environmental management (World Bank, 2008) into a comprehensive and practical system for stopping and reversing degradation.

Sustainable Land Management is supposed to allow for the multifunctional use of land-based resources by multiple users, providing goods to meet immediate and changing human needs while, simultaneously, guaranteeing the long-term productive potential of the land (Shoyama et al., 2020). Noteworthy, SLM calls for the continual use of land resources but in ways which ensure that they are maintained and enhanced so that future generations will be able to draw upon them for livelihood purposes as well. In this way, SLM can improve food security, water availability, enhance soil quality, increase vegetation cover and also keep cultural and natural landscapes alive.

However, the challenge is one of implementation. Insofar as farmers are aware of land degradation, including an understanding of their own contribution to degradation processes, why is it often the case that they continue to engage in land degradation practices? What is it about the character of their lives and life-circumstances which act as disabling factors in ensuring that both natural and social sustainability are kept alive by way of practices which nourish themselves and their land? These are some of the questions central to this thesis.

3.4 Conclusion

In conclusion the chapter has managed to give an understanding of land degradation across the globe and in Africa. The connection between land and humankind makes the problem of land degradation to be a major global one. The estimates of the extent of land degradation have shown how land degradation has affected every continent and how it will continue to do so in the future. Human activities have been seen to be the major causes of land degradation through their livelihood strategies. Of importance is the relationship that exists between the livelihood strategies and the deterioration of the productive capacity of the land. Human activities have largely contributed to land degradation and in turn land degradation is also affecting the people's livelihoods. This has led to poverty and food security to continue affecting the rural people.

Chapter 4: Understanding Land Degradation and Livelihood Strategies in Zimbabwe

4.1 Introduction

This chapter looks at Zimbabwe with a major focus on land issues, land degradation and livelihood strategies. The chapter takes into consideration that land is considered as one of the most important natural resources in the country influencing the political, economic, socio-cultural and environmental sector. Considering its importance and how it controls these major sectors of the country, the chapter will begin by tracing land issues from the pre-colonial period as a way of giving more understanding on how people interacted with this natural resource. The colonial era will follow as a way of giving enlightenment on how land became a contentious issue among the native black and the whites and how these events shaped the land issue in the present day. The chapter also looks into the post-colonial era and highlight on events such as the Fast Track Land Reform Program and how they changed the political and economic sector of the country. Lastly the link between land degradation and livelihood strategies in the country will be examined.

4.2 Tracing Patterns of Land Cover and Land Use from Pre-Colonial to Post-Colonial Zimbabwe

The land question in Zimbabwe and the broader context in which land systems and land use exist have been quite controversial and at times dramatic since independence in 1980 (Cliffe et al., 2011). The many political, economic, socio-cultural and environmental dimensions to Zimbabwean society are all still largely linked to land, making it an undisputable fact that land is a very significant natural resource in the country around which much conflict takes place. This is evident as well during the pre-colonial period and throughout the colonial period of Zimbabwe's past. Additionally, the livelihoods of most Zimbabweans are directly or indirectly linked to land.

For the many indigenous people of Zimbabwe, life is seen as coming from, flourishing and ultimately ending in the land through death and burial, confirming the notion of *mwana wevhu* ('children of the soil') (Mupfuvi, 2014). The Shona people, for instance, believe that land carries crucial psycho-spiritual significance, as land is regarded ontologically not as property but as territory – in this respect, property can be disposed of whereas territory cannot (Tomaselli and Mhlanga, 2012). The broad importance of land in Zimbabwe past and present can be summarised by drawing upon the argument by Alexander (2007:183) that:

Land is about identity as well as production and class formation; it is about aesthetic values and spiritual meaning, as well as being central to the construction of the institutions of state; it fires political struggles and violence alongside the literary imagination; and it is the basis for both building and breaking a host of social relationships.

Contemporary slogans propagated by the ruling party, ZANU-PF (Zimbabwe African National Union – Patriotic Front), such as ‘land is the economy and the economy is land’, are meant to bring to the fore the centrality of land to Zimbabwe’s political economy.

The issue of land degradation in an ex-colony in Africa, including Zimbabwe, is bound to be controversial. Claims of supposed land degradation practices adopted and used by indigenous Africans have been articulated by white colonialists in the past to justify claims about Africans as primitive and irrational, with white colonialists portraying themselves as bringing modern agricultural practices to the heathen race. Europeans cast doubt on the efficacy of indigenous conservation practices and characterised African mechanisms of managing resources as irrational and unscientific. Kwashirai (2013) thus highlights that degradation narratives must be treated at times with a certain level of scepticism as they have often served colonial (and post-colonial) critiques of traditional African land use practices. Thus, the notion of land degradation needs to be understood contextually.

4.2.1 Pre-Colonial Period (up to 1890)

For precolonial Zimbabwe, it is normally argued that land degradation was minimal, certainly compared to later periods. Land was regarded as a sacred resource that required extreme care and protection (Mafa et al., 2015). Back to the 10th century, pre-Shona kings developed extensive trade networks, with gold exported across the Pacific via Swahili-region traders while, where they lived, people practiced small-scale mining and shifting agricultural cultivation (Mupfuvi, 2014). Land provided grazing pastures for cattle and allowed for crop cultivation (including millet and sorghum), while wood from forests was important for firewood, and building poles for huts and kraals (Chigwenya and Manatsa, 2007). There were designated areas for grazing and cultivation but cattle at times were allowed to graze wherever there happened to be food for them, as long as they did not trespass upon fields under cultivation (Dore, 2001).

Land was communally owned by all people but vested in the king or chief who held it in trust (Kwashirai, 2013) and had a mandate to delineate pastures from arable lands (Makanyisa et al., 2012). Those we now consider as Shona enjoyed communal rights of access to land, as land was allocated by the chief to everyone who needed it (Mupfuvi, 2014).

Common property created a strong sense of responsibility and sustainable use of resources given that everyone considered himself/herself a beneficiary and owner of the resources (Mawere, 2013). Land was managed through local chiefs appointed by ancestral spirits to monitor its usage (Bourdillon 1982), and the ownership, allocation and control of land, forest and water resources all rested ultimately with the spiritual realm (Kwashirai, 2013). Although land was held by the community, individual rights were secure (Mupfuvi, 2014) in relation to right of access to land for cultivation, pastoralism, hunting, fishing and residence (Metcalf, 1996).

There is thus considerable evidence that pre-colonial people in Zimbabwe practiced land-conservation measures (Nyandoro, 2012; Chigwenya and Manatsa, 2007) as part of what are now known as indigenous knowledge systems (Mawere, 2013). For instance, vegetation cover was maintained by village communities that collectively practiced forest farming, with long rotational bush fallow and minimum tillage preserving a root mat of forest species (Leach et al., undated). Villagers also cultivated a certain selected place of virgin land, using the same fields for two or three years until the suitable land in the vicinity was exhausted (i.e. less fertile or subject to erosion); they then shifted the whole village to another area, leaving the land fallow for soil rejuvenation before perhaps returning to it (Kramer, 1997; Rukuni and Eicher, 1994). At that time, land was ample and dwellings easily built (Dore, 2001). Another practice was inter-cropping, that is, mixing various crops such as grain, beans, pumpkins and root crops to help in the conservation of water and soil (Chigwenya and Manatsa, 2007). Soil erosion and exhaustion were also avoided by planting thick mixed low leafy crops which left no bare ground between grain stems, while roots of the tree stumps and pollarded trees held the soil together (Roder, 1965, in Maravanyika, 2013). Terracing was commonly practiced in the mountain areas of Inyanga and elsewhere, and shifting cultivation (which required the slashing and burning of trees for land clearance) provided potassium for the soil - crops would be grown on ash from burnt felled trees (Makanyisa et al., 2012).

Much of the land-protection measures were related to indigenous knowledge systems, and these systems emphasised the preservation of land and the environment. Within specific chiefdoms, there were particular taboos, folktales, totems, myths, and ceremonies, all of which spoke to the importance of land as a common inheritance to be safeguarded (Mawere, 2013; Mupfuvi, 2014; Muringaniza, 1998). Taboos, for instance, acted as prohibitions forbidding a particular interaction or association (Matsa et al., 2011), including with reference to sacred sites, plants, animal species, pools, mountains, groves and rivers, thereby contributing to the sustainable use of the environment (Chemhuru and Masaka, 2010; Chigwenya and Manatsa,

2007; Makanyisa et al., 2012). Taboos such as, ‘do not cut down fruit trees or knock down unripe wild fruits’ and ‘do not excrete in a well’ protected trees and avoided water pollution (Mawere, 2013).

Overall, then, a diverse range of elements within the natural habitat were given cultural and spiritual significance, enhancing the need for their preservation (Kwashirai, 2010; Duri and Mapara, 2007). Failure to abide by all the restrictions pertaining to protecting the land would have serious ramifications for the culprit (Mawere, 2013) and the community at large. It might anger the ancestral spirits, possibly resulting in the absence of rain for extended periods or other calamities (Chigwenya and Manatsa, 2007).

However, this does not mean that forms of inequality did not exist in pre-colonial Zimbabwe or that conflicts over land (and people) did not arise (Mupfuvi, 2014). As Alao (2007:63) argues more broadly, “land is the abode of most other natural resources; a characteristic that means the controversies surrounding these resources often manifest through conflicts over ownership, management, and control of land”. Besides land and resource conflicts between chiefdoms and kingdoms (and within them), including between the Ndebele and Shona in the late 19th century (Bhila, 1972), land was a contentious issue between the indigenous people and the Portuguese in the Zambezi Valley for many centuries prior to British colonialism in the late 1800s (Mafa et al., 2015). These latter conflicts also related to control over gold mines and mineral trading.

As well, the historical record indicates possibilities of land degradation. For example, the decline of some states such as Great Zimbabwe in the fifteenth century has been attributed to environmental factors such as overgrazing, deforestation and drought. Further, the conflicts between Shona and Portuguese likely led to some degree of land degradation triggered in part by excessive external (colonial) demands for gold.

The extent to which knowledges about pre-colonial sustainable land practices continue to exist today is highly variegated, as is their actual use. Certainly, some knowledges do persist. For example, the survival of sacred groves scattered all over Zimbabwe today is one visible testimony to the ongoing relevance of a number of pre-colonial land, forest and water practices (Mupfuvi, 2014). This is despite the lengthy period of colonialism which sought to obliterate these practices, as I turn to now.

4.2.2 Colonial Period (1890-1980)

Understanding land degradation in Zimbabwe certainly requires a focus on the colonial era, because of ongoing colonial dispossessions of land and the ensuing struggles that took place

between 1890 and 1980 (Nyandoro, 2012). The colonial period brought about drastic changes in terms of land cover, land management, land use and human settlement patterns.

The colonial period in Zimbabwe dates back to 1890 when the British South African Company (BSAC) was officially granted the Royal Charter of Incorporation from the British government. The BSAC was initially drawn to the country because of the prospects of large mineral deposits (particularly, gold), but these deposits were not forthcoming on the scale expected. This led to the massive expropriation of land by the BSAC and white settlers, in both Matabeleland and Mashonaland, and the creation of Native Reserves for the indigenous black population. The setting aside of Reserve land (often, in arid regions) for African use under a reconfigured communal land tenure system also entailed Africans being evacuated under compulsion from European areas and squeezed into the Reserves, leaving the European farmers with the exclusive use of prime and spacious agricultural land (Wels, 2003). This means that the lives and livelihood strategies of white farmer-settlers were, just like the African population, linked strongly to land, creating the foundation for racially-based competition and conflict over land.

Part of the European reasoning for being in colonial Zimbabwe involved a civilising mission, though a mission leaving Africans with a status inferior to that of white colonialists. White settlers presented themselves as modern, scientific and advanced, including in relation to their agricultural practices. In this context, colonial land use and natural resource management were based on assumptions that pre-colonial (African) farming practices degraded the land (Alvord 1958, Keeley and Scoones, 2000). For example, in pre-colonial times, trees were protected due to their food, timber and medicinal value, and linkages with rainfall and worship. This linkage explains why large fruit trees from fields were never removed, a practice which was banned in Reserves by colonial agricultural extension workers (Kwashirai 2013).

Colonialists criticised 'Native farming' and blamed African methods of farming for the ecological disaster seemingly emerging in the Reserves over time, despite the fact that the root cause of this lay in the colonially-inspired Reserve system itself (Madimu, 2017), leading for instance to high levels of decongestion (Bowyer-Bower, 1996; Aylen, 1941, in Mawere, 2013b; Moyo et al, 1991; Masaka, 2011; Mupfuvi, 2014; Risiro, 2013; Mawere, 2013; Madimu, 2017). Thus, as Dore (2001) notes, the colonial conservation narrative usually blamed what the white settlers considered as inefficient and wasteful methods of traditional cultivation (including breaking and scratching of the soil, broadcasting seed over an extensive area without the use of fertilisers, and lack of crop rotation or conservation contours).

The BSAC, and later the settler government (from 1923), sought to subjugate the black population while, simultaneously, maximising white-wealth, including amongst white farmers (who became known as white commercial farmers) as well as mining companies. There was only minimal concern for any land degradation which might arise through colonial policies and practices around land, agriculture and mining (Madimu, 2017). Europeans themselves converted many forests to farmlands of crops (such as tobacco and maize) and constantly increased the rate of deforestation, with significant neglect in terms of environmental practices, certainly in the early decades of colonialism. In his study, Madimu (2017) notes that the leader of the Rhodesian Agricultural Union (L. Cripps) noted the problem of soil erosion on white farms as early as 1909 and the *Rhodesian Agricultural Journal* issued its first bulletin on soil erosion by M. Watt in 1913. Phimister (1984, in Maravanyika, 2013) also points out that there was concern about the man-made degradation of the soil due to erosion on white farms, especially from the beginning of the 1930s after the slump of tobacco, maize and beef industries.

As well, there was considerable competition for land and land-based resources (for example, forest-wood) between white farmers and miners, as also witnessed in this study of fast track farms. Kwashiri (2006) and Musemwa (2009), for instance, examine the problem of deforestation and soil erosion as a result of the activities of miners and farmers as they competed for resources such as timber, water sources and land. In this regard, some of the earliest forms of state control over forests were aimed at curtailing the unprecedented woodland depletion associated with the opening up of land for settler agriculture and wood extraction for the energy and timber needs of the tobacco and mining industries (McGregor, 1995). Miners in the colonial era were in fact given prior right to cut timber lying on farms located in Gold Belt areas, leading to an increase in deforestation (Madimu, 2017). This contributed to the tension between miners and farmers as the miners infringed on farmers' agricultural lands. The way that the miners transported timber from woodlands also contributed immensely to soil erosion as most miners moved their timber during the rainy season and ended up creating numerous deep tracks in the process (Madimu, 2017). In this context, the Forest Act of 1948 sought, amongst other things, to reduce the cutting down of trees by miners and farmers as a way of curtailing deforestation (Mandondo, 2000). As well, the enactment of the 1961 Mines and Mineral Act led to a compromise between farmers and miners, and minimised the conflict existing between miners and farmers in terms of access to timber (Madimu, 2017).

Undoubtedly, then land degradation was directly caused by white settlers themselves in their own (white) areas, though the colonial state did introduce over time some quite stringent

environmental protection measures for these areas (Madimu, 2017). Additionally, white settlers also indirectly contributed to the land degradation problems in the Reserves. The Land Apportionment Act of 1930 cemented the Reserve system, and Africans continued to be pushed into the Reserves resulting in overcrowding, land degradation and limited crop yields, with both deforestation and soil erosion being highly prevalent (Moyo et al., 1991; Mupfuvi, 2014; Mawere, 2013). Makanyisa et al. (2012) make this argument with specific reference to the Gwai and Shangani reserves created initially in 1894). By 1943, most of the 38 reserves were overpopulated and overstocked (with cattle, etc.) and, as a consequence, soil erosion took its toll on the productivity of the land (Mafa et al., 2015; Dore, 2001).

Land use practices, by force of circumstances or because of state impositions, changed with the coming of settlers, with shifting cultivation for instance being discontinued (Mupfuvi, 2014). The introduction of the plough meant that more extensive areas were cultivated, making deforestation and soil erosion more widespread. Traditional methods of farming were terminated in favour of new farming methods introduced by the colonial state. Though chiefs still had a presence in the Reserves (later Tribal Trust Lands), they became servants of the white state. At least officially, this led to the undermining of traditional collective management regimes over natural resources though, in practice, Reserve villagers continued to recognise and practice well-established ways of protecting the land (Risiro et al., 2013; Bromley, 1991; Mandondo, 2000).

In 1951, the colonial government introduced the Native Land Husbandry Act of 1951 that was meant to combat the land degradation that was taking place in the Reserves. Officially, the (1951) act was designed to ensure that good farming methods were practiced in the Reserves and to further modify the land tenure system by giving individual title to peasant farmers (Dore, 2001). The logic was that land degradation was taking place because of lack of individual title to the land (Mafa et al., 2015). The act was also meant to encourage Africans to protect local natural resources through limiting the number of animals – i.e. to limit the number of particularly cattle within their ecological areas' carrying capacity by destocking (Makanyisa, 2012). The act further imposed and enforced conservation measures on land (Vudzijena, 1998), such as the digging of contour ridges (Makanyisa, 2012).

The introduction of European-defined scientific environment conservation techniques was not well-understood or favoured in the Reserves (Mawere, 2013). Digging contour ridges, with all the labour entailed, was met with considerable resistance from the Reserve population, though this measure would likely reduce levels of soil erosion. A liberation song (*hondo yemakandiwa*) spoke about the torturous work associated with the enforcement of contour ridge

digging (Makanyisa et al., 2012). Insofar as land-degradation practices were taking place, such as river-bank cultivation, the emerging African nationalist leadership claimed that these were symptoms of poverty and hunger in the Reserves – acts of desperation so to speak (Dore, 2001) (as we see as well in the case study for this thesis). Overall, the land-conservation regulations in the 1950s were imposed without consultation, and were resented; this led to compliance being quite erratic (Mafa et al., 2015; Hlongwana et al., 2010) and the programme abandoned by the early 1960s.

Overall, the colonial state's approach to land degradation and conservation was variegated, with different approaches to white and Reserve/Tribal Trust Land areas. Certainly, there was pertinent legislation enacted and institutional bodies formed. This includes, for instance, the Natural Resources Act (1942), the establishment of the Department of Conservation and Extension (1948), and the introduction of 'farm planning' (1956) among other initiatives (Whitlow 1988). Even prior to the 1951 act, there were land protection measures of various sorts introduced into the Reserves, including a forerunner of the 1950s' programme dating back to the 1930s. Woodcutting in the Reserves was governed by the Native Reserves Produce Act of 1929 which stopped Africans from cutting trees for anything other than their subsistence needs (Madimu, 2017). The Natural Resources Act intervened in environmental conservation and, in Reserves, this was undertaken through forced soil conservation, restrictions on grazing, compulsory destocking, restrictions on cultivation, restrictions on cutting trees and forced controls on excavation and building (Mandondo, 2000; Maravanyika, 2013; Scoones and Matose, 1993).

In the end, the colonial state was much more deeply concerned about enacting land protection in white areas, including on white farms. Its protection measures in the Reserves were implemented on a much more haphazard manner (in part, because of resistance) and never did address the main problem – the Reserve/Tribal Trust Land system itself.

4.2.3 Post-Colonial Period (1980-to Present)

Challenges and conflicts over land did not end with Zimbabwe's independence in 1980, nor did land degradation (Mawere, 2013). At independence, Zimbabwe inherited a highly skewed pattern of land distribution whereby a small minority of white large-scale commercial farmers owned and farmed most of the productive agricultural land, while millions of black small-scale farmers were confined to what now became known as communal areas (the former Reserves) (Makamure and Gutto, 1986; Chitsike, 2003). The new black-led government vowed immediately to transfer land from the white minority to the black majority, and it initiated a

land redistribution programme in order to redress past racial injustices and relocate large numbers of communal area villagers to former white farms (Riddell, 1980) (to be purchased at market value by the government for the first ten years of independence, as per the willing seller-willing buyer market-led land reform programme agreed to at the independence negotiations) (Majengwa, 2006; Roth and Gonese, 2003; Chimhowu and Hulme, 2006; de Villiers, 2003). A market-led approach continued into the 1990s because of the implementation of a neo-liberal structural adjustment programme.

Without going into details about the land redistribution programme during the 1980s (and into the 1990s), it is clear that the Zimbabwean government fell far short of expectations in terms of the amount of land purchased and the number of people resettled on redistributed farms. In fact, between 1980 and 2000, only 91,000 families were resettled by the state (Chimhowu and Hulme, 2006), with the white commercial agricultural sector continuing to thrive. Those resettled either entered Model A schemes (for small-scale farming) or commercially-based Model B schemes. These schemes are now referred to as 'old' resettlement areas, subsequent to the introduction of fast track reform in 2000 – which I discuss later.

Meanwhile, the communal area system remained intact, with decongestion expected to take place through the redistribution programme. In this way, the dual agricultural system (commercial-communal) in large part remained in place (Chigwenya and Manatsa, 2007; Kaulemu, 2008). Given that the communal areas were not to be dismantled, the Zimbabwean state sought, against the odds, to bring about some level of development in them. Decongesting them via land redistribution was expected to be part of this arduous process, as the unequal distribution of land and land-based resources was central to Zimbabwe's land degradation problem in the first place (Manjengwa, 2006; Cliffe, 1998).

The early resettlement programme (in the 1980s and 1990s), though rightly applauded as a positive step, did not appear to represent a significant shift from the long-established environmental conditions in the communal areas (Moyo et al, 1991). This is despite the post-colonial government being quite sensitive to the preservation and protection of land, and passing environmental legislation accordingly. Thus, in as much as resettlement did reduce poverty amongst resettled households, as traced by Kinsey (1999) over time, many land-based practices served to exacerbate land degradation. In their study, for instance, Keeley and Scoones (2000) point out that deforestation was increasing as the resettled villagers were cutting far more trees than they were supposed to plant as replacements. The clear-cutting of forests for construction timber (for homesteads and so forth), fuelwood and agricultural purposes posed a serious environmental challenge in these areas (Manjengwa, 2006). There

were also worrying signs of soil fertility depletion and soil erosion (Keeley and Scoones, 2000). Attempts to revitalise the land in the communal areas (up until the late 1990s) also did not appear to be making significant headway (Kinsey, 1999). Africans in the communal areas continued to suffer because of barren soils and poor rainfall, neither of which are conducive for crop farming (Mafa et al., 2015).

It is noticeable that the Zimbabwean state's approach to land conservation represents a marked continuity with the colonial state in privileging modernist-scientific knowledge. As Mawere (2013:17) argues:

While traditional management of the environment by the rural people was informed by the locals' traditional knowledge forms, the experience that Zimbabweans went through since the colonial period led them to despise their own traditional practices and the value as well as the rights they previously accorded nature.

Because of this, rural Zimbabweans increasingly lost touch with time-tested practices from the past, or they turn their back on them. For Dore (2001), many well-established land-sustainability practices survived largely intact with the rules only being reinvented or at least modified when possible.

4.2.3.1 Fast Track (2000 Onwards)

I now turn to the fast track land reform programme, because of its centrality to this thesis. I do not need to provide the immediate historical background to the introduction of this programme (Scoones et al., 2010), but it is important to highlight that it arose in the context of nation-wide land occupations of white commercial farms which began in February 2000. Most of the occupiers came from nearby communal areas, reflecting the ongoing farming challenges in these areas. Again, there were both small-scale farming (A1) and commercial farming (A2) models under fast track, which was officially announced in mid-2000. Many of the initial occupiers received A1 plots, alongside others who applied for these plots through the government's land committees.

Thus, the Zimbabwean government embarked on the Fast Track Land Reform Programme (FTLRP) in 2000 (Hove et al., 2012; Makanyisa, 2012; Nyikadzino, 2014) by redistributing land (through expropriation without compensation) from white commercial farmers to black people (Njaya, 2014, Utete et al., 2003). The FTLRP resulted in a massive restructuring of Zimbabwe's agrarian spaces with very significant economic, social and political consequences (Scoones et al., 2012; Roth and Gonese, 2003; Mangena, 2014). The A1 schemes focusing on subsistence-based smallholder production involved either villagised

or self-contained farms, and the A2 farms focusing on commercial production were of varying sizes (Scoones et al., 2010), with A2 farm-plots sometimes existing alongside A1 plots on the same former white commercial farm. In 2009, smallholder A1 farms (including both self-contained farms and village settlements with individual arable fields and communal grazing) incorporated over 145,000 farm households while around 16,500 households occupied larger-scale A2 plots (Rukuni, 2009).

On the farms, at least for the initial years, there were signs of disorder with minimal forms of governance and management. Fast track farmers were unsure about their level of security on the farms (particularly the A1 farmers), as they had no official documents confirming their 'ownership' of an A1 plot. And the state was slow to provide the necessary infrastructure for farms now comprising a significant number of small-scale farmers. As Marongwe (2002) argues, people were settled on compulsory acquired farms by the government without proper planning and provision of basic infrastructure and services such as roads, clean sources of water, schools, clinics, dip tanks and decent accommodation (Mangena, 2014).

All this was to have serious implications for land protection and sustainability, despite the fact that A1 (and A2) farmers were typically inheriting fertile and productive lands. With no proper planning in advance, the fast track farmers were not subjected to official rules regarding management and use of natural resources (Makanyisa et al., 2012). For Mawere (2013), the magnitude of unsustainable pressure on the land-environment (and land degradation) on the fast track farms surpassed anything that the colonial government had done, even in relation to the Land Apportionment Act in the 1930s. Some statistics might support this. A ZIMSTAT(2016) report states that woodland in Zimbabwe in 1992 consisted of 20,790,234 hectares and this was reduced to 16,269,059 hectares by 2008; likewise, areas of rural settlement increased from 139,341 hectares in 1992 to 189,954 hectares in 2008. As well, Zimbabwe has been recently losing between 70,000 to 100,000 hectares of forests per year (ZIMSTAT, 2016), as compared to 52,000 hectares between 1963 and 1977 (Campbell et al., 1989).

Mass destruction of trees has taken place on fast track farms, with trees cut to clear fields for farming and to sell firewood to urban residents; as well, there has been extensive hunting of game in the areas affecting biodiversity (Makanyisa et al., 2012). This includes tress cut, and animals killed, by those not living on a particular fast track farm, as the boundaries of the former white farms soon became quite porous under fast track. Already, in 2001, government was expressing deep concerns about the sheer scale of land degradation taking

place. For example, the Ministry of Environment and Tourism developed an Integrated Conservation Plan (ICP) in 2001 whose aim was to address the environmental concerns by developing alternative land use practices to enable the entire FTLRP to be more environmentally sustainable. However, the plan faced challenges of finance, human resources, and poor enforcement and monitoring, such that it soon became side-lined (Manjengwa, 2006). The old (colonial) Natural Resources Act was replaced by the Environmental Management Act (EMA) of 2002, but this did not stop land degradation from taking place on the resettlement farms.

Chaumba et al. (2003) suggest that the scale of land degradation on the fast track farms in the early years has been exaggerated, perhaps in part to justify criticisms of the fast track programme. For instance, they refer to the presence of agricultural extension officers on the fast track farms in pegging the A1 plots and providing A1 farmers with technicist-scientific advice regarding land and agricultural practices. They also argue that only lands meant for agriculture were cleared, leaving intact valuable forest reserves. In other words, they claim that there was order beneath the ostensible disorder. While such arguments provide useful counterweights to any strident and unqualified narrative about land degradation on fast track farms, the presence of land degradation on these farms is unmistakable. For instance, the FTLRP disregarded farming expectations for particular agro-ecological regions: instead of cattle ranching (in regions 5 and 6), the areas were turned into groundnut and maize production areas thereby exposing the loose soils to erosion (Makanyisa et al., 2012). In an early study, Chigwenya (2000) points out that environmental damage under the FTLRP was also a result of vandalism of existing structures such as paddocks, reluctance to practice contour ridges, and the abandoning of designated areas such as wetlands and stream banks which are often then converted into farming units. Thus, the level, form and rate of land degradation likely increased due to the FTLRP (Mubvami, 2004; Njaya et al., 2014b; Scoones et al., 2010).

Finally, the significant agrarian transformation brought about by FTLRP resulted in new compositions of people on A1 farms with diverse livelihood strategies (Scoones et al., 2010). Zembe et al. (2014), in a study in Masvingo Province, and Nyaya et al. (2014) in a study in Mashonaland Central Province, both speak of diverse livelihood strategies on A1 farms. And they both claim that inappropriate farming practices, illegal gold panning, tobacco curing, furniture making, fuel wood extraction, construction of residential settlements and exploitation of natural resources have all led to land degradation. The prevalence of illegal gold mining is particularly pertinent for this study. There is further degradation of the land due to illegal gold panning, in part because A1 farmers have found it difficult to produce crops on a viable and

sustainable basis, thus turning to mining (Makanyisa et al, 2012). The question of land degradation and land protection is also configured by what is absent on the fast track farms. More specifically, the system of chiefs prevailing in the communal areas was not introduced onto the fast track farms. This has implications for the spiritual and cultural significance of land for A1 farmers. As well considering that A1 farmers on a particular farm may come from diverse locations (even across the country), there may not even be any consensus around the cultural identity of the authentic custodians of the land they now occupy.

4.3 Land Degradation and its Relationship to Livelihood Strategies in Fast Track Zimbabwe

The period 2000 to 2008 is very important in the history of Zimbabwe as it marked the height of Zimbabwe's socio-economic and political crisis, which had its roots in the early 1990s but accelerated because of fast track. The FTLRP was accompanied by a contraction of the national economy and a plummeting of agricultural productivity, affecting both food security and export earnings (Akesson et al., 2016). According to the ZimVac (2010), from 2000 to 2010, the Gross Domestic Product (GDP) decreased by 40%, with massive declines in the national commercially-based output of crops such as maize, soya and tobacco (Moyo and Yeros, 2007). The deepening economic crisis throughout the 2000s was marked by deindustrialisation and company closures, massive rates of unemployment, galloping and unprecedented rates of inflation, and a dramatic decline in government revenue and the provision of public services, including agricultural support for both communal area and A1 farm villagers. By 2008, nearly 70% of the population was living on food aid supplied by the major donor states (Mangena, 2013; Munangagwa, 2009).

This greatly affected rural people's livelihoods and deepened levels of rural poverty, though there is some evidence suggesting that a significant number of A1 farmers – because of access to fertile lands on former white commercial farms – were able to produce sufficient maize and other crops for household-based sustenance (Scoones et al., 2010). But, as indicated, this entailed engaging in a range of practices which tended to contribute to land degradation processes (Zembe et al., 2014). On fast track farms, A1 farmers ventured into diverse livelihood practices in part because these practices were now available to them, and in part because diversification was crucial for household well-being. These practices, mentioned earlier, include firewood selling, illegal mining, extensive hunting and unsustainable farming practices.

Small-scale, informal and typically illegal mining on fast track farms and other rural land, including gold panning in mineral-rich districts, involves significant digging up of land and the disturbance of soil structure and composition (Zimbabwe Report on Land Degradation Neutrality, 2018). This is apparent in the cases of the excavations for diamonds in Chiadzwa in Manicaland Province and the gold-panning at Mukaradzi in Mt. Darwin in Mashonaland Central Province (Mangena, 2014). Mining activities by both illegal miners and licensed miners and companies are leading to water pollution. Akesson et al. (2016) point out that water quality in the Save and Odzi rivers is now heavily contaminated from mining operations, with massive siltation, and chemical and heavy metal pollution. Also occurring is the destruction of trees in order to construct temporal shelters and to erect vending stalls at mining camps dotted around the countryside (Mangena, 2014), and this has worsened deforestation. An estimated 9,496.49 hectares is affected by illegal mining and is facing land degradation (Zimbabwe Report on Land Degradation Neutrality, 2018).

Deforestation is also taking place because of other happenings on the fast track and other lands. Fuelwood collection, timber extraction and land clearing for cultivation have been central to rural lives in communal areas for decades, and this is also the case now for fast track farmers. Overall, 96% of rural households depend on wood fuel to meet their energy needs (ZIMSTAT, 2012). In addition, tobacco farming is increasingly important for fast track farmers (Moyo, 2004; Zembe et al., 2014). Their tobacco output is in fact compensating for the fall in production arising from the collapse of the white commercial farming sector. Tobacco production though needs wood for tobacco curing, and the trees used are not being replaced by planting others (Nyikadzino, 2014). Musoma (2016), in his study in A1 farms, observed that most farmers were involved in tobacco growing and this was leading to an estimated 0.6 hectares of forest being lost for each hectare of tobacco cured. Manyanhai and Kurangwa (2014) indicate that, between 2009 and 2010, the impact of tobacco curing on wood resources was severe – with an increase of 19% in the amount of hectareage of forests being cleared.

Deforestation remains as a deeply troubling issue for land degradation, because of diverse livelihood activities – in particular, on fast track farms. Thus, Gondo and Mkwanda (2001) state that Zimbabwe's Environmental Management Agency (EMA) and Forest Commission (FC) refer to a general decline in woodlands mainly due to clearing for agriculture, harvesting fuel-wood and construction poles, and overstocking of domestic animals. From 1990 to 2010, the country was one of ten countries with the largest annual net loss of forest area losing 327,000 hectares of indigenous forest cover annually (FAO, 2010). The country's forested area declined from over 22 million hectares in 1990 to around 15 million in 2012

(FAOSTAT, 2015). The deforestation rate in the country is hovering at 1.9% compared to the southern African average deforestation rate of 0.5% (World Bank, 2015). Deforestation in the country also stems from uncontrolled forest fires (Zimbabwe Resilience Strategic Framework, 2015). The Environmental Management Agency estimates that one million hectares of land is affected by veld fire annually (Zimbabwe Report on Land Degradation Neutrality, 2018).

As a general tendency, agricultural activities on A1 farms are the main cause of land degradation. The heavy reliance on agriculture as a livelihood strategy has entailed the use of unsustainable farming practices that often lead to soil degradation. With cropland in Zimbabwe expanding from 27.48% in 1992 to 41.24% in 2008 (Convention of Biological Diversity, 2013; ZIMSTAT Report, 2016) because of fast track, it becomes clear that what takes place (and does not take place) on fast track farms has serious implications for land sustainability for the entire country, as indicated in the example of tobacco farming (Zembe et al., 2014; Dube, 2011; Makwara, 2012; Musoma, 2016). This is all clearly indicated in the study by Zembe et al. (2014) of land degradation of A1 farms in Gutu district (Masvingo Province). Though the fast track farms were taken over with mainly fertile soils, soil erosion and decreased soil quality through degradation over time pose a threat to agriculturally-based livelihoods on A1 farms (Zimbabwe Resilience Strategic Framework, 2015; FAO, 2014).

The direct, proximate causes of land degradation on A1 farms vary across the countryside. But the Zimbabwe Report on Land Degradation Neutrality (2018) lists a number of these, which are also applicable to communal areas: forest clearing for agricultural expansion, road construction and settlement; over-dependence of rural communities on fuel wood to meet their energy requirements; overutilisation of trees for curing tobacco, construction and fencing purposes, brick burning and wood carvings; and the expansion of small and large mines. But, these proximate causes need to be located analytically with reference to more indirect, underlying, systemic causes. No doubt, this involves a focus on the broader political economy of Zimbabwe and, in particular for this study, the fast track land reform programme and the politics which animate it. Combined with this are the weak and deficient policy, legislative and institutional arrangements which fail to undergird and strengthen land and environmental protection at local levels in the countryside (Akersson et al., 2016). Though the focus of this study is on the proximate cause of land degradation on the two A1 farms studied in Shurugwi, the underlying causes are never far off.

4.4 Conclusion

The chapter managed to highlight the importance of land in Zimbabwe by tracing land use patterns from the pre-colonial era up until the post-colonial period. From pre-colonial era, land was the major livelihood source and it was treated in high regard. There was limited land degradation due to the importance that the resource was given in communities. In addition, the use of IKS helped in protecting this resource from degradation. However, the coming of colonialism distorted the natives' belief in land as there was the promotion of scientific methods in protecting land and drastic change in land use patterns were introduced. This increased land degradation in the era, a scenario that was carried into the post-colonial era. The chapter showed how the FTLRP was one of the major underlying cause of the increase of land degradation in Zimbabwe. In addition, economic decline and poverty were also shown to have been contributing to land degradation. The chapter ended by showing how the underlying causes were leading to a change in people's livelihoods. Direct causes of land degradation such as deforestation, mining and unsustainable farming practices, were looked into and their link to people's livelihood strategies was shown. The chapter therefore showed how land degradation has been increasing from the pre-colonial era up to the post-colonial era and how human activities have largely contributed to the deteriorating of the land.

Chapter 5: Adare and Selukwe Peak A1 Farms and Farm-Based Livelihood Strategies

5.1 Introduction

This first empirical chapter introduces the two A1 farms under study namely, Selukwe Peak and Adare. In order to give understanding of the study areas, the chapter begins by giving an overview of the ward that encompasses these two A1 farms and then moves on to look at Selukwe Peak and Adare farms. An in-depth examination of these two A1 farms permits one to be equipped with a grounded understanding of the villagers who constitute these A1 farms. History and background of the acquisition of these two A1 farms is explained in detail adding more comprehension on the two farms. The livelihood strategies of the villagers are discussed extensively in section 5.3 and show the lives of the people who occupy Selukwe peak and Adare farm. The livelihood strategies being practiced have influenced the way they are viewed by the society in terms of wealth access. Section 5.4 looks at wealth categorisation, showing how the livelihoods strategies of the villagers has shaped the wealth group they find themselves in. Throughout the chapter, illegal mining emerges as a major livelihood strategy in Selukwe Peak and Adare farms making the chapter to end up by looking at the lives of the illegal miners as a way of bringing more crucial understanding on illegal mining.

5.2 Overview of Shurugwi Ward 18 and the Two A1 Farms

Picture 5.1 (below) shows a concrete signage that one encounters when entering Shurugwi District, implying a scenic area full of natural resources and an area with much to offer in terms of sightseeing. The concrete signage is a true reflection of Shurugwi's past, as it was once endowed with dense vegetation, good soil, and natural resources like gold and chrome, with also a good climate. Over the years, this has however changed, with significant changes in terms of land cover and land use, leaving current visitors taken by surprise after seeing a not-so-scenic Shurugwi.

Picture 5.1: Concrete Signage in Shurugwi



Source: Photo from fieldwork.

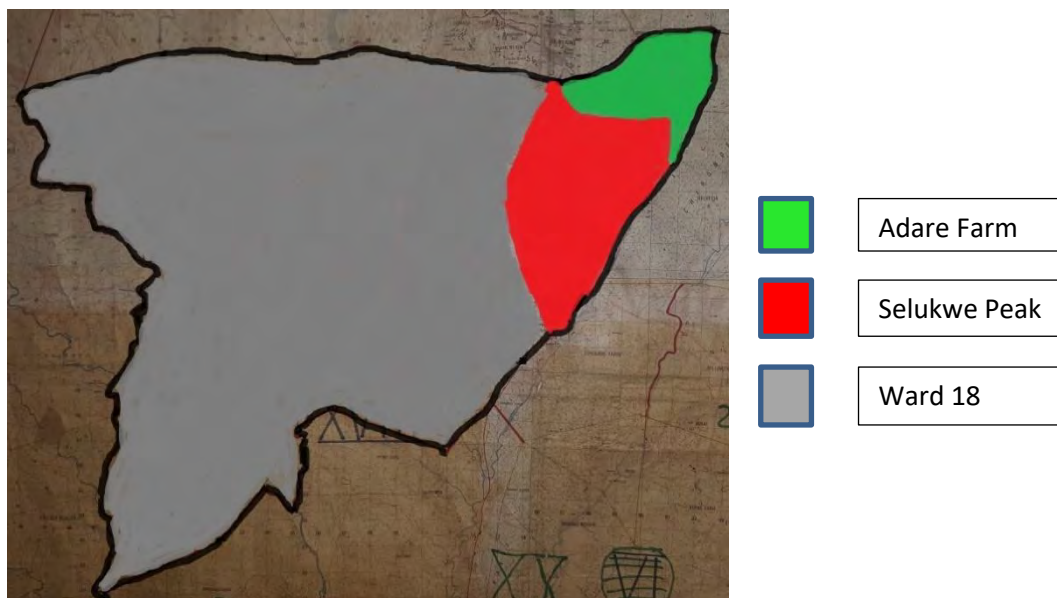
The change in land cover has been dramatic and drastic over the past 10 to 15 years. The most visible changes are evidenced in the most popular scenic place found in the district – this is called the Wolfshall Pass but is commonly known as the *Boterekwa* and is situated in Ward 18 in Selukwe Peak. *Boterekwa* (which means ‘meandering’) is a winding road that was built in the middle of mountains by an Italian Company and covers a distance of about 6 kilometres. The area surrounding *Boterekwa* is mountainous and was previously covered with dense vegetation which provided a very scenic view to passengers who travelled along the road. Surprisingly, *Boterekwa* currently now appears very different, as it is affected by heavy deforestation and massive land degradation. The once-dense roadside has now become disappointingly devoid of vegetation with a multiplicity of mining activities and open pits found almost everywhere. In addition, the Peak Mountains, another scenic place situated in Ward 18, has faced noticeable detrimental changes over the years.

It is these changes taking place in the natural environment in Shurugwi that prompted this research, as they raised my interest in understanding sociologically what has been taking place in the district – with Ward 18 chosen as the case study. Ward 18 is one of the largest wards in Shurugwi, and is a rural area found in the North Constituency surrounding Shurugwi town. It has 72 villages, 3,204 households and 19 A1 farms, and falls under Tongogara Rural Council. Both Selukwe Peak and Adare Farm, the two study sites are found in this ward.

5.2.1 Overview of Selukwe Peak and Adare Farm

Selukwe Peak and Adare farm (as two A1 farms) were chosen due to their proximity to *Boterekwa* and also because of rampant mining activities taking place in the two farms. Adare farm and Selukwe peak are situated 25 kilometres and 15 kilometres from Shurugwi town respectively. I managed to obtain comprehensive information about these two A1 farms from the government ministry in Shurugwi that allocated these farms, known as the Ministry of Lands, Agriculture, Water and Rural Resettlement (from herein referred to as the Ministry of Lands). Selukwe Peak and Adare A1 farms are fast track resettlement areas which were distributed by the central government through the Ministry of Lands and the District Development Coordinator (DDC) Office (formerly District Administrator, DA). Other authorities involved in the process were the chiefs in Shurugwi. Map 5.1 shows the location of both farms in Ward 18.

Map 5. 1: Ward 18, Selukwe Peak and Adare farm



Source: The DDC Office.

The contentious fast track programme arose from the nation-wide land occupations, and was labelled at times as *Jambanja* because it was— at least initially — a chaotic process which was based on a first-come, first-serve basis in terms of access to resettlement land. *Jambanja* has been defined by Matondi (2012) as mayhem or causing violence to achieve a certain social objective. As Fox et al. (2007: 2) also point out, “the process which displaced the commercial farm workers and farm owners was chaotic, violent and disorderly and so has been called “*jambanja*”. The process, however, later changed and evidenced some order as the

central government increasingly took over the redistribution of fast track land through the Ministry of Lands and decentralised land committees. This more well-ordered process entailed that people had to apply for land and then be put on a waiting list, with applicants assessed in terms of their supposed capacity to use the land. The first batch of farmers to be given land thus comprised of those under *Jambanja* (who engaged in self-provisioning of land) and the second batch involved the applicant-selection process. Overall, 20 percent of A1 farms were given to war veterans, with youth, women, members of the uniformed forces and civil servants also given priority in the selection and allocation process.

The A1 farms were one of two models of fast track farms, with the other model called A2 involving a commercial farm setup. This is different to A1 farms, which are the focus of this study. According to the Ministry of Lands, the A1 farms are small farm plots (on heavily subdivided former white commercial farms) meant for subsistence agriculture (i.e. home-consumption) with the possibility of agricultural surpluses sold on the market. Thus, the A1 farms resemble communal-farming settings where there are villages (i.e. a set-up of a homestead/yard with arable land and a common/pool grazing area). They also contain land meant for trading sites and future developments like schools and clinics.

The slogan used in relation to the A1 was '*Munhu ngaazvirimire*', meaning that each person should be able to stand on his or her own two feet. It was believed initially that by giving people these farms (including people then residing in agriculturally-deficient communal areas), they would be able to farm productively and become food secure, eliminating poverty and hunger. Added to the FTLRP objective of providing land to black farmers was the need to alleviate communal area congestion. Though there is evidence of communal area homesteads being left with no inhabitants, questions still arise about whether any significant decongestion has in fact taken place. People moved away from these 'colonial reserves' also known as communal areas to settle in the resettled A1 farms leading to the decongestion of these communal areas. No matter the validity, the Ministry of Lands official was of the view that:

'Misha yakasara yava matongo, minda yataiti yava overused hakusina, angova matondo kwese kwakabviwa. Kuno uku ndiko kwatozara'. ['In communal areas, houses were left with no people, and the land that we once said was overused is not any more as it is recovering. It is the resettlement areas that are now congested'.] (In-depth interview with the Ministry of Lands Official held in Shurugwi town, June 2021).

In terms of pegging resettlement areas, sustainable land use planning was used by the government as a way of making sure that the land would be able to support and capacitate the

people. A1 farms in Shurugwi were distributed so that plots: followed a linear pattern; followed a water course such as rivers; had fertile soils; were below the mountain ranges; and were located along the main road. Notably, A1 farms were placed at the downstream of major rivers while A2 farms were placed at the upstream of major rivers. This was done because A2 farmers were thought to be more responsible and manageable in maintaining water sources, flows and supplies (thereby protecting the land) compared to the diverse array of A1 farmers. The two A1 farms (Selukwe peak and Adare farm) existed downstream of rivers called Manzimudhaka River and Mutevekwi River which flows into Runde River. The designated A2 farms existed on major rivers like Gwenoro in order to protect the catchment of these rivers. In the A1 farms, servitudes were left along the rivers and these were marked by the Zimbabwe National Water Authority (ZINWA), measuring 50 metres from the dam. For the rivers pertaining to A2 farms, such as Gwenoro River, about 150 metres to 200 metres were left vacant to protect the land.

The Ministry of Lands indicate that Selukwe Peak and Adare farm were gazetted for acquisition by the government in 2000 and for allocation in 2001. However, effective demarcation took place only around 2006. There was a delay in pegging due to prolonged issues around official clearance with and by the Ministry of Mines and Mining Development. The Ministry of Mines opposed the distribution of farms in the area of Shurugwi, highlighting the land degradation that would emanate there once people were settled. Their major concern was centred on environmental protection which they seek to ensure as a ministry. Despite the concerns of the Ministry of Mines, the Ministry of Lands managed to resettle people on the A1 farms. The concerns of the Ministry of Mines, however, came to pass as seen by the massive land degradation that later occurred, as discussed later in the thesis.

Though there were villagers on the two farms from the time of the emergence of the fast track programme from the year 2000, the existence of Selukwe peak (as an A1 farm) became officially recognised in 2006 while the official recognition of Adare A1 farm came about in 2008 (which was the first phase) with further developments in 2010 (which was the second phase). At Adare, the first phase of land allocation comprised of 30 households while the second phase comprised of 32 households. Currently, there are 68 households in total and, among these 68 households, 63 have been provided with official offer letters from the government while the remaining 5 are on the waiting list but already residing. There are 2 A1 villages in Adare and there is one A2 farmer. According to the Official of the Ministry of Lands, the total area of Adare farm is 1360,90 hectares with each A1 household allocated two hectares of land for crops. The grazing area that was allocated per each household is 18.39 hectares making the whole grazing area to be around 1158,57 hectares.

Selukwe peak, the second A1 farm, under study is larger than Adare farm and consists of 4 villages. The total area of Selukwe peak is 3553,83 hectares with each A1 household allocated farming (i.e. cropping) land ranging from four hectares to twelve hectares of land. The grazing area allocated per each individual is 10,60 hectares making the whole grazing area to be around 1494,6 hectares. This A1 farm has a total of 153 households and, among these, 141 households have offer letters while 12 are on the waiting list but already residing. There are also five A2 farms in Selukwe peak. The distance to the grazing lands from the A1 homesteads range from half a kilometre to 3 kilometres.

The villagers both in Adare and Selukwe peak have been tenured through either a 99 year lease (A2 farmers) or an offer letter (A1 farmers). The ones without offer letters are considered to be illegal settlers although it is well known that they reside there. Some of the illegal settlers consist of children who would have moved away from their parents' home in search of their own land. Fieldwork shows that the villagers who reside in Selukwe peak and Adare farms are either those who already resided in Shurugwi (including in nearby communal lands) before the fast track programme, or outsiders who came from different places (Mberengwa, Chivi, Zvishavane and Masvingo) from across the country. The movement of people to the two farms was motivated by the need to secure their own more fertile land while others were simply escaping from drought prone areas.

5.2.2 History of Selukwe Peak

I found the history behind the acquisition of land by the villagers in Selukwe Peak A1 farms to be quite intriguing and closely associated with the FTLRP in the manner in which acquisition was carried out. The in-depth interviews I carried with the Farm Chairperson of Selukwe Peak and the villagers gave me a deep understanding of the whole land allocation process. The way the villagers narrated their current ordeals also showed the attachment that the people have to their A1 land and how they are troubled by the changes that have taken place over the past few years. Selukwe Peak was once state land that was rented by a white farmer named Runsborg, until the government gazetted the land for allocation to black people through the FTLRP. Commenting on the 2000 invasions/occupations the Farm Chairperson spoke about '*vanhu vakamboita mahure emapurazi*' – this spoke to the disorder of the time, as people literally became prostitutes of farms as they were frequently moved from farm to farm and settled elsewhere. This caused local and other people becoming caught up in the euphoria of struggling to acquire land they could call their own.

Upon hearing about the availability of land in Selukwe Peak from early 2000, most people who resided in Shurugwi strongly felt that the land was rightfully theirs and that they should be beneficiaries of any land distribution scheme there. Initially, this entailed the submission of papers (an application) to the rightful offices, starting with the DDC office, an action that confirmed the villagers' interest in officially-recognised land allocation. However, there were other influential people who were interested in acquiring land at Selukwe Peak, which triggered competition between villagers and such people. What made it problematic for the villagers was that their follow up visits to offices such as the District Committee were often fruitless as they were not given the attention that they required. More frustrating was that war veterans would frequently come to the villagers giving them excuses as to why they could not be given the land.

The process dragged on for many years up until 2006 when the local people were told that the farm had a new owner, a man called Njiva Timon who was given about 444 hectares. The villagers were aggrieved when they realised that the land that they were fighting for, for nearly six years, had been allocated to an outsider. In the farm chairperson's words, '*takaronga chimurenga chedu*' ('we planned our own revolutionary struggle'), and they formed a group of six people and decided to go to Harare to the Presidency's office to let the former late President R.G. Mugabe know their story. Before doing this, they faxed a letter to different relevant government offices informing them that the Shurugwi villagers wanted their land back that had been given to an outsider:

'Takanyora kuti tinoda ivhu redu nekuti razopiwa umwe munhu sei imo muno mupurazi mune vanhu'. ['We wrote that we wanted our land and asked why it had been given to an outsider whilst there are people (us), some of whom are already residing in the farm'.] (In-depth interview held with the Selukwe Peak Farm chairperson in Selukwe Peak, May 2021).

A copy of this letter was sent to the Police, to the Provincial Administrator and to the Provincial Ministry of Lands, Agriculture, Water and Rural Resettlement Office. A letter was faxed as well to the Presidency's office explaining their situation and they were told to come on 4 September 2006. The six villagers then looked for funds to go to Harare, travelled by train and went to Monomotapa building where they were directed to see the Former Vice President Joyce Mujuru. She in turn referred them to Former Vice President Mr Musika to whom they told their story. According to the farm chairperson:

'We told him that it was painful to us that we entered the farm in 2000 and we had already constructed permanent house structures for us and our families though our stands were not pegged yet. After all that we had done, the farm was now being given to an outsider but we are the sons of the soil ['isu tiri vana veivhu, iri ivhu redu'] and we deserve that land.' (In-depth interview held with the Selukwe Peak Farm Chairperson in Selukwe peak, May 2021).

Mr Musika, realising how emotional the villagers had become as they narrated their troubles, called in Mrs Mujuru. Mrs Mujuru was baffled by this issue as she pointed out that an outsider should not be given land and that the land should be given back to the villagers. She then called Mr Francis Nhema (Director of Lands) to come and make arrangements to ensure that the villagers retained their land and that the land be pegged for the villagers accordingly. The six villagers were then told to go to the Ministry of Lands office in Harare where this would all be confirmed:

'When we arrived at the Ministry of Lands office, the owners of the offices deserted the offices only to come back around 2 in the afternoon. They pointed out that they had been scolded because of us. The Ministry of Lands office told us that the land was now ours and they tore about 13 applications of A2 farms [for Selukwe Peak] that they had on their desk'. (In-depth interview held with the Selukwe Peak Farm Chairperson in Selukwe peak, May 2021).

Once the land was decreed to be belonging to the villagers, a plane was sent to Shurugwi to carry out a survey of the area so that the A1 farms could be pegged.

However, when the villagers returned back in Shurugwi, they realised that their action of going to Harare had created a conflict between them and the local District Ministry of Lands office. The District Ministry felt the villagers' actions had bypassed and exposed them, and the officials retaliated by slowing down the process through delaying tactics in pegging the land. At some point, though, the villagers were informed that the farm was now theirs and they were shown the official documentation:

'We wanted arable land and surveyors came and pegged the A1 farms. At that time the forest was so dense and scary as there were pits, many snakes and wild animals'. (In-depth interview held with the Selukwe Peak Farm Chairperson in Selukwe peak, May 2021).

Problems arose when only 72 homesteads were pegged at first, with numerous villagers feeling strongly about being left out. In fact, these villagers were told to go and find land on other A1 farms, to which they refused. This led to a revision and redoing of the plot pegging, resulting in up to 140 homesteads pegged. Currently, the number has gone up to 153 homesteads as there are some people who have occupied the land unlawfully. The history of how the villagers attained Selukwe Peak showed me that the villagers struggled hard to attain the land, as well as illustrating how land remains a contentious issue in Shurugwi.

5.2.3 History of Adare Farm

The history of Adare farm has a different background and is not as complicated as Selukwe Peak's. There was some degree of order in the land allocation at Adare which started with the previous owner of the farm, who was known as Bruce, being told to leave and also given time to clear his belongings and properties. There was no hostility shown between Bruce and the new A1 villagers as Bruce peacefully proceeded to resettle in a new place that he was given. After that, plot allocation of the A1 farm took place. A waiting list of people who had applied formed the basis for the allocation. As indicated, this entailed two phases with the first phase being carried out in 2008 and the second phase in 2010.

Land was easily allocated in the first phase as there were no mining claims and no convoluted controversies about the land. In the first phase, 30 households were allocated farms. The second phase took much longer because there were certain unresolved issues of ownership on the land – as there were believed to be mining gold claims made in the area. The government therefore needed to make sure that they were not pegging on claimed-land, so verification needed to be done first. Once verification was finished and the land was cleared, allocation began to take place in 2010 with 32 homesteads being allocated land. This was termed the second phase. Among the people who were given land, 20 percent consisted of the former white farmer's employees, 20 percent of war veterans and the remaining 60 percent came from around Shurugwi town and different places across the country. Together, all the A1 farm plots amounted to 62 homesteads the number which has since increased to 68 (as noted earlier).

5.2.4 Authority, Ethnicity and Gender Relations

The District Development Coordinator (DDC) Office, formerly the District Administrator, is at the top of the power hierarchy in Shurugwi District. The Ministry of Lands and District Land Committee oversees the land in Shurugwi with the help of the farm-based Committee of Sevens which include farm chairpersons. The Committee of Seven is the farm governance structure

that was set up by land beneficiaries of the FTLRP, and the people who were allocated land first would usually be on the committee (Matondi 2012). Nationally, most leadership positions are held by men but there are a few women who hold some positions. Among the respondents, there was one woman who was a farm vice-chairperson, showing that women had a level of power locally on A1 farms. In terms of landholdings, it is not only men who are entitled to be land owners. Women in Shurugwi can be landholders as witnessed by the fact that in Adare farm, when land allocation was done, 15 women were given land as sole beneficiaries. With time, the number of women landholders has increased as some have become so by default through their husbands' deaths. The population in the two farms is predominantly made up of the Karanga ethnic group (part of the Shona) and a few Ndebele people.

There are no chiefs yet in the two A1 resettlement areas but it is believed that they will be placed in the nearby future, as has happened elsewhere. However, three communal area Chiefs, namely Chief Ndanga, Chief Nhema and Chief Banga have been contesting over the authority of the resettlement areas as this will mean an extension of their political influence onto these farms. During the time of this research, the dispute is still ongoing and has not been settled. From the perspective of the Ministry of Lands, some of the chiefs are arguing that they need more land as they were given relatively small stretches of land during the colonial era:

‘Ndakadzvanyirirwa nevarungu pakupiwa nzvimbo’. [‘One chief will claim that his ruling area needs to be extended as he was given a smaller portion during the colonial era’.] (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021).

This was also articulated by one elderly male respondent (with regards to Selukwe Peak), who indicated that the place since long back belonged to Chief Nhema but, with the coming of the FTLRP, other chiefs are now also claiming it. In order to manage and resolve the dispute, the DDC office has stipulated that chiefs will only have jurisdiction over areas that are close to their current areas of control. In this case, Chief Nhema likely will have an influence in Selukwe peak while Chief Ndanga's current reign is close to Adare farm.

In carrying out a life history interview with Mr Chitima, an elderly male respondent, I managed to gain insight into the chieftainship in Selukwe peak which he traced from the colonial era – See Box 5.1.

Box 5.1: History of Chieftainship (Selukwe Peak Farm)

I am from the households of Chiefs. I was born in Shurugwi when there were still reserves in the land of Edmen Mudzengi in 1947. I learnt at Mutamba School from standard A to Standard 6 and I still remember that my teacher was Mr. Mupepumi and he owned a plot. My grandfather was an interesting man and he sometimes stayed at the barracks at Guinea Fowl. He died in 1956. He saw the battle that was fought at Lalapanzi during the Chimurenga uprisings of 1896/7. Before the Lalapanzi battle, he went to Chatsworth and stole cattle from the white people and came with them here in Shurugwi. That is how our clan came to stay in Shurugwi. My grandfather gave birth to a son called Zivanai, who was my father. Zivanai got a place in Shamba, in Tongogara and he was called Mazivisa [meaning 'you have let us know of a new place']. Chivi, whom we previously called Mudzungairi weShambochena was one of our nephews and he resided in Mutoko. He decided to move and went to reside in Chivi and he had 3 boys and one girl. The three boys were named Matsveru, Bere and Nhema. One of Chivi's children Nhema, who would later become one of the chiefs in Shurugwi, would just hear that his grandparents (who was also my grandfather) were in Shurugwi. This made him to move away from Chivi to come and stay with his grandparents in Shurugwi. He first arrived at Shamba and stayed with our grandparents where he spent his time doing different chores for them. When Nhema was staying with our grandfather and when Bulawayo became Ntabazinduna [house of Kings], our grandfather was called to come to Bulawayo as the whites were saying they won and there were now on friendly terms with the blacks. However, one spirit medium called Ndawana told him not to go as it was a trap to get him killed by the white men as they were still bitter about the cattle he had stolen from them. He then sent his grandchild Nhema to go in his place. When the white men called my grandfather's name, it was Nhema who stood up. The white people asked where my grandfather was and Nhema told them that he was very ill and that it was not surprising if he died soon. The white people were angry, that they clicked their tongues. Guns to kill my grandfather had already been prepared as they were angry for the role he played in the battle. The white people then threw a helmet and a white jacket to Nhema which he accepted. When Nhema came back, my grandfather, as a thankful gesture, gave him a place at Senamu. Nhema saw that the land was beautiful but there was already someone ruling there called Boroma. Nhema wanted to rule the place, and he was afraid that Boroma would take the place away from him and that his future children will be affected. Nhema came back to his grandfather and told him that he loved the place. He then told his grandfather to prepare beer as a celebration ceremony for giving him the place and he also told his grandfather to invite Boroma. During the celebration, when the beer had been prepared and it was the time to give Boroma his pot, Nhema axed Boroma and killed him. When Boroma died, Nhema was left as the ruler and he used his helmet and white jacket to claim his leadership. He ruled for five years but my grandfathers' issue continued to affect my father's [Mazivisa] ruling. This forced Mazivisa to give Nhema his position of ruling so that he could lie low. That is how Nhema came to be ruling in Shurugwi. Nhema people then came and our families have become more related through marriages. We from the Mazivisa clan were left ruling in the area of Zireva and we are still ruling in that area. When we were residing at Shamba we realised that we were many in one place so we decided to disperse. My big brother went to Gokwe and the other went to Chikato and the other remained. I moved from Zireva and started residing in Selukwe peak in 2003, and that is when the previous Chief Nhema [before he died] came to me and told me to look after the place on his behalf: 'Ndimi ziso rangu' [meaning 'you are my eye']. Hence, as we are waiting for the Chiefs to be nominated, we from Mazivisa are looking after the area. Selukwe peak has no chiefs yet as the area has yet to be gazetted chiefs.

Source: Life history interview held with Mr Chitima in Selukwe Peak, June 2021.

This lengthy story, based on recall, highlights the significance of chiefly rule in Shurugwi broadly. It also demonstrates that the history of chiefs in the area has deep roots and that local people are still contesting the legitimacy of particular chiefs. As mentioned above, Chief Nhema is the chief who is closest to Selukwe Peak, thus likely have greater loyalty amongst the A1 farmers there. In the future, contestations around land and minerals in the two studied A1 farms may be configured in important ways by chiefs and chiefly struggles.

5.2.5 Natural Resources, Dynamics of Wealth, and Infrastructure

Selukwe peak and Adare farms are situated in one of the most mineral-rich areas (Shurugwi) in the country and the two farms are rich in minerals such as gold, platinum, nickel and chrome. The two A1 farms are also near the *Boterekwa* (Wolfshall pass), one of the famous and beautiful places in Zimbabwe, as evidenced by the winding road that is in-between the mountains. The two A1 farms are in agro-ecological region 3 and receive an annual average of 600mm and 800mm of rainfall. The area is conducive for crop-farming and livestock keeping, though more intensive farming is more suitable in regions 1 and 2. The area is prone to mist especially in the *Boterekwa* and is easily susceptible to drizzling.

The villagers in the two farms use natural resources that consist of water (mining, drinking, irrigating), trees (firewood, building) and grass (thatching houses). Considering the climate in the area, the two farms have good natural-vegetation growth with trees such as Msasa (*Brachystegia spiciformis*) dominating in the areas. Other trees such as muchecheni (*ziziphus mucronata*), mususu (*Terminalia sericea*), and mutohwe (*Azanza garckeana*) are also found in the two A1 farms. As well, the two areas have plenty of different types of grass, including shamva grass (*Rottboellia cochinchinensis*), which grows very tall. The shamva grass is the most appropriate for thatching huts as it has solid coverage and in most cases require only two lines of grass. Additionally, there is chiraramhene (*Setaria pumila*) grass and godhla grass – the latter is found in wet places and was once used for making mattresses. Jekacheka grass (*scleria griegifolia*) is found near rivers and wetlands. The grass available for various uses no longer exists in abundance because of a general decline in rainfall over recent years.

In terms of water sources, the villagers of Selukwe peak and Adare farms depend heavily on rivers as there are no dams, including Mutevekwi River which passes through both farms. The water table on the two farms lies at between 15 metres to 70 metres. At Selukwe Peak farm, there are no functional community boreholes. There are, however, three functioning boreholes at school facilities which villagers at times make use of. Given the limited availability of boreholes, Selukwe peak villagers tend to depend upon protected wells and

unprotected wells for drinking water. Public wells are strategically dug at central points, so as to cater for everyone. As for Adare farm, there are three functional boreholes that are available for all the villagers in the A1 farm. But, one female respondent from Adare farm pointed out that:

‘When we arrived here in Adare farm in 2010 there were no functional boreholes. Last year, Unkie mine [a major Anglo-American platinum mining company] placed these three functional boreholes that the people are using. However, the boreholes are across the river and far from our homestead leaving the river to be our major source of water’. (FDG held in Adare Farm, May 2021).

Many villagers on the farms confirmed that they end up just making use of water from the river, especially during the rainy season. During the rainy season at Adare, it is also difficult to cross the full river to get water from the boreholes. The river becomes their major source of water for domestic purposes. In addition, there are no dams in the two villages but there is a weir in Adare farm along the Runde River.

In terms of schools, Selukwe peak and Adare farm share a secondary school named Msasa Secondary which is situated in Selukwe peak. Some children walk about 10 kilometres to get to the secondary school especially those who reside at the far end of Adare farm. Other pupils have to travel to schools in Shurugwi town as the secondary school cannot cater for all children in both A1 farms. There are two primary schools, one in Selukwe peak and one in Adare farm. The primary school in Adare is called Gutsa Primary school and the children who live furthest from the school travel a distance of 5 kilometres. In Selukwe peak, the primary school is called Selukwe peak primary school, with children who live furthest from the school travelling about 10 kilometres to get to school. The government is currently building a new primary school at a nearby A1 farm (Gutsaruzhinji A1 farm) which will be called MontDor primary school. When finished, the new primary school is expected to accommodate children from Selukwe Peak. A significant number of children in both Selukwe peak and Adare farm attend primary and secondary school although dropouts are significant in secondary school.

5.2.6 Cultures and Social Organisations

Considering that the two A1 farms are new resettlement areas, it was difficult to determine if there were any particular cultural beliefs given to land which were in any way different than those prevailing in the long-established. The Ministry of Lands claimed that there is no single

culture that is being enacted by the villagers in the A1 farms as there are no chiefs yet in these new resettlement areas. This was supported by a male respondent who stated that:

'There are no traditional laws [cultural customs] as of yet because there is no chief yet and traditional leaders are still confined to the communal areas'. (Informal conversation, held with a male respondent from Selukwe peak farm in June 2021).

It is the chiefs who stipulate and guide the cultural and traditional laws that villagers should follow. Considering that the resettlement areas had no chiefs and a possible clash of various cultural beliefs, the then DDC said that the people on the two farms should follow the laws of the chief who is nearest to them. However, it is not compulsory for the villagers to abide to these cultural practices until they are designated (and officially fall under) their own respective chiefs. According to one respondent,

'It is up to the villagers to choose whose traditional law to follow, Chief Banga, Chief Nhema or Chief Ndanga but we are not forced.' (Informal conversation held with a male respondent from Selukwe peak farm in June 2021).

The villagers from Selukwe live close to Chief Nhema while those in Adare farm live close to Chief Ndanga. The Adare Farm chairperson stated that those in Adare farm live close to Chief Ndanga and, if they want, they may follow his tradition – but he has no authority to arrest those who do not abide to his cultural practices. In reality, this means that cultural practices are only carried out and abided to by a few villagers in the two A1 farms. One elderly villager made the following argument:

'The problem is that many people who were placed as chairpersons are not from Shurugwi, and they have different beliefs and traditions. People from Shurugwi were not extensively into mining. However, the new chairpersons were into mining and they put importance into mining all the time and disregarded the traditional beliefs of us who resided in the area'. (In-depth interview with an elder held in Adare farm, June 2021).

Hence, the claim exists that 'imported' cultural beliefs and practices also exist in the two A1 farms. In fact, I realised that the few villagers who practiced long-standing cultural beliefs in the area were mainly the elderly and those individuals who previously resided in nearby communal areas. These villagers accepted the cultural practices of the Chief who resided next to their A1 farm and followed his laws.

Notably, most of the cultural practices visible at the two A1 farms are linked to land, as land is seen as having spiritual connotations and should be respected because of this. Chisi

is one cultural belief that is followed as tradition by some villagers, as articulated by an elderly respondent:

‘Chisi is a day for the chiefs, which was chosen by the Chiefs so that his land is given rest. [Izuva remadzimbambo, rekuti nyika yangu ngaizororwe nhasi]. We, who are under Chief Nhema, we follow Thursday as our Chisi day. We do not go to the fields on Thursday. Long ago when people did not abide by Chisi they would find their field struck by lightning. This was a sign that you would have disobeyed the traditional custom. Right now people do not follow this tradition because people have come from different places with different cultures. Some came from Chivi, Mberengwa, Gokwe, Masvingo etc. Previously people did not mine on Chisi, but these days we are seeing young people mining on Chisi day’. (In-depth interview with an elder held in Selukwe peak, June 2021).

Another cultural practice that some villagers still carry out is called *mutoro*. The villagers practice *mutoro* whereby they pray to the ancestors for rain. The ceremony takes place after they have finished harvesting their crops for the season. The ceremony involves the soaking of millet in water. The millet is, however, not placed in water directly but is placed on a rock pavement so that it will be rained on. After that, the millet will be taken and then used to make beer. The beer will be made in September and people will be given it to drink; after that, the rain will come. An insignificant number of the respondents (who comprise mostly of the elderly) are involved in the practice of *mutoro*.

Reference was also made by one elder to another traditional practice in the area called *kupinga nyika*. *Kupinga nyika* is a practice carried out during the plot-pegging process, when chiefs have been allocated land to rule over. Once this process is undertaken, anyone who comes into the area with bad intentions will not succeed. As this elder put it:

‘The land under Chief Nhema was pegged [kupinga nyika] by Mazivisa [see Box 5.1]. During the process of pegging, the chief is shown the whole area in which he will rule over and told what he is supposed to do in the area’. (Life history interview held with Mr. Chitima in Selukwe peak, June 2021).

The families of the Chief would then take two children, a boy and girl, and allow them to mate together. After doing this, the blankets used during the mating would be taken and used to complete the ritual process. The ritual is performed so that no one will come and re-claim that land again, for it will be fearsome for any person (usually, an outsider) to even attempt to do

this. In this way, the land is protected by its owners from evil. Though not prevailing at all in the two A1 farms, some villagers expect this tradition to continue when chiefs are granted official jurisdiction in the resettlement areas.

A significant number of the A1 villagers strongly believe in the existence of mermaids. Mermaids are sacred creatures that live in deep rivers and springs. They live in places where there is always water and they only come out when it is quiet and there are no people around. Mermaids are believed to be staying in rivers such as Mutevekwu River and the springs that are found in the mountains. The water-places where mermaids reside are considered to be sacred and only culturally-approved behaviours are allowed at these places. For example, people should not wash their clothes at these places, should not drink water using hands or use metal cups to fetch water. Instead, cups made from pumpkin shells are to be used. The trees around these sacred places should not be cut and, more broadly, the area should not be disturbed. In this respect, a female villager spoke about the benefits of not disturbing the mermaids:

‘Mvura haiperi panenge pane njuzu asi hunge vanhu vatevedzerera zvinenge zvichidiwa.’ [‘Water does not dry up where there are mermaids i.e. if people abide to the rules and follow them.’] (FDG held in Adare farm, May 2021)

If disturbed because of culturally inappropriate practices, mermaids become angry and they may take humans into the water where they reside. (It is also believed that a person might be taken by mermaids if the former want to be a traditional healer). Once a person is taken, the relatives of that person are not allowed to cry, otherwise that person will not be returned. As a way of bringing back the person, including as a powerful traditional healer, the relatives will need to perform a ritual whereby they will come and play drums for about a week at the river where the person was taken. Overall, mermaids are important to some of the villagers at least, as they protect the water and keep the rivers from drying up. One interviewee stated simply:

‘Njuzu dzinotipa mvura.’ [‘Mermaids give us water’.] (FDG held in Adare farm, May 2021).

There are other places in the area that the locals label as sacred. Some parts of the forest surrounding Boterekwa are believed to be sacred, as are the Dunraven Falls situated in Boterekwa. People from different religions carry out their religious practices at these places. At times, this leads to contestations. For example, villagers from the Apostolic Sect believe that the Dunraven Falls holds cleansing powers so they go there to perform such practices as throwing evil things into the falls. Those villagers subscribing to the traditional culture of the

areas are opposed to this and, for them, the Apostolic Sect is not welcome at the falls. This has led to a clash between the two religions as they both claim use of the sacred falls.

Clearly, the cultures in and around the two A1 farms are marked by considerable diversity and have been subject to change over the years. In part, this is due to the in-migration into Shurugwi of people from other parts of Zimbabwe, particularly of a younger generation who disregard historically-established cultural practices within the district. This is of deep concern to the older generation, as one elder lamented in detail:

'The continuation of the coming in of different people is now distorting our culture but we continue telling the people how they should treat the land. I can give you an example of what took place here some years back. Just down there, a few kilometres away from the road, there was a fire that came out of nowhere. It was the period when people were still strongly fighting ownership of the leadership of the A1 farms. The fire was caused by disobedience of our culture. There was a snake that used to cross the road but no-one was able to see neither its tail nor its head. A man called Moyo [not his real name] shot the snake and the snake died. He was not supposed to kill the snake because it was part of us and our land. The ancestors were angry about the dead snake that they started a fire. No one could stop the fire from burning. Chief Nhema was called to come and stop the fire but he said that he would not go there and that the person who claims to be the leader of the area should be the one to go and stop the fire. The person who had shot the snake came and said he will be able to fix it. He failed and he died. Chief Nhema and his men came at last and said some ritual words and the fire died. However, the fire then went to Moyo's homestead and started to burn there. The Chief then went there and performed more rituals and the fire stopped. They had to pay a fine to the chief for the consequences to go away. All this shows the disregard of our cultural practices and the consequences of such'. (In-depth interview held with an elder in Selukwe peak, June 2021).

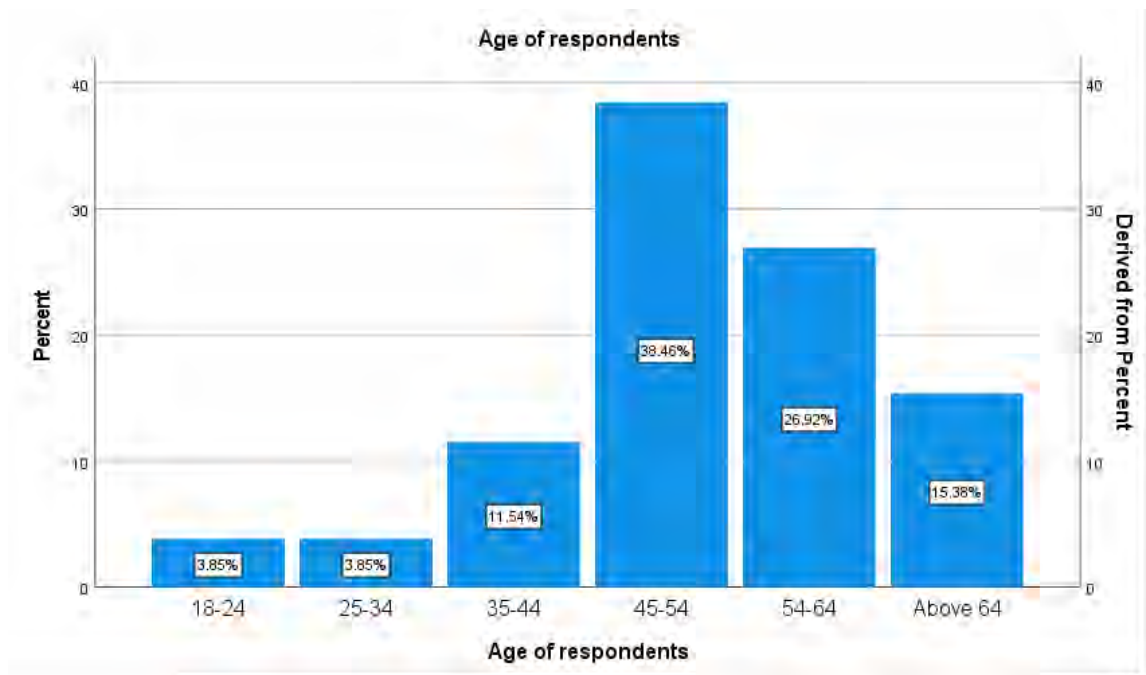
From this detailed narration, it is clear that some villagers hold on strongly to their cultural practices and beliefs. However, the lack of presence of Chiefs and traditional leaders on the A1 farms affects the continuation of cultural and traditional practices there. The young generation is also reluctant to follow these practices and, most importantly, the continuation of outsiders entering Shurugwi was leading to 'cultural dilution' to the point that, if this goes on much longer, long-established cultural practices in the area will be a thing of the past in the two A1 farms.

5.2.7 Profile of Studied Households

The fieldwork showed that the households on the two A1 farms were male dominated and led by men, which is typical of the patriarchal structure of rural households in Zimbabwe. Among the respondents, 65% were male while only 35% were female. Overall, 73% of those interviewed were household heads: 61% were de jure household heads and these were all males (de-jure), while 12% were de-facto household heads (these consisted of widowed females). Of the other 27% of the respondents, 19% were spouses of the household heads and 8% were dependents. Among the respondents 73% were married, 19% widowed and 8% were single. In terms of education, a significant number of respondents had attained some form of formal education: 42% had attained secondary education and another 42% had attended some level of primary education. Those who attained secondary education were mostly male with only a few women having reached that level. Women constituted a significant number of those who had only reached primary school level and had failed to continue onto secondary education. Reasons such as lack of money for school fees were given as reasons for the limited educational attainment of females, though others dropped out in order to get married. An insignificant number of respondents (8%) had no formal education and they were the oldest among the respondents (in the age-group of 85 to 94). The remaining 8% had reached tertiary level and both of these respondents were male.

In terms of age of the respondents (see Figure 5.1), the study targeted those respondents who had been and stayed in the area since the inception of the FTLRP. Hence, a significant number of the respondents had been in the area for more than 20 years. The extended period of stay in the area was a major factor in choosing respondents as it enabled the collection of evidence around agricultural and land changes in the Shurugwi area, including on the two A1 farms. The highest percentages of respondents (38%) were in the 45 to 54 age group, followed by the 55-64 age group which had 27%. This means that most of the respondents were relatively young when they initially gained access to A1 farmland.

Figure 5. 1: Age of Respondents



Source: Fieldwork.

5.3 Livelihood Strategies in Selukwe Peak and Adare Farms

In most African countries, land lies at the heart of social, political and economic life, with agriculture, natural resources and other land based activities being fundamental to rural people's livelihoods (Quan 2006). To the villagers of Selukwe peak and Adare farms, land is a crucial natural resource and it is highly significant for the day-to-day lives of the A1 farm villagers as well as for their household-based livelihoods. For the Ministry of Lands, land is a valuable property and is of great importance to the villagers as evidenced by the endless conflicts over land issues on the two farms. The central relevance of land to the villagers makes it a source of disputes and conflicts. One respondent pointed out that,

'Tinotoirwira minda iyi nekuti minda yedu'. ['We fight for this land because it is our land'.] (Informal Conversation with a female respondent held in Adare farm in May 2021).

Ownership of land also boosts confidence and gives a sense of local belonging for the villagers thereby enhancing the significance of land. According to one respondent,

'If you are a landowner obviously you are the landlord and this gives you prestige in the community just to be regarded as a land owner. The land owners have offer letters to

prove that they own the land. It also gives them the upper hand and the right to decide who enters into their fields’. (FDG held in Selukwe peak, May 2021).

The villagers use statements such as *‘Isu inzvimbo yedu’*, meaning ‘this is our land’. When asked about the importance of land, a large number of respondents pointed out that land is life. Land is the foundation of the means of living to the villagers. As one female respondent articulated this,

‘Land is my life because that is where my food comes from’. (FDG held in Selukwe peak, May 2021).

These various statements demonstrate that the villagers depend on the land for their livelihoods, meaning that their major livelihood strategies are intrinsically linked to, and embedded in the land. For the A1 farmers, this was made possible by the government’s fast track land reform programme. It was only through the FTLRP that many of the villagers are able to pursue meaningful land-based activities, at least potentially.

Though agriculture as a land-based livelihood was conceptualised as key to the lives of fast track farmers as the land programme unfolded and developed over time, it is clear that – in Shurugwi – many A1 villagers are involved in processes of livelihood diversification. There is an alternative livelihood strategy on the two farms that has become increasingly popular among the villagers, namely, mining (which is also land-based). Both Moyo (2011) and Mkodzongi (2019) argue that the post-2000 land redistribution process led to many possibilities for re-imagining ways of belonging in Zimbabwe’s rural territories and this included artisanal mining activities alongside farming. Agriculture and mining are the two most important land-based livelihood strategies in Selukwe peak and Adare farms, and the relationship between them is often deeply troublesome if not tension-riddled. This section focuses, in turn, on these two livelihood strategies as practiced on the two farms, and also highlights the complexities of their relationship for the lives of villagers.

5.3.1 Agriculture

Agriculture is the major livelihood strategy practiced by the villagers on the two A1 farms. The villagers carry out both crop-farming and livestock production. The A1 plots in the two farms differ in size with those in Selukwe peak having more land, in part due to the larger size of arable land found on this A1 farm as compared to the land in Adare farm. The villagers in Adare farm have less land as it is a mountainous area making arable land somewhat limited. In Adare farm, all the villagers have only two hectares of land while those in Selukwe peak have

four hectares of land. The only large piece of arable land in Adare farm was the former irrigation crop-area that was used by the previous (pre-fast track) owner. In phase one of formal land allocation at Adare farm, villagers were given one hectare of land at their homestead and another hectare away from the homestead. In the second phase (involving 32 households), households received two hectares both away from the homestead. The Adare farm chairperson told the following story:

'When the people came to Adare farm they found all the fields already cleared since they were allocated land that was farmed by the previous farmer where he used to farm crops such as wheat and maize. Hence, our fields are situated where the former owner carried out irrigation and there were once irrigation pumps in these fields, a small river and a weir dam that used to irrigate this field but the pumps were destroyed by Cyclone Eline'. (In-depth interview held with Adare farm chairperson in Adare farm, May 2021).

When the villagers were given these farm plots, the irrigation was no longer working, leaving them to rely solely on rain-fed agriculture. This is the same with Selukwe peak villagers, who also rely on rain-fed agriculture for their field crops. The dependence on rain-fed agriculture at times affects the villagers' field crops and farmer harvests particularly during drought years when the rainfall is less or erratic. Although Selukwe peak and Adare farms are in agro-ecological region 3, they are situated in the southern part of Shurugwi, which means that they exist close to the drier agro-ecological region 4. The southern part does not experience as much rain as does the northern part of Shurugwi. This was confirmed by the Ministry of Lands official:

'Shurugwi district is situated in such a way that the area starts from a high veld [in the north]going to a low veld[in the south]. This means that the potential of the land decreases as we go low. This has divided the region into region 3A and region 3B. Region 3A is to the northern side while region 3B is to the southern side. Selukwe Peak and Adare Farms are in region 3B which make them closer to region 4'. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021).

The official's explanation means that Selukwe Peak and Adare farms receive limited rainfall as compared to region 3A which at times might negatively affect their harvest. Although affected by problematic rainfall patterns, the villagers still manage to farm and obtain reasonable harvests especially in favourable rainy seasons. This is mainly because the soil in

both the two farms is red loamy soil which is rich in nutrients, making the soils conducive for farming. The Ministry of Lands official stated that,

'Selukwe peak and Adare farm are what I can call Canaan as they have good soils for farming'. (In-depth interview held in Shurugwi town, June 2021).

The major crops cultivated by the villagers include maize, groundnuts, Bambara nuts, beans and sweet potatoes. All the respondents grow maize and dedicate a large portion of their fields to maize production. A significant number of respondents spoke about respectable harvests of maize, with one farmer saying that he reaps as much as eight tonnes of maize on a two-hectare field. Any maize surplus, above what is required for home-consumption, is sold to the Grain Marketing Board (GMB). The villagers encountered many problems with GMB and complained about this. They stated that it was difficult to travel with their produce to the nearest GMB depot, as they did not have proper transport. In addition, the villagers complained about the payment method of the GMB – they are not given cash immediately for their delivered maize, and there are never any guarantees as to when they will be paid. Although it was a hassle for the villagers to sell their produce to GMB, the villagers had no other option.

The farmers additionally face the problem of attaining agricultural inputs. Many resettled A1 peasant farmers nationally struggle to acquire agricultural inputs and access to input-markets generally because of lack of government support (Mkodzongi and Lawrence (2019). Fox et al. (2007) highlights that the lack of fertilisers, seeds and other agricultural inputs has an impact on short-term and long-term crop production and agricultural sustainability. When these inputs do finally come, the first rains and the farming season may already be underway.

Although they face these and other challenges, farming has changed the standard of living of the Shurugwi A1 farmers. For instance, they have managed to become food secure and some have also managed to send their children to school without disruptions in their education. Among the respondents, there was one man who spoke at length about being a productive and successful farmer. In an in-depth interview he pointed out that,

'I am a man aged 57 and I managed to reach college level in school. I came here in Shurugwi in 2000. I moved from Mberengwa looking for land to farm and I was fortunate to get it. I have 6 hectares of land and I use 5 hectares. I have a borehole at my homestead and I also have a garden that I irrigate which helps me to be food secure, even if there is less rainfall. I cultivate maize, groundnuts and beans in my fields. In my garden I plant tomatoes, vegetables and also green maize. I cultivate my field using hired tractors and

also oxen. I practice crop rotation and mulching as a soil conservation method. I get surplus produce which I sell to GMB and get money in return. I also do bee-keeping in my backyard and sell the honey I get from the bees. I have an orchard where I planted trees such as oranges, lemons and mangoes. These fruits also give me money. When I came here I had eleven cattle but they multiplied to thirty two cattle. I do pen-fattening at a smaller scale. I wish I had more land so that I could farm on a larger scale. The grazing land is also small especially since cattle have multiplied in the area and this affects my livestock. I am not into mining and I only practice farming’. (In-depth interview held with Selukwe Peak farmer at Selukwe peak, May 2021).

Undoubtedly, this farmer is a better-off farmer and is not representative of the A1 farmers on the two farms. On-site observation of his farm plot also confirmed his story. Though a wealthier farmer, his story indicates that there are some villagers who are strictly into farming, without any mining activities, and are able to flourish agriculturally to varying degrees.

The villagers from both A1 farms also practice gardening and are involved in irrigation schemes. One irrigation gardening scheme is called the Matimba garden, which is located at the boundary of Selukwe peak farm. This scheme was implemented by the government and the government supports the scheme through the provision of farming equipment. The irrigation scheme covers two hectares and contains beneficiaries from both farms (15 beneficiaries from Adare farm and 21 from Selukwe peak farm). They use water that comes from the falls found in *Boterekwa* called the Dunraven falls. The falls have water all year round and never dry up. The water is directed into canals that then go to the gardens. Crops such as maize, vegetables and winter wheat are cultivated at the irrigation schemes. However, it appeared that there was not significant commitment on the part of many villagers to this scheme, as they were more interested in carrying out – in particular–mining activities. Among the respondents, only a small number indicated that they were actively involved in the scheme. This was confirmed by an official from the Environmental Management Agency (EMA), who said:

‘Hapana anoendako, vanhu vanoenda kunokorokoza, nekuti vanoda kuita mari ne two minutes’. [‘No-one goes to the irrigation site as the people prefer to go to illegal mining where they get instant cash.’] (In-depth interview held with EMA Official in Shurugwi town, June 2021).

This has affected the functionality of the irrigation scheme as it is no longer working to its full potential.

In terms of livestock holdings and production, the villagers in both Selukwe peak and Adare keep cattle, goats and chickens. Overall, 92% of the farmers have cattle and the cattle numbers among the farmers range from a minimum of two to a maximum of forty. Cattle are a source of wealth among the villagers and are held in high regard by the people. They are used in farming at the two farms as they provide labour in tilling the land, and as well they provide meat and milk to the families of the farmers and are used in the *lobola* ceremony (for bride-price). As these are A1 farms, there is common grazing for the livestock. This involves a serious challenge regarding the availability of adequate grazing land on the two farms, particularly in Adare which is more of a mountainous area (comprising about 60% of the total farm hectareage). At Adare, the fields are the ones that are on arable land and the mountains are then left for grazing, yet these mountains do not have adequate grazing grass and affect the condition of the cattle as a result. During an FGD held in Adare (May 2021), respondents pointed out that the lack of adequate grazing area might lead to government enforcements of cattle reduction on the farm in order to enable adequate grazing area for all livestock. In Selukwe peak, the villagers have grazing lands on the mountainous parts or undulating terrain parts of the farm, from *Boterekwa*, Dunraven to Umama farm (mountain range) and from *Boterekwa* to Zimasco and parts, up and down Manzimudhaka River, as well as some small gaps between arable fields and along Mutevekwi River. In this respect, grazing land at Selukwe is less of a problem.

Although the villagers face challenges in providing adequate grazing land for their livestock or because of erratic rainfall patterns, they are reluctant to move away as they are attracted by the fertile red loam soils. They also keep other livestock, including goats (each household has an average of five goats). The area is not conducive to the keeping of donkeys and sheep. However, respondents keep poultry in large numbers, with almost every household having poultry. A few villagers have ventured into commercial indigenous hen production and are selling the hens in Shurugwi town and neighbouring towns such as Gweru.

In as much as the farmers pursue these diverse agricultural practices, they are also involved in illegal mining, an activity that has in recent years increased in the area.

5.3.2 Mining

Mining is a livelihood strategy that has increased and indeed become rampant both in Selukwe peak and Adare farm with a significant number of the farmers practicing it. As argued by the EMA official,

'Shurugwi is a mineral district and almost everyone in the district has moved into mining'. (In-depth interview with EMA Official held in Shurugwi town, June 2021).

There is chrome and gold mining in the area and most people residing in the area (including the A1 farmers) have become involved in mining operations, making mining a major source of livelihoods in the area currently. Not only are the minerals in abundance – most of these minerals are even found in the farmers' fields and homestead areas. Although fast track was designed to bring about productive farmers, most farmers in the Shurugwi area have become both farmers and miners, thereby raising questions about how they should be identified.

There is alluvial gold mining activity in Selukwe peak along Mutevekwi River, with more than 80 percent of Selukwe peak farm fields having active alluvial gold mining activities. In Adare farm, there is also gold alluvial mining particularly in the mountains where rubble stones are common. One male respondent at Adare highlights:

'Rubble stones show that this is a gold area and the rubble stones in this area show that there is plenty of gold'. (Informal conversation held in Adare farm, June 2021).

During interviews, I discovered that many respondents at first were quick to deny that they were involved in alluvial mining, presumably because of its illegal status. They made such statements as *'We carry out farming but we do not mine'* and *'Even my children do not mine'*. But, after some probing and time, many admitted that they were involved in the practice.

The villagers were reluctant to be openly claim that they practiced mining as they knew that they had no mining licences and that mining in their farms was not allowed. The farmers were told that, if they wanted to mine on their farms, they had to go and inform the Ministry of Lands first so that their farms can be re-designated and be considered as mines. This was against what the farmers wanted as they preferred to keep their land as farms, being aware that mining is temporary while farming is more permanent. Both the Ministry of Lands and EMA officials were fully aware that farmers were involved in mining illegally. They stated that in the case of most local A1 farms, nearly all farmers carry out gold and chrome mining activities, with some even carrying out these activities in areas such as Dunraven mine and other areas around Shurugwi. Further, an official from the Department of Mechanisation backed this up in saying:

'Farmers in the two farms do both mining and farming. They mine in their stands and in each household you will find one person who mines. The elderly farm while the youngsters in these households will be mining. The children will be sponsoring their

parents' farming with the money they get from mining'. (In-depth interview held with Department of Mechanisation official in Shurugwi town, June 2021).

The EMA official pointed out that:

'Muno mune munhu asingadi chikorokoza here. Ukavabvunza mafarmers kuti munoita mining here vanoramba, asi izvozvi vatori murwizi, vari kutominer'. ['Everyone in the area is into mining. If you ask the farmers whether they carry out mining, they blatantly refuse, but as we speak right now they are there in the rivers carrying out mining'.] (In-depth interview held with EMA Official in Shurugwi town, June 2021).

The Ministry of Lands official summarised the matter as follows:

'On the same farm they are farmers and miners. They are supposed to be farming but they have also become illegal miners'. (In-depth interview held with Ministry of Lands Official in Shurugwi town, June 2021).

Hence, mining is now considered as an alternative livelihood strategy with a significant number of A1 farmers practicing it. The requirement of licences for mining has facilitated the emergence and consolidation of illegal mining. Some farmers simply find gold in their farms and they join the illegal mining rush. One male respondent made this very point:

'Ndikawana mumunda mangu mune gold handiregi kukoroza'. ['If I find gold in my field I will mine and take the gold.'] (Informal conversation held in Adare farm, June 2021).

The attraction provided by mining, including the possibility of immediate cash-payments, has thus led many villagers to venture into mining.

'You start a farmer but end up an illegal miner'. (Informal conversation held in Adare farm, June 2021).

The reasons behind a shift from being only farmers to becoming both farmers and miners were detailed by a few villagers. One male respondent at Adare who practiced both farming and mining set out his rationale:

'Farmers are also miners. Farmers came to this place to farm but they realised that farming alone was failing to provide for all their needs. They then decided to also venture into mining and compensate their farming with mining. Our parents do both mining and farming'. (In-depth interview held with illegal miner in Adare farm, June 2021).

Though they were involved in both mining and farming, it seems that alluvial mining is perceived generally by the A1 farmers as an alternative secondary livelihood activity compensating for shortfalls in agriculture and thereby complementing agriculture (which is the foundation for their rural livelihoods). The extent to which this is the case varies across households, but certainly an insignificant number of households are strictly involved in farming. Compared to farming, mining means ‘instant money’ because it entails a quick way of earning money in a short period of time. The temptation to mine, illegally, is therefore very strong. One A1 farmer involved in illegal mining made this quite clear:

‘The people have no option but to mine because they are unemployed and they need to survive. Mining is not a form of employment but some are leaving school even as soon as form two to go and mine. With mining, the day might end with you now having lots of money and this is what attracts many people including children. When someone gets one gram of gold it means they now have US\$45. So people go to the rivers to mine because you cannot leave something that gives you money’. (In-depth interview with illegal miner held in Adare farm, June 2021).

The possible high-returns and lucrativeness of mining for the A1 farmers is visibly noticeable in terms of assets purchased. One respondent stated that:

‘Vese vane dzimba dzakanaka maminers, hapana asimuka ne farming, vasimuka nemining’. [‘All those who have nice houses are miners; few have been uplifted economically with farming’]. (FDG held in Adare farm, May 2021).

Additionally, given that the A1 farmers only practice rain-fed agriculture, their earnings are seasonable:

‘Farming is seasonal as it only depends on the rains that come one season per year’ (In-depth interview with EMA official held in Shurugwi town, June 2021).

Likewise, one local A1 farmer lamented:

‘Munhu haangamiriri mvura inonaya ka one pagore’. [‘A person cannot wait for rain that comes only for one season per year’]. (FDG held in Adare farm, May 2021).

As well, there may be delays in payment for their crops (for instance, from the GMB). Mining is an activity which takes place all year round and is not affected by droughts or floods, at least to the extent of farming. The annual inputs required for farming (such as seeds and fertilizers)

are quite expensive, whereas alluvial miners rely on mining equipment that is bought once and then used for many years.

The appeal of 'fast cash' from mining has also led to children (including of A1 farmers) dropping out of school and become miners.

'Zvana unoona zvakazara murwizi'. ['You will see children in the rivers mining']. (In-depth interview held with EMA official in Shurugwi town, June 2021),

When I was carrying out my field work, I managed to come across three young girls who were coming from mining in the river. The older one was in Form four of schooling, the middle one in Form two with the youngest one in Form one. There were holding pan dishes with another one holding a pick. I was informed that their mother was a widow and the children were now mining in order to assist their mother in taking care of the family. This indicated me that some children were being pushed by poverty into mining. There are other instances, however, of children just dropping out of school mainly because of the romantic enticement of mining and the supposed forthcoming riches.

Women are also into mining, though an insignificant number of females carry out this activity. The often hard labour associated with mining makes it hard for females to practice it on a regular basis. The local mining environment in fact tends to be a male-controlled and male-dominated arena, making it difficult for women to enter fit in. Both (illegal) reef and alluvial mining exist in the district, as discussed later. Given how laborious reef mining especially is, women are more involved in alluvial mining. Women involved in alluvial gold mining go to the nearby river and take the soil that would have been dug up, brought and sieved already for gold by illegal male miners. The women re-sieve the soil, thereby obtaining some gold particles which they can then sell. There are a few incidences where women have managed to acquire a significant amount of gold through this. One incident circulating locally is about of two girls, one in Form one and another in Form two, who acquired around 40 grams through re-sieving the soil (to the value of around US\$1,800.00). There are very few women venturing into reef mining. I was told of a story that took place in Selukwe peak whereby two women carried out reef mining and managed to collect significant grams of gold. Despite the laborious activity, they had managed to dig a very deep mine shaft by themselves.

Women involved in mining are disrespected and looked down upon. One illegal male miner stated that,

‘Women also practice mining but usually the women who do mining are poor and gaunt-looking, and will be having no choice but to mine’. (In-depth interview with illegal miner held in Selukwe peak, June 2021).

This depiction of female miners, as engaging in activity not suitable for women, reduces the number of local women prepared to enter directly into mining activities. Most women therefore become indirectly involved in mining and venture into other activities like installing food outlets at the mining sites and selling food. This kind of livelihood is proving to be beneficial to women as illegal miners spend significant cash on food.

In order to understand more fully the character of mining in Shurugwi, I quote from a male illegal miner (who is also a A1 farmer), who provided a detailed and comprehensive overview of the mining practices in the district – this story appears in Box 5.2.

Box 5.2: The Story about Mining in Shurugwi

In Adare farm, there is no chrome but just gold and in Selukwe peak there is gold and chrome. There are some people who are only farmers and do not practice mining. However, these people have become fewer recently. If a farmer finds gold in his field, he will start mining it. Finding gold in one's field does not usually mean that the gold becomes solely the farmer's only. Recently cases have arisen of other illegal miners poaching into those farms and in some instances even taking over. 'Kana mari ikabuda mumunda mafarmer, maminer anopinda ochera'. [‘If gold is discovered in your field, illegal miners will enter your field and begin mining without your consent’]. Sometimes the farmer will end up getting into a partnership with brutal illegal miners so as to chase the intruders who would have entered by force. The experienced illegal miners know where there is gold usually by looking at the types of stones surrounding an area. Gold also flows with the rain leading to the gold moving and settling where there is a valley. Others use metal detectors. When they suspect that there is gold, they begin to rip the whole area and once other illegal miners see that a place is being ripped they become aware that gold might be there and will also start digging. And you know ‘hondo yatanga’ [‘war has started’]. There are two types of gold mining which are reef mining and alluvial mining. In reef mining they dig the rocks and they take the rocks that they believe have gold. They take that stone and use a hammer mill to break it down and look for gold. A hammer mill costs about US\$1000 which is expensive and unaffordable to many. There are a few miners who have managed to acquire big machinery such as ball mills and hammer mills. These villagers are able to practice reef mining and they sometimes loan their equipment to other illegal miners for a price. Alluvial mining is gold that will be in the soil. The illegal miners use picks to dig the soil and then take the soil and go with it to the river. At the river they use pan dishes to sieve the soil leaving the gold in the pan. The pan dishes are either made up wood or plastic bottles and they are funnel shaped. They put the soil in the pan dish and put the pan dish in the river then they start to sieve. Gold is heavy; that soil is easily strained leaving gold in the pan dish. One gram is usually sold at US\$45 to buyers who then sell it at US\$55. Some miners get up to 200 grams making mining to be lucrative to those who are fortunate to get more grams of gold.

Source: In-depth interview held with illegal miner in Selukwe peak, June 2021.

Many farmers and villagers in Selukwe peak and Adare farm practice alluvial gold mining as it does not require major investments in machinery. Only a few practice reef mining. In as much as mining provides instant money as compared to farming, it needs to be noted that it depends quite often on good fortune or luck. One person can mine for many years only getting a few grams while another person can mine for a short period and mine many grams and instantly become rich. According to an illegal miner,

‘Chokwadi ndechekuti chikorokoza hachibhadhari, zvinongo depender ne luck rako, kashoma tinavo one one vanobudiriria asi vazhinji vanoshandira sugar’. [‘Truthfully speaking illegal mining does not pay, it all depends on your luck and it pays to only a few. Most of us just get money for buying sugar’]. (Informal conversation held in Selukwe peak, June 2021).

The EMA official makes a similar point:

‘Although many people are practicing illegal mining, it is an insignificant number that is highly benefiting’. (In-depth interview held with EMA Official in Shurugwi town, June 2021).

Certainly, then, mining in Shurugwi is not a path paved necessarily with gold. The A1 farmers recognise this, but they continue mining in hopes of getting lucky.

I observed that mining is addictive as villagers keep on pursuing it despite lengthy periods of not generating earnings, as if the jackpot is just around the corner. Also, significant earnings are not the only objective, as even one gram of gold (US\$45) acquired on one particular day allows a Shurugwi household to purchase foodstuffs and other household consumables. This is different from farming which depends on whether an entire season (and annual cycle) is good or bad and, even if it is good, the benefits are limited as it brings in less money when compared to a year-long mining venture. One A1 farmer in Shurugwi put it this way:

‘Farming is subsistence and if you farm well it can give you a living. I am a farmer and if it is a good year I get yields. However, the benefits of mining seem to outweigh those of farming. I buy seeds in forex [US\$], but when I sell my produce, the Grain Marketing Board buys it in local currency [RTGS Dollars]. This gives me a loss as compared to mining where if I get gold I sell it in forex [US\$]’. (Informal conversation held in Selukwe peak, May 2021).

The unfairness of the dealings with GMB make farmers incur losses as they end up failing to garner much profit. Hence, the need to earn a decent living is pushing the farmers into illegal mining as a way of complementing any gains they obtain from farming.

5.3.3 Other Livelihood Strategies

There are other alternative livelihood strategies that are undertaken by the farmers that are linked to land. These activities are practiced by a few respondents and are mainly meant to increase cash flow into these households. An insignificant number of A1 farmers highlighted that they practice brick moulding, with the bricks bought by other villagers and used to build houses and fowl runs. Another minor livelihood strategy practiced by some A1 farmers is fishing. This involves travelling to the large big dams such as Gwenoro where they would catch fish and later sell the fish around Shurugwi town with some even going as far as Gweru, a larger town which is about 33 kilometres from Shurugwi town

Besides these activities, the farmers in Selukwe peak and Adare farm also carry out livelihood strategies that are not linked to the land. These livelihood strategies, like the land-based ones, are meant to compensate for all shortfalls in the main livelihood strategies of farming and mining. One of these activities involves selling second hand clothes which are locally referred to as '*mabhero*'. It is mostly women who sell these second hand clothes and they usually go to Shurugwi town where they sell the clothes on pavements outside shops. Women also trade alongside the highway roadside at Unkie turn-off, where they sell items such as airtime juicing cards, vegetables, sweets and chips. Those who are better-off have managed to open up tuck-shops where they sell groceries. Among the respondents, there were only two individuals with tuck-shops and these were merely homestead-based tuck shops. Finally, a few farmers are said to have white collar jobs, were teachers or worked in the government, but none of these were in the samples for the two A1 farms.

5.4 Wealth Categorisation of A1 Households

Engaging in wealth categorisation entails seeking to identify socio-economic inequalities or stratification prevailing in communities, including by way of local definitions of wealth and other criteria (Scoones, 2008). To understand the wealth categorisation of the farmers on Adare and Selukwe peak, I used the farmers' own local perceptions of what they regarded as a 'wealthy person' and a 'poor person'. These local understandings of wealth are socially constructed, differentiated and subject to fluctuation over time (Scoones, 2008). They form a fundamental basis on which A1 farmers understand socio-economic dynamics on their farm

(and in their area) as well as their positioning in this categorisation. Based on this, level of wealth on the two A1 farms was examined in terms of a complex combination of assets (broadly conceptualised), including: cars, the form of energy used at a homestead, roofing and building materials used to build homestead houses, livestock owned, land ownership status, employment status, crop yields, degree of food security, and social and political standing in the community. Ultimately, the farmers divided local villagers into three wealth categories:

‘Tine vanowana chaizvo, toita vari pakati tozoita vatinoti vanoshaya, vasingawani zvese’. [‘We have those who are in the better off category, middle and those who are poor’]. (In-depth Interview held with the Selukwe peak farm chairperson in Selukwe peak, May 2021).

These are quite loose and largely qualitatively-conceptualised categories and hence I do not seek to offer any statistical basis for these subjective local understandings of wealth categorisation. The table below (Table 5.1) shows the three-fold wealth categorisation (better-off, middle and poor) in the two A1 farms.

Table 5.1: Wealth Categorisation of Selukwe Peak and Adare farm

Wealth categorisation	Roofing material	Building material	Floor material	Social and political standing	Land ownership	Livestock	
						Cattle	Goats
Better- off 31%	Bricks and cement	Asbestos	Cement	Might hold a position	Yes	30 and above	20 and above
Middle 46%	Bricks	Asbestos/metal	Cement	Might hold a minor position	Yes	10-30	15-20
Poor 23%	Mud poles	Thatched	Mud/cow dung	No position	Yes	1-10	Below 10

Source: Fieldwork.

The farmers did not speak about a very poor grouping, as they stated that people in the area managed to eat every day and, for them, that implied no households was very poor. My

own observation, however, indicated that there are very poor people in terms of this conception of very poor, though the number is very insignificant. The very poor were identified through receiving handouts from people and help from social organisations. According to the councillor,

'We are aware of two families which we regard as very poor. One of the families is being headed by an elderly widowed woman who takes care of her grandchildren'. (In-depth Interview held with the Councillor in Shurugwi town May 2021).

In fact, the elderly in the A1 villages become vulnerable, especially if their adult children move away leaving them with no means of labour and capital, such that they become very poor in the long run.

A significant number of the farmers in Selukwe peak and Adare farm were slotted into, or slotted themselves into, the middle category. This has been conditioned by the FTLRP, as this programme was a stepping stone for the A1 farmers in giving them access to comparatively large pieces of virgin or fertile land, enabling them to become at least subsistence farmers. Compared to those who remained in communal areas, most A1 households were food secure and able to generate at times surplus crop yields which they sell. One male respondent spoke contently:

'I only keep one tonne to two tonnes for my family. The rest I sell it'. (Informal conversation in Adare farm, May 2021).

One tonne of maize per household is often estimated to be sufficient for the subsistence needs of a typical rural family in Zimbabwe, though this of course varies according to household size and composition (Chigumira 2006). A significant level of food security, therefore, has emerged amongst A1 farmers in Shurugwi to avoid hunger. For one female respondent, farming has uplifted the A1 villagers as most of them have now become landowners and acquired assets over a number of years:

'Vazhinji vava nezvinhu zvavo nekuda kwekurima, vava nemota uye vava nedzimba'. [*'People now have cars and houses because of farming.'*] (Questionnaire, Selukwe peak, May 2021).

Livestock, as is the trend more broadly in rural Zimbabwe, are still used to measure the wealth of a household. The number of livestock held, such as cattle and goats, demonstrate the wealth or poverty of a particular household. A significant number of the A1 farmers have herds of cattle, the most significant domestic animal in terms of configuring wealth categorisations

of particular households. Besides the use of cattle for lobola (and thus in cementing ties between households), cattle is also a means of labour. Households with the necessary cattle can cultivate their fields on time through the use of cattle-drawn ploughs. For those without cattle, they need to borrow cattle to use for farming – this is locally known as *kuronzera*. This can be expensive though, and the poorest households do not have the money to pay for the use of the cattle. This forces these households to cultivate using hoes, illustrating another asset-based differentiation, that is, between those who plough using cattle and those who use their hands. The better-off A1 farmers also have money to hire tractors to cultivate their fields if they see it fit to do so. As well, ownership of cattle enhances household-based food security and ensures an improved diet as cattle produces both milk and meat.

Some of those in the better-off category in the Shurugwi area were not A1 farmers on the two fast track farms. They might be A2 farmers or even civil servants. Local teachers for instance had a stable source of income which they received every month. Some teachers and other civil servants also participate in farming and mining, and thus they have a diverse portfolio of livelihood strategies which facilitates their entry into the better-off category.

The geographical location of Shurugwi district, because it is placed along the Great Duke and is rich in minerals, has proven to be advantageous to the people of Selukwe peak and Adare farm. As discussed, many A1 farmers have taken advantage of this and have become illegal miners, thereby increasing their income and assets. The extra income from mining has been used to buy agricultural inputs, build better houses, install solar powers and also buy cars. According to one elderly respondent,

‘Imwe misha yave nemota’. [‘Some households now have cars’] (Informal conversation, Selukwe peak, May 2021).

This was also confirmed through observation that some of the houses in the two A1 farms had cars parked outside. The farmers ventured into mining as a way of diversifying their livelihoods and increasing their income. The Ministry of Lands official testified to this when he said:

‘Poor livelihood opportunities forced the [A1]villagers to turn into mining because someone would prefer to go for a higher return, even if it is hard or laborious; it is better to go into mining compared to farming’. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021).

This was reiterated by the Department of Mechanisation official:

‘Mining pays them more than agriculture; hence they are involved more in mining. Agriculture is subsistence and mining is a major source of money because of the Great Dyke which means there is more mining’. (In-depth interview held with the Mechanisation Officer in Shurugwi town, June 2021).

Mining earnings have enhanced the overall asset base of the A1 farming households, as Mkodzongi (2019) also argues in his study. But these earnings vary considerably across the households and hence have contributed to the prevailing socio-economic differentiation at Adare and Selukwe Peak. The better-off households have houses built with bricks and asbestos or zinc roofing, and the floors are made from cement. The middle category of households likewise is able to construct such houses. However, compared to this middle category, the better-off category have more houses at their homesteads and their houses are bigger (including with large verandas). Those in the poor category have houses built with tree trunks and thatched with grass, and the floors are made with cow-dung.

In terms of solar energy, the better-off use solar power for their electric appliances with some even using gas stoves for cooking. The middle category mainly uses firewood for cooking and charcoal stoves with a few households having solar power. The poor only use firewood for cooking and do not have solar power. The children in the two farms have access to education, with even the poor able to send their children to school. Some better-off households have sent their children to universities. The problems come in finishing their education. School drop-outs are high due to mining which has affected the education of the children (as discussed later). The local councillor also highlighted this:

‘70% of the children become miners while the remaining ones who would have finished school go on to get jobs such as going into the army, becoming teachers or working in insurance’. (In-depth interview with the councillor held in Shurugwi town, May 2021).

Though the drop-out rate is high, the children who become illegal miners are able to bring income into the household, no matter how limited. Further, while the councillor speaks about how finishing school leads to formal employment, the economic crisis in Zimbabwe means that many of those who finish school in Shurugwi do not find employment and end up also entering the realm of illegal mining.

Social and political standing locally also differentiates the wealth categories. Those who have positions of power were typically in the better-off category as wealth and power tend to be mutually-reinforcing in Shurugwi. However, there are complaints by some of the other A1 villagers that these high-status individuals were misusing their power in order to access

income and material benefits, thereby disadvantaging those excluded from these practices affecting the ordinary people. One poor farmer at Selukwe gave an example of this:

‘We were given a tractor to use as a community. We would pay the tractor in instalments up until it became ours. We would hire the tractor if we wanted to use it. However, we never got to do so as the farm chairpersons, who were given powers to keep the tractor for us farmers, went on to misuse the tractor. They started loaning the tractor to other people and outsiders and pocketing the money until the tractor stopped working. Right now the tractor is no longer working but we are still paying the instalments for the tractor’. (Informal conversation held in Selukwe peak, May 2021).

Power disparities and abuse of power on the two farms clearly contributed to the wealth differentiation at Selukwe Peak and Adare.

When it comes to natural resources, the better-off, the middle and the poor use the same resources. Although the better-off and middle categories do use gas and charcoal stoves, they also make use of trees for firewood. They also fence their kraals with tree poles, but their poles are treated with oil as compared to those of the poor. There is a key difference in the manner of accessing natural resources, as presented by the councillor:

‘The better-off use the same resources as the poor. The difference is just that the better-off pay the poor to carry out most of the activities such as cutting firewood’. (In-depth interview with the councillor held in Shurugwi town, May 2021).

At one level, all the A1 farmers are brought together by the natural resources that they rely upon and use in their day-to-day activities, just as they all engage in some form of farming and mining. However, they are differentiated by wealth.

5.5 The Lives of Illegal Miners

To mine legally, it is necessary to hold a mining licence which is given by the Ministry of Mines, which entails significant expense. As mentioned earlier, the A1 farmers are reluctant to apply for licences as they fear that they will be categorised as miners by the government and thus not be considered worthy of an A1 farm in terms of agricultural pursuits. This has contributed to the presence of a large number of illegal miners in Selukwe Peak and Adare farms as a significant number of the A1 farmers do not have mining licences. In Zimbabwe, illegal miners are locally termed *‘makorokoza’* – literally meaning panners. As Nyota and Mareva (2012) indicate, the term *‘korokoza’* was coined from the sound metaphor that came from scraping the ground with hand tools by the illegal miners, who searched for gold without

proper tools. The term grew in popularity and is now used widely, though its meaning has shifted in moral terms in recent years to mean ‘hustlers’.

There are many more illegal miners than legal miners in both Selukwe peak and Adare farm, with farmers pushed into illegal mining for various reasons but focusing primarily on the need for sheer survival. The EMA official highlighted that illegal mining is not going anywhere soon, as long as the economy of the country remains in crisis mode:

‘As long as people do not have jobs, they will continue mining. It is all about survival. Unless it becomes legalised all the way, illegal mining will continue being there. It is not only the villagers, as even those in the government ministries are involved in illegal mining’. (In-depth interview held with EMA Official at Shurugwi town, June 2021).

The existence in illegal mining of not only farmers and other ordinary villagers is well-known locally, with much talk of the involvement of government officials. One respondent even pointed out that,

‘Munhu we EMA wacho mukorokoza saka kana kukabuda mari, mutemo unoiswa muhomwe. Ndizvozvo nemapurisa zvekare’. [‘The EMA people are also miners such that when gold is discovered the law is put aside. The same goes with the police officers’.] (Informal conversation held in Adare farm, June 2021).

The fact that even police officers are involved in illegal mining contributes to an understanding of why so many A1 farmers are pursuing this activity, and quite openly. The police allow the farmers to continue practicing mining when they are fully aware that the farmers are doing so on an illegal basis. Police, government officials and farmers-villagers are all caught up in a complex web of illicit practices. One illegal miner explained it in the following way:

‘The police come to chase us away telling us that it is against the law to mine without a licence but we end up working with them. We bribe them and they allow us to mine. For example if we get US\$200 we give them US\$50 or US\$80. We usually pay them less as they are not aware of the full amount of money that we would have gotten from mining.’ (In-depth interview held with illegal miner in Adare farm, June 2021.)

Illegal miners in Selukwe peak and Adare farm either mine on their A1 farms or in the surrounding areas and mountains, as well as in the tunnels under the Boterekwa (Wolfshall Pass) as the gold belt passes through the area. The mining activity is rampant in the mountainous areas, including a nearby mountain nicknamed, ‘Mazamu’, because of its shape that looks like a pair of woman’s breasts. The illegal miners in the two farms typically carry

out alluvial mining as they do not have the proper equipment to practice reef mining. In alluvial mining, the miners use gold sensors to know where the gold is located. When they find the gold, they usually take the soil and sieve using pan dishes in nearby rivers.

For those who want to carry out reef mining, but do not have the necessary equipment, they either go to the Chinese firms which have licenses in the area or look for other miners who have reef-mining equipment so that they can assist them (the reef-miners) to open and dig up an area with their machines. The proceedings are shared equally between the equipment owner and the illegal miners but this is not considered as a fair distribution. The owner ends up getting much more as the illegal miners (who are many), after their laborious work, are forced to share their half amongst themselves. This was noted by one illegal miner:

‘The owner of the mine will usually get half and the other half goes to the illegal miners. However, the owner has to be present so that he will not be deceived’. (In-depth interview held with an illegal miner in Selukwe peak, June 2021).

One illegal miner (an A1 farmer at Adare) shared in depth his experiences as a miner in the area – see Box 5.3.

Box 5.3: The Life of an Illegal Miner in Shurugwi

I am a 32 year old and I was born in Shurugwi. I am married and have four kids. I stopped going to school at form three and then dropped out to become a miner. I regret it now, I wish I had finished school and if it was not too late I would go back to school but now I have a family that I need to take care of. I am not that educated but I understand some things. My parents reside here and we have a farm. In our family we are four, I have three siblings all younger than me. One girl who is now 28 and completed form six and the boy who is 26 dropped out of school in form two. I prefer to be a miner compared to a farmer because when I go to mine, I always come out with something even if it is little. Farming is seasonal and takes a lot of months for one to reap benefits and usually we end up not getting benefits as compared to mining. ‘Mining inorema asi inopa raramo’. [Mining is hard but it provides a means to a living.] We search for minerals by taking samples. We use gold sensors and we borrow from other miners that we work for. These miners whom we borrow equipment from will be miners just like us but were fortunate to purchase mining equipment. We do reef mining and alluvial mining. We carry out reef mining in mines such as Wonderer mine and use hammers, picks and heavy machinery such as a ball-mill. In reef mining we take the stones and process them with a ball-mill and take the gold. In alluvial mining, we go as a group to a field and dig a deep pit and then we take the soil. We either leave the pit open or we close. Sometimes we do not go with the soil to the rivers like we used to. We bring water from the river and put in into dishes and use it to sieve the gold. Sometimes gold is found in a farmer’s field and it is difficult to access that field unless the owner wants you to. When the farmer allows you to farm in his field, you will have to abide to his rules and sometimes this is hard. The farmer may sometimes sell you the gold on his land at a higher price. However, there are some miners who enter farmer’s fields by force because of poverty. We call these miners brutal miners. However, I believe they do this

because they want to look after their families. The most positive thing I have gained from mining is being able to look after my family. Few families really benefit with mining, we only get money for bread. Mining is more of a gamble and most times all you get is a little gold. Sometimes you get it big and sometimes you get a loss. When a miner gets lucky and gets lot of money, few people get jealous and there are usually no conflicts over that as the miner would have gotten his gold fairly with people seeing it. Conflicts happen sometimes among ourselves but we seldom become violent. Illegal mining is dangerous in that we do not have protective clothing and we cannot afford to carry out safety measures. This leads to some miners dying and getting injured when mines cave in. This makes day to day mining to be difficult particularly underground mining but I cannot stop because I need to take care of my family.

Source: In-depth interview held with illegal miner at Adare farm, June 2021.

The experiences of this particular illegal miner speak to the reasons why many A1 farmers continue to mine, despite the many challenges (including dangers). Illegal mining is not safe and requires a high level of commitment if not desperation to carry it out.

In Selukwe peak and Adare farm, illegal miners comprise many A1 farmers and their children, most of whom are school drop outs. In Shurugwi, illegal miners have become well known, not only in Shurugwi, but across the country as violent and brutal. This means that others treat illegal miners with fear and trepidation, leading them to give a wide berth to these miners. The A1 farmers at Selukwe peak and Adare farm spoke about these fears; this is ironic, of course, given that many of these farmers are also illegal miners. However, the farmers sought to make a distinction between two groups of illegal miners. The first group comprises of those who are not violent and most of them are found among the A1 farmers and some of their children who have been residing in the area since the farms were allocated. The second group also consists of some of the children of these farmers but, in the main, are those illegal miners who came from other areas outside of Shurugwi strongly motivated by the need to find gold. The second type of illegal miners are the ones who it is said frighten the other villagers and cause chaos in the area. They are identified as bullies, as they sometimes force themselves onto other people's fields and plots and mine there. Of importance, the violent miners are referred in this study as brutal illegal miners while the miners who are not violent are labelled as peaceful illegal miners. One female respondent in a questionnaire said that:

'Maminers mabullies aya, vanouya vakakudzipa vokutorera'. ['They are bullies; they will take gold from you by force'.] (Questionnaire in Adare farm, May 2021).

This makes the older generation of A1 farmers want to distance themselves from these other illegal farmers as they are afraid of them.

Additionally, illegal mining is not safe as miners do not have any safety measures put in place during mining activities. A mine can cave in and kill miners inside it, making it dangerous for miners to mine underground without any or proper reinforcements put in place. As well, despite what was said earlier about police complicity in illegal mining, illegal miners continuously face imminent arrest from police as they will be mining without licences. This sometimes means that they are chased by the police in areas where they frequently mine such as mountains. According to one respondent,

‘When the illegal miners see police officers they run so fast that the police fail to catch them’. (Informal conversation held in Adare farm, May 2021).

Due to these frequent chases by the police, illegal miners are always on the lookout and need to be prepared to run. This may be one reason why women seldom venture into illegal mining as they will likely get caught during police chases. Finally, there is rampant prostitution which has led to an increase in sexually-transmitted diseases, as well as HIV and AIDS, among illegal miners.

All in all, these are the dangers that illegal miners face daily. This shows that, for AI farmers (and others) to venture into such an activity, they need to be ready to face constant challenges in the hope of overcoming them.

In order to understand illegal mining more fully, I visited sites where mining activities were undertaken. One of these sites was a nearby mountain nicknamed ‘*Mazamu*’ and it was during this visit that I saw a snake hidden in the cracks underground. When I pointed out the snake to the miner I was walking with, I was informed that if I had been a miner it would have meant that I was going to be lucky that day. It is only after inquiring more, that I learned that miners have strong beliefs associated with mining, including about snakes. Snakes in the mining field are taken to be important and represent both luck and money, as seeing a snake means that you will likely find gold that day. The snake should not be killed but should be left to go on its way. This is also the case if a snake is spotted in an underground mine shaft or a deep pit that is being dug. The snake, usually, pythons found in these shafts are believed to be sacred. The local councillor indicated the following:

‘Ukaona nyoka iri mumine haufanirwi kuiuraya, ndeyemidzimu, inenge ichichengetedza, saka vava vanochera vanotongosiya yakadaro, vanoinyenyeredza’. [‘If a snake is found in a mine shaft/pit, it is believed to be belonging to the ancestral spirits and it should be left alone and should not be killed. The snake is believed to be protecting the land.’] (In-depth interview held with the councillor in Shurugwi town, May 2021).

The snakes, particularly those that are found in deep shafts, are said to not pose any danger to the miner and it is believed that killing them will bring bad luck. The A1 farmers all concurred with this, as they believe that snakes guide people and protect the mines.

Another belief is that if a miner dies during mining, the place where he has died likely has plenty of gold, which then motivates other miners to search for gold there. This was confirmed by one miner at Adare:

‘Vanhu vanotomhanyapo nekuti panenge patotaridza kuti paita mari and zvechokwadi inotowanikwa mari yacho’. [‘People will rush there because it would have shown that there is gold and truthfully they will find gold there’]. (In-depth interview with an illegal miner held in Adare farm, June 2021).

A further common belief is that, when an illegal miner gets a significant number of grams of gold for the first time, he/she is supposed to spend it recklessly – usually by buying large quantities of beer for friends. Alternatively, if the miner uses the money from gold sensibly, the miner will not prosper. Not all villagers though propagate or support this belief and they considered it as problematic. They point out that there are some miners who are now acting sensibly with their first batch of gold mined and continuing to prosper subsequently.

During an observation walk, I saw an illegal miner at the local shops who was said to have recently found plenty of gold. He was dressed in a suit and was well-presented, driving a new Toyota Allion which he had just purchased. The man had found substantial gold in the previous six months and did not follow the belief about spending lavishly on fleeting enjoyment. Rather, he built new houses at his homestead, purchased more livestock and started investing in his farming, even installing solar power at his homestead. When I saw him, I was told that he was on his way to church and was also preparing to go and pay lobola for purposes of marriage. He was very different to the other miners who were surrounding the shops. One illegal miner was holding a beer bottle and was so drunk that he had wet his pants. This drunken miner was on a local wanted list for several crimes that he had committed, and did not invest his gold-earnings through asset accumulation.

5.6 Illegal Mining and the Youth/Education

The future of most parents in Selukwe peak and Adare farms likely lie in their children. Certainly, they believe strongly that once their children complete their education they would be able to assist the household financially. Among the respondents, there is one woman who is very proud that her son had reached university level and she is eager that he graduate so that

he can be employed in the formal economy. However, the aspirations of parents on the A1 farms may never be realised, as the turning of youth to mining has affected education detrimentally in the two farms. Rampant mining activities have caused major disruptions in education, as almost all A1 farmers articulated during the fieldwork. Although a significant number of children in Selukwe peak and Adare farm do go to school, mining has led to a high-drop rate as students become miners, at least amongst secondary school students, in the quest for quick money. This is widely recognised, including by the EMA Official,

‘Education has been affected by the rampant mining in the area. Children have been caught up in the whirlwind of mining and getting quick money from mining. It was better before Covid-19 as the schools were open. Currently with current lockdowns, more children are finding their way to rivers and practicing alluvial mining’. (In-depth interview held with the EMA Official in May 2021).

Clearly, the Covid-19 pandemic and the associated national lockdowns, including the closure of schools, contributed significantly to this trend.

Attaining a good education is no longer considered to be crucial by the youth in Shurugwi. The easy accessibility to minerals, in combination with the large number of miners on the two farms (with most of them being neighbours if not family members), makes it comparatively easy for youth to move into illicit mining. This is of deep concern to teachers, with one local teacher pinpointing out that:

‘I came in the area in 2007 and I am a teacher at a secondary school. When I started teaching here there were only 140 learners but now we have more than 400 learners showing how the population has increased due to mining. Children are now becoming involved in the mining activity as they seek quick money that mining gives. Children are dropping out of school at grade six preferring to become illegal miners. This livelihood activity has destroyed the future of the children in this district. Several children especially from Selukwe peak and Adare farm are dropping out of school to become illegal miners. However, a few come back to school after realising that it is not an easy livelihood. I remember one grade seven who had registered to write exams and dropped out of school to pursue farming but later on came back to school. If you go for mining a kilogramme may give you US\$55,000.00 after processing but if not processed it may give you US\$45,000.00’. (Informal conversation held with a local school teacher, July 2021).

The possible earnings from mining, though rarely entailing instant wealth, is alluring to the youth as their future in Shurugwi is not bright, given the economic stagnation in Zimbabwe. For them, education does not lead to long-security financial security given the high unemployment rate. The fact that some of their friends or older brothers have on occasion made fast money (and bought cars and houses) through mining keeps their hope alive. Thus:

‘Vari kuona kuti madzikoma avo akutenga mota nemari yekukorokoza’. [‘They are witnessing their older brothers buying cars with money from illegal mining.’] (FDG held in Selukwe peak, May 2021).

Overall, then, youth are no longer patient to wait to finish school; it is a waste of time while mining is a potential source of wealth. Showing his internal conversation, one A1 farmer-illegal miner pointed out that,

‘Ndakatongofunga kurega chikoro nekuti ndakaona kuti hazvibhadhari. Ndakatozviudza kuti rega ndominer’. [‘I just thought of leaving school because it was not benefiting me and I convinced myself to go and mine.’] (In-depth interview held with an illegal miner in Adare farm, June 2021.)

Like other adults, the Selukwe peak farm Chairperson was disturbed about this trend:

‘Our children are now becoming illegal miners and we are not happy with that’. (In-depth interview held with the Selukwe peak chairperson. May 2021).

However, they are some children who are genuinely facing hunger and poverty in their households and this acts as a push factor for children to prefer to go and mine as a way of helping take care of the family, at times with the tacit approval of the parents. I cited such an example earlier of girl children who had to go and mine as a way of assisting their mother who is a widow. Girl children who drop out of school to pursue mining may end up getting married early, leading to child-marriages. The lure of money from illegal miners at times attracts young girls as a possible escape from poverty, leading to marriages with these minors.

Further, mining has affected education by destroying school infrastructure. A recent incident took place in Selukwe peak that angered and frustrated the villagers. There is a school built with the help of the Selukwe peak villagers called the Vocational Training Centre (VTC) situated along Zvishavane highway. The centre was constructed with the idea of ensuring that children continued their education after they finished their Ordinary Level studies. The college provides short practical courses such as sewing and carpentry. In doing so, the college was meant to entice children away from mining by providing them with practical skills for the

future. However, all this did not come to pass as the school buildings were destroyed by a mining company that came to mine near the college. The Selukwe Peak Farm Chairperson told the story in some detail:

'We build a school for our children, the Vocational Training Centre [VTC], so that they can do practicals such as sewing and wood work, welding, dressmaking. We wanted to redirect our children's minds from mining and give them something worthwhile to do. We wanted to give them other opportunities other than mining that was destroying our children's future. The school was functioning quite well and our children were learning hands-work. However, there is a miner by the name of Tafara [not his real name] who acquired a mine near the VTC. When he was mining, one of his bulldozers hit the VTC building and it cracked. Currently, the children are no longer going to school as the site was now said to be a mine and also the building was hit and cracked. 'Vana havachaendi kuchikoro, yakatonzi yava mine' ['Children are no longer going to school because the VTC is now a mine']. Chief Nhema shed tears when he came and saw the damage that had been done to the school. We built this school with our hands and sweat and it was the children who assisted us to build it. Now we no longer use the building and our children have gone back to being illegal miners as their education was ripped away from them by outside miners who do not care about our children'. (In-depth interview held with the Selukwe peak farm chairperson in May 2021).

When I visited the VTC, I could see that the building was once well-built and well-kept but currently the building looks deserted and is now in a sorrowful state. Most of the windows are cracked and the building has become home to non-local illegal miners who come and stay there seeking shelter. Photo 5.2 shows the VCT building and Photo 5.3 shows the part of the building that was destroyed.

Picture 5.2: VCT Building



Picture 5.3: VCT Building Damage



Source: Fieldwork Photos by Author.

When I met up with the mining company that destroyed the centre, one man pointed out that the building was damaged by an inexperienced worker who was manning an excavator. According to the mining company agent who was present:

‘Pane mukomana aida kudzidzira kushandisa excavator, ndiye akanorova building’.
[‘There was one young man who was learning how to use an excavator and then he accidentally hit the building’]. (In-depth interview held with the mining company agent in June 2021).

The Selukwe Peak Farm chairperson was very angry about the destruction of the VCT and raised a valid question when he said:

‘What are they going to do after they have finished mining because mining is a temporary activity? But, the VCT was an institution that was going to last even for our grandchildren—[now] they changed it to be a mine. What are they going to do for the children who they removed from the institution?’ (In-depth interview held with the Selukwe peak farm chairperson in May 2021).

This was a heartfelt question that showed the loss that the villagers experienced after the destruction of the college. No straightforward answer was forthcoming from the company’s agent as the company had no clear and viable plans for the villagers. He only stated that there were thinking about converting the VCT into a motel and that this would bring business to the area. I realised that, instead of the company reconstructing the building in order to make the

VCT functional again, it was planning to turn the VCT into a profitable company business. The mining company did not care about the future livelihoods that they had destroyed, with the A1 villagers and their children bearing the cost of the loss of the VCT. These children, who were once given the hope of gaining practical educational skills by furthering their education, no longer have that hope. An elderly respondent plainly said:

'We built schools so that our children would go to school but mining has disturbed school education'. (In-depth interview held with elder from Adare farm in June 2021).

This statement summarised the cruel dilemma facing the villagers of Selukwe peak and Adare farm.

5.7 Conclusion

The chapter showed the livelihood activities being undertaken by the villagers of Selukwe peak and Adare farm. The livelihood strategies of the villagers are strongly linked to land with a significant number of the respondents being involved in both farming and mining. Although the villagers were given land with the main purpose being to make them farmers, most of the villagers have diversified their livelihoods to include alternative strategies such as mining. The villagers took advantage of their geographical location of being along the Great Dyke and became both miners and farmers. It is these two major livelihood strategies that determines one's position in the society, whether is considered to be poor or better-off.

Chapter 6: The Conditions and Causes of Land Degradation in Selukwe Peak and Adare A1 Farms

6.1 Introduction

This is the second empirical chapter and it focuses on land degradation in Selukwe peak and Adare farms. The chapter begins by giving an understanding of land degradation as comprehended by villagers and this is done by capturing their perspectives and narratives. The essence is to appreciate their understanding as a starting point to more concrete steps aimed at achieving land sustainability. The chapter proceeds to look at the causes of land degradation in Selukwe Peak and Adare farms. The chapter shows how the livelihoods of the villagers are leading to land degradation and gives detailing information to support such sentiments. Mining is the most practised livelihood strategy and there exist a strong relationship between mining and land degradation. The chapter ends by highlighting the reasons why villagers view mining to be the major cause of land degradation in the two farms.

6.2 Villagers' Understandings of Land Degradation

Land degradation is a challenge that is affecting villagers of Selukwe peak and Adare farms and it has led to loss of biodiversity by affecting the ecosystem negatively. Most areas in the two A1 farms are under threat in this regard from a range of human activities. In fact, according to the Ministry of Lands official:

'Selukwe peak and Adare farms are the most affected A1 farms in ward 18'. (In-depth interview held with the Ministry of Lands Official in Shurugwi, June 2021.)

As mentioned in Chapter 1, this was actually the reason why I chose the two farms for this study. Given that the major concern of the study is to look at land degradation in Selukwe peak and Adare farms, it is therefore crucial to investigate whether the A1 villagers in the area are aware of land degradation conceptually and as a process locally, and how they understand the conditions and causes of it. Certainly, a significant number of respondents were aware of what land degradation involves, but they had difficulties speaking in abstract terms in conceptualising what the term means, as theirs is an experiential understanding. The government officials interviewed were more inclined than villagers to offer conceptual definitions of land degradation. The Ministry of Lands official for instance stated:

'Land degradation is the loss of productive capacity of the soil for the present and future generations. It is a global challenge affecting everyone, through food insecurity, higher

food prices, climate change, environmental hazards and loss of biodiversity and ecosystems services'. (In-depth interview held with the Ministry of Lands Official, in Shurugwi town May 2021).

The local councillor understood land degradation as:

'Soil erosion, open pits and dump sites, changing land form and deforestation'. (In-depth interview held with the councillor in Shurugwi town, May 2021).

I realised that the people of Selukwe Peak and Adare A1 farms were able to speak about and explain the existence of land degradation by turning to local history and evoking memories (i.e. comparisons of events over time), including with reference to changing weather and land patterns as well as spiritual and cultural changes.

6.2.1 Local Comparisons across Decades

I noticed that the respondents were best able to highlight and explain land degradation by comparing the period they first settled in the area and the period during which the study was carried out. The major determinants that were raised comprised of vegetation cover, animals inhabiting the area, land use and land cover. To this end, I sought to make a comparison between three periods – 1990 to 2000, 2001 to 2010 and lastly 2011 to 2021. When asked what land degradation is, a large number of respondents pointed out that they do not know what the term means exactly but that they could describe what it entails.

For a comprehensive understanding, however, I met up with one respondent (Mr. Mafa) who resided in the area since the 1990s. Mr Mafa in fact stays in an old resettlement area (set up in the 1980s) but at the boundary of Adare farm. He has been in the area since the 1990s and proved to be very knowledgeable of what was transpiring at Selukwe peak and Adare farm, long before the fast track land allocation that started from 2000. Mr. Mafa's detailed recounting of what has taken place is narrative in Box 6.1.

Box 6.1: Mr Mafa's Story

I started residing in this area in 1991 and we were only a few households, about four or five at the time. The story of how I came to stay here is an interesting one. The story begins from the time when I was a child and stayed with my father in Shurugwi town who worked at ZIMASCO[a steelwork manufacturer]. As a middle aged boy I liked fishing and during weekends my father would take me fishing and we would go to Gwenoro dam. One day my father took me to a river that was close to Unkie mine. There was also nearby irrigation at that river and there were people selling green mealies and some garden produce such as vegetables. I found this place to be beautiful and the soil looked rich and very fertile. My attention and

interest was actually triggered by the soil and the coolness of the area. It was really dense. I then told my father that one day I want to reside here. I was surprised to find out that my father actually listened to this as he went on to purchase a stand in the area. Believe it or not that is how I started residing in this area. When we came here, this area was very dense and there was plenty of vegetation. 'Wakanga usinagoni 75m or 100 m mberi kwako nekuda kwemiti, izvezvi takuona zviru mbei kwazvo'. ['You could not see 75 metres or 100 metres in front of you because of trees, but we are now able to see far'.] It was so scary to walk in these forests as you will be afraid of coming across wild animals and snakes. I don't know if I can convince you that the vegetation was not like this. But now things have changed. The forests are no longer dense and vegetation is becoming sparse every day. When we settled here our major livelihood strategy was farming. Only a few people practiced mining as most of the areas like Selukwe peak and Adare belonged to white people and it was difficult to enter these areas. Mining has increased these days and it has contributed to the changes in the land, vegetation and trees. Mining here started around 1991, pushed by the 1991/1992 drought as people were looking for alternative ways to survive the drought. 1992/1993 witnessed people being given mining claims and people started mining extending into rivers. People then realised that they can survive on mining. By then people would go to Mutevekwi River as there they were practicing alluvial mining. They used the James Table and people would go with the unprocessed gold ore to the river and process it there. People also used wooden pan dishes [mazamba]. There were still many water sources as we were still few in the area. The effects of mining on land were still very limited in areas such as Selukwe peak, Adare farm and other new resettlement farms were still exempted from many people. The change of Selukwe peak and Adare farm to AI farms has increased land degradation as it led to an increase in the number of people and an increase in mining activities as people are now freely exploring the minerals that are in these two farms. There is land degradation in the area to a great extent and it is us the communities that is contributing to land degradation as we earn our living. The vegetation cover has greatly changed since I have started residing here in the 1990s. Water sources have also decreased greatly with some rivers having dried up. The increase in the number of people in the area has led to the loss of animals. People are clearing the forests by cutting down trees and very soon they will be no forests here.

Source: In-depth interview held with Mr. Mafa in July 2021.

The story by Mr. Mafa expresses very significant if not dramatic changes in the area which relate to different dimensions of land degradation, and these are visually striking for long-term residents of the area. Another elderly respondent (Mr. Shumba), who moved into the area in the early years of fast track and thus later than Mr. Mafa, had this to say (Box 6.2):

Box 6.2: Mr. Shumba's Story

I grew up in Shurugwi but I came here to the resettlement farms in 2003. This place was quite beautiful. There were plenty of trees and wild fruits. In those mountains called Majeucheu, there were many wild animals such as leopards, lions, antelopes, impala, kudus, hares to mention just a few. These animals have since left the area with only baboons and monkeys left. The previous white owner, Bruce, mainly practiced farming and only did mining in his farm before the farm was taken away from him. He therefore caused minimum damages to the land. This changed with the FTLRP that brought an influx of many people. When people came due to the FTLRP, many trees were cut as people were clearing their fields. We had a variety of

trees such as Muchecheni, Msasa, Mususu, Mutohwe and Muchechetere but these are diminishing in numbers. When we were growing up we were taught that fruit trees were not to be chopped as our elders said that we survive because of these trees. 'Miti haitemwi, tinorarama mairi' ['Trees should not be chopped because they give us life.']. Trees such as Muchakata, Musuma, Muonde even if these were in the fields, they were not cut down. The elders said trees gave us life and this preserved our trees. We also had animal spirits that protected our forests and animals but these have become few now. In that mountain called Majeucheu or Mazamu, we have lion spirits [shumba dzemidzimu] that reside there. There used to be many but there are now few because of the disturbances being caused by human activities. These days we sometimes see them during the rainy seasons. Many chiefs' families such as Magumisa, and Nhema have been buried at the Majeucheu Mountains (Mazamu Mountains). Long ago people ruled with different things and if a king who used a lion spirit to rule dies, he would wake up as a lion spirit. The lion spirit is seen as it walks around taking care of his kingdom. We still go to the mountain to perform rituals with chief Nhema and we do it at night around three. The lion spirits are important because they protect the forests. However, these days it is now rare to see them as the forests are being destroyed at a fast pace. The way that the people are cutting trees and mining everywhere has disturbed the forest. The type of mining that was being carried out is different from the current type of mining that is being carried out in this place. This type of mining being carried out is affecting our land, our trees and our animals.

Source: In-depth interview held with Mr. Shumba in July 2021.

From these interviews, I began to realise that a significant number of farmers are fully aware that their environment was changing and this was affecting their land. One female respondent during an informal conversation pointed out that,

'How this place was in 2010 and how it looks like in 2021 is clear that there is drastic change. Mutevekwu River has changed drastically since 2010. If I had taken pictures in 2010, you would clearly understand the huge difference'. (Informal conversation held in Adare farm in July 2021).

It is also evident from the comments by Mr. Shumba that there may a spiritual dimension to what is taking place, as discussed later.

6.2.2 Changes in Weather Patterns

Villagers spoke about land degradation with reference to changes in weather patterns occurring in Shurugwi over time. For them, climate change was unfolding and even changes in the intensity of the wind highlighted this. The land was being degraded due to for example deforestation which made for windier conditions across the increasingly barren landscape. Farmers also pointed out that Shurugwi used to be cool all around the year but it is now increasingly hot. The Ministry of Lands official brought this to the fore, as well as other noticeable changes:

‘There is climate change in Shurugwi as the area is now sometimes experiencing floods, changes in temperature, gradient variations, changes in rainfall levels and colder temperatures’. (In-depth interview held with the Ministry of Lands Official, May 2021).

Alterations to the rainfall pattern was a common topic raised by farmers at Selukwe peak and Adare farms. They claim it used to rain in September and October (at the start of the traditional summer agricultural season) but this has changed as sometimes it starts raining only in January:

‘It last rained in February but many years ago the rain used to continually rain. In May we would have received the rain that usually came in winter called ‘mavhurachando’. (Life history interview held with elder in June 2021).

In effect, the rain is now erratic and patchy, and not distributed across the months with any certainty. Sometimes it rains with massive downpours (flood-like) and sometimes the rain is quite limited (drought-like). This led to some respondents pointing out that,

‘Kwaimbonaya zvikuru asi izvezvi hakuchanayi sezvakwaiita’ [‘It used to rain a lot before, now it is no longer the case.’] (FDG held in Selukwe peak in May 2021).

Others stated that:

‘Mvura yacho yakunaya zvisina kuenzana, inokwanisa kunaya pano zviri excessive yosiya pagomo apa, kare yainaya zviri even’. [‘The rain has become erratic. It can rain quite excessively here and not rain in that mountain close by; before it used to rain evenly in the whole area.’] (FDG held in Adare farm in May 2021).

The temperature has also changed in the area as there are more hot days than cold days. One A1 farmer said:

‘The whole period of May, June and July was always overcast and very cold. This has changed as you can see I have not been wearing a jersey since morning yet we are in June. It has also become very hot. This place used to be quite cool even in the summer but this has recently changed. There used to be no mosquitos in this area but we are now seeing mosquitos showing that the climate has changed’. (In-depth interview held with Selukwe peak A1 farmer, May 2021).

The Shurugwi area used to get adequate rainfall and had dense vegetation and many perennial rivers. However, the past few years have seen a change in this, a decrease in vegetation (both trees and grass) and the drying up of rivers. Rainfall availability brought by

climate change is leading to floods that are now affecting the area. The floods (including recent ones) have affected the two farms, leading to gully formations in roads and worsening the condition of open mining pits. Soils have been disturbed by the floods, increasing soil erosion and soil siltation of rivers as some of the soil was washed into rivers. The Ministry of Lands official noted all this (and more) in the interview:

'Floods eroded top soil leaving unproductive sub-soil. Roads were also degraded by the floods. For instance, the Boterekwa road was affected by the floods. Illegal miners mined under the road and, when it rained, the floods led to a land slide in the road. The people who mined under Boterekwa are illegal miners from Selukwe peak. They wanted to trespass into Goddard's mine and reach the mineral belt in his mine unseen. The floods worsened what the miners had started'. (In-depth interview held with the Ministry of Lands Official, May 2021).

From all this, it is clear that villagers were associating land degradation with climate and weather changes in the area, though recognising that local mining and farming practices are contributing to this. In addition, there is a spiritual and cultural understanding of land degradation amongst some A1 farmers.

6.2.3 Land Degradation and Spirituality

Some villagers of Selukwe peak and Adare farm also view land degradation spiritually and culturally, at least by the older generations. The troublesome changes that have been taking place is a sign that their land has been compromised and is no longer sacred, with local cultural pollution and dilution also being linked to this. The disappearing of mermaids and spirit lions from the area was evidence that villagers were not treating the land with the respect it deserves, nor the ancestors trying to care for the land.

Years ago, the area had plenty of trees and shrubs and perennial rivers that housed mermaids and spirit lions. The coming into Shurugwi of non-locals (or strangers) who were in search of minerals has led to a dilution of long-established culture in the area, including on the two farms. The outsiders (especially miners) hold no respect for the cultural beliefs and practices of the local (and supposedly indigenous) people, and they seek no relevance in preserving it. Once they find what they are looking for (that is, mineral-based wealth), they leave. The Selukwe peak farm chairperson expressed this quite clearly:

'Vanhu vekunze vari kuuya kuzo miner munzizi dzedu mune matatya edu nehove dzedu, vana vedu vachaziva sei culture yedu ivo vauraya zvinhu zvedu. Kana njuzu

dzikadisturbiwa dzinotiza'. ['Outsiders are coming to mine in our rivers where there are our fish, frogs and mermaids. Our children will never know our culture because these outsiders would have destroyed our resources and our culture. If mermaids are disturbed, they move away; and our children are never going to know about mermaids that are in our rivers']. (In-depth interview held with the Selukwe peak farm chairperson May 2021).

Both illegal miners and local mining companies have explored most of the mountains and rivers in the two farms, and their activities have disrupted river sources. Those areas that were once sacred and were not allowed entry into, such as *Mazamu* Mountains and the Dunraven falls, are now entered by almost everyone. They are no longer sacred places as miners cover all the available ground in the search for minerals. Miners have disturbed the forests and the mountains with no regard of the consequences of undertaking such activities. One deeply concerned elderly respondent lamented:

'Varungu pavakauya vaive vasinga disturber. Vaiti vakapiwa mine vaichera pasi. Vaive vasingabvongonyodzi nzizi kana kupinda mumakomo medu maiera. Asi vanhu vakauya ava vachinja zvinhu zvakawanda. Nyika yakafumurwa, kare kare pakati pegomo paiva nekarukova kanga kasingapwi, mvura yanga isingapwi, asi izvezvi hapasina'. ['The former white owners did not disturb our rivers, forests, and our sacred places. They mined underground and not on top. Our land has been left bare and is no longer sacred. There used to be a stream between those mountains that never ran dry but it is no longer there']. (Life history interview held with elder in Adare farm, June 2021).

Another female respondent stated that,

'Njuzu dzaigara mugomo iro, izvozvi makomo afumurwa. Kana njuzu ikatsamwa inobva yosiya yaomesa riwzi'. ['Mermaids used to stay in mountains and now they are gone due to too much activities in the area. If mermaids get angry, they dry up the rivers and then leave.']. (FDG held in Selukwe peak, May 2021).

Mermaids are believed to stay in sacred streams and rivers and these are thus regarded in high esteem as the mermaids hold a special place in the local cosmology. However, mermaids will not stay in an area where there is significant human activity and disturbance of their waterscapes, as has happened because of widespread mining (whether pursued legally or illegally). The elderly A1 farmers believe that most streams and rivers were running dry because

the mermaids had been chased away; where mermaids stay, the river will never dry up. This was highlighted by one respondent during an FDG,

'These companies are mining in our sacred rivers and pools. They did not consult us so that we show them our sacred places. There are mining in Mutevekwu River and it is in this river that mermaids used to stay, but this disturbance has made these mystical creatures to move away. They are bringing chemicals such as oil and putting them in the river. (FDG held in Selukwe peak, May 2021).

Spirit lions that used to reside in *Mazamu* Mountains have also become scarce and are now seldom seen. One female elderly respondent spoke about the prevalence of spirit lions in the past, but that they are currently seen rarely as the presence of so many mining-people in the mountains have made them go away.

'The spirit lions, which are meant to protect our forests, are no longer doing so, leaving our forests alone without anyone to protect them from evil'. (Life history interview held with elder in Adare farm, June 2021).

The Dunraven falls, which was once used to carry out traditional rituals, is now no longer sacred as it is being used by anyone who can get access to the area.

Notably, the FTLRP saw an increased influx of different people who were attracted by land and minerals leading to the dilution of culture in Shurugwi and the two A1 farms. Even most of those who reside on the A1 farms came from surrounding areas, as highlighted previously. However, those who came since the inception of the farms to access land respect the culture prevailing in the area and have adapted to it if not completely adopted it. The cultural norms and practices related to Chief Ndanga and Chief Nhema tend to be followed by these new villagers. However, the presence of other entrants has been more problematic. The foreigners coming in not to settle but to just mine and then go back to their homes have disrespected local culture and even diluted it somewhat, thereby affecting villagers in some way.

Additionally, despite the general trend to the contrary, there are also those households (with land) which have refused to follow local cultural practices even though they have stayed in the area for quite some time. These households are considered to be a bad influence in the area and are side-lined by others. When I was carrying out my fieldwork I encountered a family that relocated to Shurugwi from Mozambique, and the family is also involved in farming and mining like most families in the area. During informal conversations, I was told that the family

got an opportunity to get land during the FTLRP although under unclear circumstances. This family was said to be of loose morals and a bad influence in the area. One local respondent spoke about this household in negative terms:

'Vana veipapa hativanzwisi uye vakomana vacho tinotovatya. Ndivo vakachera apo 500m kubva pamba pavo panzira panofamba nevanhu vachitsvaga gold'. ['We do not understand the children from that household and we are afraid of their male children. They are the ones who mined in the road, just 500 metres from their place as they searched for gold']. (FDG held in Adare farm, May 2021).

The girls from this household are said to be practicing sex work while the parents seem not to be interested in disciplining their children. When I saw the sons, the youngest (being around 10 years), they were walking around carrying catapults. However, their homestead is built nicely as they use the money they acquire from mining to better their homesteads. They are rumoured to be among those who mined under the *Boterekwa* and contributed to the landslide in the road.

It would appear that, overall, many of the elderly locals were blaming non-locals (including foreign nationals) for disregarding cultural beliefs and practices, with this cultural disrespect (along with spiritual deviations) being responsible for the land degradation in the area. Even the most common cultural practice in Zimbabwe, of following *Chisi* day, was being practiced by only a few. The lack of Chiefs to rule directly over the A1 farms was likely contributing to the spiritual and cultural problems, as there was no authorised local Chief to prevent human activities in sacred places and to instil cultural norms and rules.

6.2.4 Government Programmes

Overall, A1 farmers understood land degradation experientially, and they visibly witnessed it over time affecting their land, trees and water. When they were formally allocated their land under fast track, they were in fact given 'land awareness' lessons by the Ministry of Lands, as precautionary measure of protecting the land and the environment. The Ministry of Lands official spoke about this awareness programme:

'Before they inhabited the A1 farms, the villagers were given awareness lessons in terms of land sustainability. That is the first programme we do after the allocation of land. All beneficiaries are educated and equipped with sustainable utilisation of land. The offer letter and A1 permit has conditions which spelt out clearly the sustainable use of land. We advised on construction of beacons and confinement on allocated space/land and to

fence off their working area. We urged the conservation of flora and fauna of their surrounding environment. They were told to institute necessary soil and water protection devices/measures e.g. contour ridges and storm drains. The farmers were urged to practice sustainable farming practices such as conservative farming, crop rotational, minimum tillage among others. The beneficiaries were also told to declare changes if they decided to shift from farming to mining. All requirements on how to protect land were clearly stated and availed to farms. Total adherence and enforcement is a requirement'. (In-depth interview held with the Ministry of Lands Official, June 2021).

This highlights that the farmers were likely fully aware of the possibility of land degradation as they were given certain protection measures which, if pursued, would apparently prevent their land from degrading. The councillor supported this when he said:

'People are aware that there is land degradation as there are lessons that are conducted every Thursday. People from AGRITEX [Department of Agricultural Extension] also conduct some lessons on various issues and they touch on land sustainability issues. Hence they have the knowledge on land sustainability and on land degradation'. (In-depth interview held with the councillor, May 2021).

Even though the people were given such awareness programmes, the land in Selukwe peak and Adare farm has been subjected to an on-going process of degradation. The Ministry of Lands official gave a sobering reminder about what could be the end result:

'There is land degradation in Selukwe Peak and Adare farm that, in the long run, desertification is going to happen'. (In-depth interview held with the Ministry of Lands Official, June 2021).

Transit walks across the villages showed that land degradation was taking place in the area at a fast pace, and in a variety of forms and for a diverse array of reasons. Certainly, though, human activities and not just farming practices, but mining as well, are central to this. The next section examines more fully the causes of land degradation in Selukwe Peak and Adare farm.

6.3 Causes of Land Degradation in Selukwe Peak and Adare Farms

Land degradation involves two interlocking complex systems which are the human-social system and the natural ecosystem, with both changes in the biophysical natural ecosystem and socio-economic conditions affecting the land degradation process (Li et al., 2015). Between the two, the human-social system is the most condition (or cause) facilitating the emergence

and deepening of land degradation in Selukwe peak and Adare farms. Since the inception of these two A1 farms from the year 2000, human activities have drastically altered land-use changes making this a central factor in understanding land degradation in Selukwe peak and Adare farm. The Ministry of Lands official noted that:

'The ecosystem is interlocked and interdependent and any disturbance to any part of it affects the whole system. (In-depth interview held with the Ministry of Lands Official, June 2021).

The establishment of the two A1 farms and the livelihood activities prevailing on these farms have affected the ecosystem in multiple ways and land degradation is embedded in this. The livelihood strategies of the villagers, whether through agriculture or mining, are intrinsically linked to land. By being deeply linked to land, it is almost inevitable that the livelihood strategies (and the land-usages they entail) would bring about changes to the land, whether for the better or worse. In the case of this study, it is clearly for the worse. This is not to claim that, prior to fast track, no land degradation existed. Rather, fast track has exponentially increased the scale of the land degradation, as the story from Mr. Mafa so clearly shows.

A large number of A1 respondents agreed that the relationship between land and livelihood strategies was leading to land degradation. Their human activities entail rampant destruction to land but they continue these strategies as, in the short-term at least, they are crucial to household sustainability. In other words, the A1 farmers are fully aware that their activities are causing destruction to the environment but they claim that they have no other choice – in that sense, they are acting in a reasoning and reasonable manner. The EMA official set out the reasoning in the following manner:

'Hapana anoita land degradation nemistake, munhu anopisa sango nekuti anenge achida tsuro inenge iri ipapo, munhu anotema muti nekuti anenge achida kudziya moto uye kubikisa. [‘There is no land degradation that takes place by mistake. For instance, a hunter burns a forest so as to catch a hare; the same applies to the people who cut trees, because they want to use firewood for cooking’]. (In-depth interview held with EMA Official, June 2021).

Through interview talks and observation, I discovered that there were underlying forces that prompted the A1 villagers to take on attitudes and practices that would lead them to degrade the very land that they cherish so much. The behaviour of the villagers was being pushed by

circumstances beyond their control, leaving them to react or respond by choosing options that they deemed to be in their best – immediate – interests.

There are underlying structural conditions in Selukwe peak and Adare farms that are leading the villagers to carry out unsustainable livelihood activities that are degrading the land. I identified the underlying causes of land degradation in the two farms to be linked to the macro-level. Based on the fieldwork, and the perspectives of A1 farmers themselves, these include land degradation factors include: poverty, economic decline, population pressure, inadequate knowledge, lack of markets and infrastructure, consumer demand for land based goods and services, lack of adequate agricultural inputs and poor policy implementation. A significant number of A1 farmers pointed out that their livelihood strategies were being pushed to the brink by circumstances out of their reach and beyond their control, such as poverty and economic crisis. These macro-level conditions were being felt at the local level, and A1 farmers, like others under other conditions (Pawlak, 2018) sought to mediate the effects of these conditions on their lives – they did this by engaging in a diverse array of livelihood activities, even if this involved land degradation practices. Though constrained by structures, and instead of sitting and not doing anything, the villagers activated their agential powers by looking for alternative livelihood strategies that will help them to survive and hopefully escape the problems that they are facing.

As mentioned, the A1 villagers are engaged in livelihood strategies that include farming, mining, firewood selling and brick moulding. Some of these livelihood strategies are influenced by the hardships facing the country such as the poor economic situation, which has increased poverty levels and unemployment levels. According to one male respondent in a questionnaire,

‘I became an illegal miner because I could not find employment. I then decided to become an illegal miner in order to take care of my family’. (Questionnaire, May 2021).

Another respondent further stated that,

‘I do not blame the illegal miners for mining because they need to survive and need the money. What else will they do if not to mine? However, I blame them for failing to reclaim land.’ (FGD held in Adare farm May 2021).

Another A1 farmer, in verbalising his internal conversation, pointed out that:

‘I just told myself that I cannot continue farming as it was no longer bringing anything tangible. I then decided to venture into mining. (Conversation during an FGD held in Adare farm, May 2021.)

The villagers are therefore undertaking acts of survival and are drawing upon any resources within their reach (for example, mineral deposits) in doing so. These livelihood strategies are having serious consequences on land as most of these livelihood strategies are linked to land. The immediate or direct causes of land degradation on the two farms include unsustainable mining and farming practices, recklessness on the part of the villagers when practicing their livelihood strategies, brick moulding, over-grazing and deforestation (including the use of trees for firewood and fencing materials).

In what follows, I set out what appear to be the key immediate (soft) causes of land degradation on the two farms, certainly from the perspective of the A1 farmers. The importance of these causes vary from mining (with 100% of respondents identifying it as a cause) to brick moulding (only 28%) (see Table 6.1).

Table 6.1: Causes of Land Degradation in Selukwe Peak and Adare Farm

	yes		no	
	Count	Row N %	Count	Row N %
Mining	26	100.0%	0	0.0%
Farming	21	80.8%	5	19.2%
livestock production	22	84.6%	4	15.4%
Selling firewood	8	30.8%	18	69.2%
Brick moulding	7	26.9%	19	73.1%

6.3.1 Mining

I begin this section with a quotation from a gold panner from Zimbabwe who is quoted by Chenje et al. (1998:26):

‘I cannot help it if future generations find rivers silted. People are more important than the environment.’

This statement speaks to the sentiments existing on the ground amongst A1 villagers at both Selukwe peak and Adare farm: that they need to get on with their lives and, by extension, livelihoods. Amongst other results, mining in the two farms has led to the loss of productivity

of the soil, as well as affecting the water quality and quantity for the present and future generations.

As indicated earlier, a significant number of people in the district of Shurugwi are now involved in mining. I mention the whole of Shurugwi, because the miners at the two farms who are coming to mine in Selukwe peak and Adare are from all over the district. It is very different from the farming taking place, whereby the owner of the field is the only one who is active in the farm's field. In mining there is no such jurisdiction; in fact, as long as there is no formal mining claim to the place, it is open to every miner in the district. This has seen not only illegal miners in Selukwe peak and Adare farm, but also legal miners (such as companies) mining in both A1 farms.

Mining companies are heavily present in Shurugwi and also in the two A1 farms. Among the companies are companies that have been in the area for a very long period, which include ZIMASCO, Unkie Mine, and JRG (Goddard). However, in recent years, there has been an influx of mining companies that only stay in the area for a short period and move away once they find the minerals they are searching for. These mining companies comprise mostly of Chinese and a few Indian companies. Even though they mine on a short-term basis, these Chinese companies keep on coming and are mining all over Shurugwi. Of great importance is the fact that it is the mining companies alone that hold mining licences – hence, they are legal miners. In this study, I refer to mining companies as Licensed Mining Companies (LMCs) in order to bring out the distinction that exists between them and the illegal miners.

Miners are clearly leaving evidence of the land degradation they are causing for anyone to see, as witnessed by open pits, and piles of sand and stones that are around the villages. Overall, villagers were quick to point to mining as the major cause of land degradation in Selukwe peak and Adare farms. According to the councillor as well,

'Mining is greatly leading to land degradation because many illegal miners do not have mining expertise. The way that they mine affects the land and also they end up leaving dumps, pits and waste lying around'. (In-depth interview held with the councillor in Shurugwi town, May 2021).

The government ministries reiterated that mining was the key contributor to land degradation, with the Ministry of Lands official stating that:

'Mining is the major cause of land degradation. For instance, recently at a mountain near GLO Garage there was a gold rush and people rushed to the mountain and they later used Mutevekwu River to sieve the gold. This led to extreme land degradation in the

area. Soil degradation is moderate to high especially in places where mining takes place. In Selukwe peak there is extreme mining as compared to Adare farm and you will find that in every field of Selukwe peak, there are mining pits; and soil degradation is extensive. In Adare farm, soil degradation is minimal because there is minimum mining in the A1 farm and there is less alluvial gold as compared to Selukwe Peak. Boterekwa again is full of pits that have been dug by miners and notably a pit is evident of soil degradation. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021).

The process of mining involves high levels of damage to the land leading to soil erosion and loss of soil fertility. The illegal miners are carrying out surface (alluvial) mining instead of underground (reef) mining. Surface mining at the two farms is central to land degradation and it has many immediate consequences to the soil – as the top soil is removed during mining. One elderly respondent in an in-depth interview said that,

‘Mining dzavako idzi dzasiyana nedzaivako kare, dzazvino dzatiuraya nekuti havasi kuchera pasi, vakuchera pamusoro vachiuraya ivhu neuswa’. [‘The mining that we now have is different from the mining that we had long back. The miners of today are not digging underground but are mining on top destroying the soil and vegetation’.] (In-depth interview held with elder in Selukwe peak, June 2021).

The destruction of grass, shrubs and even tree roots minimises soil fertility and leaves the soil loose and prone to soil erosion.

As mentioned earlier, alluvial mining involves looking for gold in the soil with miners digging up pits and removing the soil with apparent gold deposits and sieving it in the nearby rivers. This whole process affects top soil as the miners do not return the soil they would have collected and removed. In situations where pits are dug, sub soil is always left on the top and top soil is lost. This disturbs the soil structure and therefore affects vegetation and farming which is a situation happening every day in Selukwe peak and Adare farms. When I was carrying out transect walks in both farms, I noticed that there were sub-soils on the surface in most places. The nutritious top soil is no longer present as it would have been removed through digging of pits as miners look for gold. One male respondent spoke about this effect:

‘Gold mining disturbs top soil. Someone who is not experienced may not be able to tell that in many places it is the heavy soils that are now on top instead of topsoil. This is

because in this area, there is a minimal difference in appearance of sub-soil and top-soil but the soils would have been disturbed. (FDG held in Adare farm, May 2021).

Selukwe peak is the most affected farm as, compared to Adare farm, as there is more alluvial gold found in the former. This means that soil degradation is more severe in Selukwe peak, with some farmers pointing out that Selukwe peak '*ndiko kunzinde kwemining*' (meaning that it is 'the base of mining'). This leads to most miners being active on this farm. However, it is not only the illegal miners involved in causing soil degradation, as there are a number of Licenced Mining Companies (LMCs) also contributing to this environmental problem. I observed that the LMCs are carrying out their mining activities in the mountains and in the designated grazing areas of the villagers. They are destroying mountains and, with their huge machinery, their destruction of the land takes place on a larger scale. They are removing soil from the mountains and leaving huge pits in their place. One angry female respondent retorted that,

'Companies such as Goddard are destroying our land and our mountains. ['Vari kututa gomo vachiisa mavhu acho kuimwe nzvimbo, vari kutobvisa gomo']. They are taking soils with minerals from the mountains and going with the soil to their mines. They are actually removing the mountain'. (FDG held in Adare farm, May 2021).

This entails leaving behind many large pits in mountains as most companies do not take the soil, once removed, back to the where they collected it. This is similar to the illegal miners who take the soil to the river and do not bring it back. The photos below, taken by the researcher during the fieldwork, show pits that have been left open by illegal miners and licenced mining companies. Photo 6.1 shows a pit left open by illegal miners, while Photo 6.2 is of a very deep pit that was left open by a mining company and later collected water.

Picture 6.1: Pit Left Open by Illegal Miner



Source: Fieldwork.

Picture 6.2: Deep Pit Left by a Mining Company



Source: Fieldwork.

In other words, few miners are reclaiming the land. Further, those few miners who close the pits do not do so with soil formation in their mind. They do not return the soil in terms of its proper layered soil structure, as they end up putting top soil beneath and sub-soil on top. This is the key reason why the two farms have sub-soils on top in places. One illegal miner, in an in-depth interview, readily admitted to the problems mining was causing in this respect:

‘We are causing land degradation because we do not do land reclamation’. [‘Tinosiya dzimwe nguva makomba akashama’]. ‘We mostly leave the pits open. Mining is affecting land because we take sub-soil and leave it on top. This means that stones will become on top and this affects soil fertility and the crops we plant will be affected.’ [‘Zvinondirwadza as hapana zvandingaita nekuti handisi chinhu uye ndinotodawo 10cents yandinowana.’] It pains me that we are degrading land but there is nothing that I can do because I have no power to stop it and I also need the little money I get for my family’. (In-depth interview held with illegal miner in Adare farm, June 2021).

Mining is not only causing soil degradation, as it is also leading to water degradation. The quality and quantity of water in the two areas has been affected due to mining, with a significant number of respondents agreeing with this. The processing of gold using indigenous systems, modern machinery, and chemicals is a key contributor. Both LMCs and illegal miners affect the water detrimentally though they are doing it differently. Illegal miners, when they practice alluvial mining, still use the indigenous system of sieving the soil for gold, using pan dishes – in rivers – which capture and retain the gold. This sieving of gold results in soil siltation in rivers affecting water quantity and quality on the two farms. The illegal miners in both farms sieve their minerals in Mutevekwi River and Manzimudhaka River. These two rivers are the major rivers in the area and provide water for all the people in Selukwe peak and Adare farms. Mutevekwi River now sometimes actually goes dry, leaving the villagers with no readily available water up until the next rainy season. The EMA official highlights this:

‘Mining has destroyed rivers. The major river in both farms, Muterekwi River, was a perennial river but currently it is no longer one, and it no longer has pools. Illegal miners carry out their activities in the river, and this leads to sediment of soils and siltation of the river’. (In-depth interview held with EMA Official in Shurugwi town, June 2021).

Other small rivers in the area once perennial are no longer so due to the effects of alluvial mining. As well, deep water points in rivers have been reduced in depth due to sedimentation and siltation.

One female respondent in an informal conversation in Selukwe peak farm mentioned a small river that fed into Mutevekwi River. This perennial river supported canal irrigation, but currently it now dries up due to siltation leading to the closure of the irrigation. I witnessed the siltation that is happening in the rivers when I came across a dried up river (Photo 6.3) that had large amounts of soil in it. The riverbed also had many stones that had been collected in the nearby mountain. Now that the river was dry, the stones were now clear to see as they lied

across the riverbed. The red soil in Photo 6.3 is soil from a nearby mountain that the illegal miners would be sieving in the river. I also came across another dried up river and, in the riverbed, I saw a green sack full of sand (Photo 6.4) that had been left in the middle of the river. No one thought of the repercussions of leaving such a bag in the water that is used for drinking by both villagers and animals.

Picture 6.3: Dried Riverbed



Source: Fieldwork.

Picture 6.4: Sack in Riverbed



Source: Fieldwork.

Another interviewee during an informal conversation stated that the soil left in the rivers was affecting detrimentally livestock such as cattle. The riverbed is typically hard and, when animals such as cattle step into the rivers, they do not sink. However, the soil that the illegal miners are leaving in the river is accumulating and making the riverbed soft. This means that when cattle step in they are now sinking in the river and at times breaking their feet.

Water quality is presently deeply problematic due to the alluvial gold mining activities being carried out in-stream, upstream and downstream of rivers, leading to pollution of the villagers' water sources. Besides leaving soil in the rivers, the illegal miners are leaving filth without any corrective measures. The river places where alluvial mining activities are carried out are marked by large numbers of people, with some women cooking in these places. Dirt and waste left in these areas often later enter into the river systems. As well, the LMCs are to blame as they use heavy doses of chemicals in gold processing which include mercury and cyanide and these later contaminate the waters in rivers. Mercury is said to have many negative effects such as fertility problems and brain damage. Local people are fully conscious of this, as articulated by the Selukwe peak farm chairperson:

'Chemicals used in mining such as mercury and cyanide create chronic diseases such as cancer, deformities and these affect even up to the next generation'. (In-depth interview held with the Selukwe peak farm chairperson in Selukwe peak, May 2021).

These chemicals are contaminating the water that is used by both villagers and animals, causing problems for aquatic life as well.

The lives of the people are constantly threatened by water degradation and they no longer feel secure in using local water sources. Even the Illegal miners who practice alluvial mining in rivers have been affected by these chemicals. They sieve the soil and gold standing in rivers and the chemicals affect their feet. Animals are in particular danger, as they drink water from these rivers. According to one illegal miner:

'Unkie Mine polluted water with cyanide and many baboons died after drinking from the river source'. (In-depth interview held with illegal miner in Adare farm, June 2021).

The constant danger of water pollution has led to EMA and sometimes Unkie Mine to collect water samples in order to check if the water is contaminated or not. This of course is not a solution to the prevalence of polluted water.

There are numerous LMCs operating in Shurugwi district, including those that explore water sources and then extract gold ore from rivers and stream banks through the use of chemicals. As I was carrying out a focus group discussion in Selukwe peak farm, I was informed about an Indian mining company that had started to mine in Mutevekwu River a few months back, leading to the disturbance of the river. Photo 6.5 shows mining taking place in the river. The villagers were quite angry about this development that was taking place on their farm. The villagers sought to understand why a company was allowed to mine in the river, yet all the local people are aware that no direct mining activities should be carried out in the river or on the riverbed within the radius of 30 to 50 metres. They were, however, informed that the company had a licence and the right to mine. This left the villagers with no say whatsoever regarding what the mining company was doing to their water. The company in fact redirected the water and closed one part of the river to stop the river from flowing (see Photo 6.6). This affected the movement of the river with predictions by the villagers that soon the river is going to dry up. Mutevekwu River pours water into Runde River, such that serious water-flow problems are emerging for the latter river (and the entire local river system). This company is also causing water pollution in the river as it is using chemicals to mine.

Picture 6.5: Mining at Mutevekwi River



Source: Fieldwork.

Picture 6.6: Water Diversion in Mutevekwi River



Source: Fieldwork.

The LMCs are typically outside ventures which do not care about the water-sources they are destroying for the local villagers, who heavily depend on the river as a major source of their water. Water degradation has therefore worsened on the two farms as the water quality and quantity have been heavily impacted by mining activities.

LMCs are responsible for land degradation in farmers' fields as well. The Adare farm chairperson had this to say:

'When Unkie mine constructed their road that goes to their mine, they put drains along the road that would spill water in the rainy season as a way of protecting their road. These drains are opened and when they are opened the water spills into our fields and our fields become water-logged. No one consulted us when this road was being constructed; it was all a top-down approach and right now it is us and our fields that are suffering. When it is the rainy season, our fields become water-logged due to the water spill from the road and this affects our farming. The water will be eroding the soil and the soil will go into rivers causing soil siltation'. (In-depth interview held with the Adare farm chairperson, in Adare farm, May 2021).

This is a major problem that many respondents in Adare farm were complaining and lamenting about, as their fields were being affected severely by soil erosion.

A significant number of miners (both illegal and LMCs), as noted, do not return the soil to its proper place after disturbing the soil in carrying out their mining activities. They both leave pits wide open which is posing a danger to the villagers. These illegal miners and LMCs are not concerned about the long-term future of the area as they consider themselves as temporary sojourners. However, those A1 farmers who mine (illegally) in their own fields do make an effort of closing the pits and reclaiming the land. One A1 respondent pointed out that,

'I reclaim land after mining in my field. I also follow soil formation [patterns] when I am closing the pits in order to maintain soil fertility'. (Questionnaire in Selukwe peak, May 2021).

At the same time, those A1 farmers who mine away from their homesteads, for instance in the mountains, do not necessarily see the need for closing pits. They just leave it like that. This has to do with land ownership and tenure – they protect and take care of their own land (their A1 farm), but the land beyond their homestead is not considered to be their priority, despite the problems this raises indirectly for their farms. One illegal miner (also a A1 farmer) told me an interesting story that gives insight into the fact that many illegal miners do not reclaim the land after mining, because they simply do not care.

Box 6.3: Illegal Miners Disturbing the Land

Illegal miners are causing land degradation as they do not practice land sustainability and land reclamation. I was once involved in the practice of mining. We used to go and mine in the Boterekwa. I remember that we once unknowingly mined in a graveyard as I came across a skeleton. I had been digging up a pit since 3 am and I finished around 6 am. After I had finished digging the pit, I called those who had a metal detector to come and scan in the pit to make sure that there was no gold. Of note, the metal detector makes a sound that is proportional to the size of the gold. If the stone is bigger the sound will be louder. When he pinpointed the metal detector to the pit that I had dug the sound was quite loud that we became so excited that we had found a big stone of gold. However, after we had dug where the sound had come from, we discovered that it was a nail on a skull that had evoked the sound from the metal detectors. We had been digging in an old graveyard all along. I ran away from that area and I am ashamed to say that I did not even think of closing the grave. The problem with becoming an illegal miner is that once you join the practice your behaviour changes. 'Unenge watova ne behaviour yevanhu vachona'. ['You will start to imitate the behaviour of illegal miners'.] You put your morals aside because automatically your behaviour becomes the same as theirs. There are beliefs and behaviours that an illegal miner is expected to have and having a conscience is not one of them.

Source: In-depth interview held with an illegal miner in Selukwe peak.

The major dilemma arising from this is that mining is temporary but farming is not. The A1 farmers who engage in illegal mining tend at times to adopt the worldview of the outsiders engaging in illegal mining—they do not see anything beyond mining, as if there will not come a time when mining will no longer be feasible.

6.3.2 Farming

Farming is another livelihood strategy that is causing land degradation in the two A1 farms. This implies that A1 farmers, through their land-uses and agricultural practices, are involved in undercutting the long-term viability of their own land for purposes of farming. As mentioned previously, the villagers received their farms through the FTLRP which divided the previous white owned farms into A1 farms or plots. However, most of the people who were given farm plots at Selukwe Peak and Adare farms did not have adequate experience in farming. Although they were given awareness lessons on how to protect the land, the villagers are reluctant to follow what they are being encouraged to do. The EMA official expressed concern about this:

'Farming practices that are causing land degradation include poor farming practices, riverbed cultivation, lack of contour ridges, settling people everywhere, such as in wet lands and on slopes. There are a lot of activities everywhere and it is a cause of concern'. (In-depth interview held with EMA Official in Shurugwi town, June 2021).

There are certain measures that the villagers are expected to practice in their fields in order to ensure land sustainability. One such measure is the digging up of contour ridges. The villagers are encouraged to dig contour ridges as a way of protecting their fields from soil erosion and they are quite aware of the benefits of contour ridges. Surprisingly, though, it is only an insignificant number of respondents who have dug contour ridges. One elderly respondent reflected upon this:

‘When I was young, we were told to dig contour ridges across the field to prevent soil erosion in our fields. On top of the ridge of the contour we would plant grass to also hold water. Water will not cross into the field causing soil erosion. When I came here in Selukwe peak, we are still being told to dig contour ridges’. (Life history interview held with elder in Selukwe peak, July 2021).

Contour ridges are not new to most of the farmers, particularly the older ones. They are, however, associated with the domineering agricultural programmes of the Rhodesian state, which also insisted on contour ridges as part of so-called betterment schemes. Just as in the colonial era, where black people in Native Reserves (later Tribal Trust Lands) resisted the construction of contour ridges, the farmers in the two A1 farms are likewise refusing to do so. One of major reasons behind the reluctance of digging contour ridges is that they are very labour intensive and time consuming in their construction, with many farmers indicating that they do not have the dedicated time or labour to dig the ridges.

Most of the farmers’ contour ridges have already been pegged by the Department of Mechanisation. What remains is the actual digging of the contours. The Department of Mechanisation officer spoke about the importance of these ridges but also the challenges faced by A1 farmers:

‘The department is promoting contour ridges amongst the farmers. Contour ridges for communal farmers and A1 resettlement farmers are pegged for free while A2 farmers pay to have the contour ridges pegged in their farms. Farmers need contour ridges but adoption of these contour ridges is low and when farmers do finally come to us for pegging, its either they will be risking losing their farm or their farm will now be in desperate need of a contour ridge. Those whom we peg for usually organise as a village or a community and we go and peg for the village. Another reason for low adoption of contour ridges is that they are labour intensive. There are three methods that are used in digging contour ridges. The first method entails using a tractor and although this method is easy it requires money which most villagers do not have. The second method

entails using cattle and plough first and this method depends on whether one has cattle and a plough. The third method is hand digging and this is laborious and it depends on whether you have access to labour or not. Contour ridges can be 150 metres long and one man can only do 20 metres a day working for 8 hours a day. It therefore needs time when you are hand digging and will require more than eight days. It now depends on whether the farmers have labour and this affects the adoption rates’. (In-depth interview held with the Mechanisation Official in Shurugwi town, June 2021).

The low adoption of contour ridges by the villagers is leading to soil erosion in their fields. Contour ridges are meant to act as a soil erosion control mechanism by stopping excess runoff water from getting into fields but, with the low adoption rate, many fields have now been affected negatively.

The fields at Adare farm are the ones which suffer the most mainly because the farmers’ fields are just below a mountain. They had a contour ridge pegged by the Department of Mechanisation just below the mountain so as to stop water flowing from the mountain going into their fields. The contour ridge has not been dug yet, as people have not organised themselves to do so. This has led to soil erosion as the rain flows down the mountain and straight into their fields. I observed that the water from the mountain has created streams and pathways in the fields. This means that the fields tend to be waterlogged:

‘Minda yaderera nekuda kweivhu rikukurudzwa zvekuti mvura yakugara muminda’. [‘Our fields are now becoming water-logged due to water from the mountain which is washing away the soil in our fields’.] (In-depth interview held with the Adare farm chairperson in Adare farm, May 2021.)

Their fields have also become rocky as the rocks and stones from the mountains are being washed into the fields. The mountain is full of stones due to the mining activities that end up putting the sub-soil and stones on top of the ground. Even though they are aware of the negative consequences of not digging contour ridges, the farmers still do not want to dig the ridges. This made the AGRITEX Official to express the following sentiment about the villagers:

‘Most villagers are reluctant to dig up contour ridges mainly because they are lazy to do so and they prioritise other things’. (In-depth interview held with the AGRITEX Official in Shurugwi town, June 2021.)

Another requested agricultural practice by the government is shifting cultivation. But, the farmers do not practice shifting cultivation as they utilise all the land in their fields,

particularly those in Adare farm who only have two hectares. Their fields are not given enough time to lay fallow and this has quickened the emergence of soil infertility which, in turn, has prompted the farmers to rely on organic and chemical fertilisers. When the farmers started cultivating their fields, they did not use chemical fertilisers as the soil was still quite fertile. Those in Selukwe were actually farming on virgin land; hence, their soils are still fertile. It is those at Adare farm who rely the most on inorganic fertilisers as they are not farming virgin land, and these chemical fertilisers are also now disturbing the soil's fertility.

A significant number of A1 respondents agreed that they used chemical fertilisers every year. As one male respondent in Adare farm explained:

'When we were given these farms, soil fertility was still okay because when we came biomass [debris] had built up and the soil had restored some of its fertility. However, our continual farming is decreasing fertility and we are now mostly depending on chemical fertilisers which is leading to soil fertility. This year we applied a lot of chemical fertilizers. Fertilizers destroy soil fertility so our soils are losing their soil fertility due to the constant use of these chemical fertilisers'. (FDG held in Adare farm, May 2021.)

The farmers do not rely on organic fertilisers on a significant basis because of relative unavailability. When they use organic fertilisers, they mainly use ashes and manure from livestock such as cow dung. There is no *termitaria* (anthill) in the area which limits the organic fertilisers that can be used in the area.

Further, changes brought by the FTLRP in terms of land use have led to land degradation. Before the FTLRP, not all areas were cultivated mainly because the terrain in the area has many slopes. The coming of the FTLRP witnessed areas that were not meant to be cultivated being cultivated. In the words of the AGRITEX official:

'A farm that was once meant for cattle is now being farmed leading to people farming on slopes which led to an increase in soil erosion'. (In-depth interview held with the AGRITEX Official in Shurugwi town, June 2021).

Some farmers are practicing poor farming methods that affect not only the soil but also the rivers, including cultivating in riverbeds or near rivers which is increasing the extent of river siltation. Villagers are not supposed to farm within a radius of 30-50 metres from a river. The elderly villagers in the two farms expressed anger at some of the villagers who are disregarding this practice. They pointed out, or at least claimed, that it was the young who are undertaking

such activities as they do not care about the law or the repercussions of such activities. One elderly female respondent said that the youth are being reckless:

‘We do not farm on a riverbed. Long ago people feared the law and when they were told to leave 50 metres, we would go on to leave 70 metres or more. These days, people do not abide by these laws, they do not care and they actually prefer to farm near the river’. (Life history held with an elder in Adare farm, July 2021).

It would seem, then, that most of the farming-related causes of land degradation could potentially be reversed insofar as certain agricultural practices were discontinued and others implemented. But it appears that most of the farmers, and possibly particularly the young, do not deem the land protection measures to be important. The state ministries that are meant to enforce land-sustainability practices on the A1 farms are partly to blame. As the officer from the Ministry of Lands reasoned:

‘We are also to blame and we cannot shift all the blame to the villagers. We are heavily understaffed with only two officers for the whole district. We take time to go on ground [i.e. to the farms] and enforce as we do not have a car. We also do not have arresting power for those individuals who do not want to practice soil conservation methods. There is also no law to enforce regarding those who do not dig contour ridges’. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

The lack of arresting powers of the Ministry of land meant that the people can get away with not practicing land sustainability measures.

In as much as land degradation was taking place in the fields on the two farms, I soon became to realise that the scale of degradation being caused by farming in the two farms was minimal. In part, this is because the A1 farmers – to varying degrees – took over fertile lands which were vastly different than the communal areas which had been subject to processes of degradation for decades, stretching back to the colonial era. In this context, the Ministry of Lands argued quite rightly that, even though farming was causing land degradation in the area, it was mining that was causing land degradation on a much larger scale. The Lands official expressed his thoughts as follows:

‘Farming, unlike mining, has not yet caused drastic changes to the land. Farming has not yet disturbed the soil as the villagers only cut trees in their fields. Most of the land in the villages is still virgin land compared to that in the communal areas. You will find that in most of the fields there are tree stumps which shows that most of the farmers are still

using cattle to farm and not tractors. We cannot compare with communal areas where there is overuse of the land. In communal areas, land has been disturbed and virgin land is now scarce making farming to be a major causative factor of land degradation. However, here in [fast track] resettlement areas, it is mining'. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

If it was not for the mining taking place, there are very high chances that land degradation would be very minimal in Selukwe Peak and Adare farms.

6.3.3 Deforestation and Vegetation Loss

Selukwe peak and Adare farms are losing trees and vegetation at a fast pace, as can be witnessed by what the places used to be like prior to the emergence of the fast track programme in 2000 and the official allocation of plots on the two A1 farms from the year 2006. Before the FTLRP, Selukwe peak and Adare farms belonged to white farmers who were only using a limited portion of the land for their agricultural activities. Their farms, as private property, were closed off to others living in the area, including those residing on communal area lands. As Mkodzongi (2013) argues, the fast track-induced changes in the agrarian structure of rural Zimbabwe led to an increased mobility across formerly inaccessible large-scale commercial farms. New resettlement farmers were given access to natural resources that were once enclosed and enjoyed exclusively by the white farmers (Mkodzongi 2019, Scoones 2015). Because of this, the forests on the white farms (at least Selukwe peak and Adare) were still largely intact, as spoken about by one government official (from the Ministry of Lands):

'When the white previous owners left the farms, the vegetation was still dense and bushy. However, currently the vegetation has lessened as people opened up land due to agricultural activities'. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

The emergence of FTLRP brought major changes in the area, including the clearing of trees so as to create farming land for A1 farmers. A significant number of respondents (88%) pointed out that, when they started inhabiting these farms, the vegetation was still quite dense. This has changed considerably as the two farms no longer have dense vegetation.

The intense deforestation in the area began when people cleared their A1 land for settlement in order to build their homesteads. Fields were then cleared as the villagers prepared to farm, leading to a loss of tree-cover. For instance, in Selukwe peak, each farmer roughly cleared about four hectares of land, with some who had more land clearing even more hectares.

The A1 farmers also cut down indigenous fruit trees in their fields, as I observed that most fields had only one or two trees left. The cutting down of trees did not stop with the clearing of fields and homesteads as it encroached and moved into reserved areas which include mountains and grazing lands. One of the major reasons behind the villagers' on-going cutting of trees, after the clearing of homestead and field spaces, is the reliance by the villagers on firewood for cooking as a source of energy. According to one respondent:

'When I came to Selukwe peak, the area was beautiful; there was no extensive deforestation that you see now. This is different now as people are continuously cutting trees. They are continuously cutting trees and tree roots. Do you see that clearing there in that mountain? That is the evidence that trees are being excessively cut. Before the FTLRP, there was no deforestation in the area. Since the FTLRP, people have been coming here from different areas of the country looking for land and also to mine'. (In-depth interview held with an elder in Selukwe peak, June 2021.)

Another farmer from Adare farm reiterated these sentiments,

'Makomo anga ane miti ava kuoneka, yava ngwerewere'. ['In that mountain that you see, it was so dense that when I first came here I would get lost. Currently, the mountain has become clear as people cut the trees for cooking purposes']. (In-depth interview held with an elder in Adare, June 2021)

The villagers' homesteads are also built using trees. Even though most homesteads have houses built with bricks, every homestead in the area has a kitchen hut made up of tree trunks. In addition, the villagers use tree poles to fence their homesteads and also for their cattle kraal. Some villagers have resorted to selling firewood as a source of income. Despite claims by the villagers that they are not involved in cutting trees for sale, there are people in the area who sell firewood along the highway road to Zvishavane. All these uses have greatly reduced trees in the areas. Hence, there has been a reduction of trees in the two farms since the beginning of these A1 farms.

Mining has worsened deforestation in the two areas. As Shurugwi is packed with miners, women have resorted to cooking and selling food to miners. They cook using firewood as it is the cheapest and available source of energy. Women cut trees every day in order to meet the demand of providing food to the miners every day. Illegal miners themselves also cut trees when they carry out their mining activities. When miners find gold in an area with a high vegetation cover, they clear the area in order to mine more freely without the disturbance of

trees. They therefore cut trees surrounding the area where they are mining. An illegal miner described this in some detail:

'Mining has caused deforestation in the two farms and in the area at large. There is a big difference that has taken place over the years in terms of vegetation. Every place that gold is discovered, trees are destroyed. Also when we go and mine in the forest we do not go with blankets. We make a big bonfire to keep us warm and for cooking and this means cutting down trees. You will also be in the forest; you need fire to keep wild animals away. We will usually stay there for three days. 'Miti inoparadzwa zvekuti panosara rava bani.' (Trees are cut down that the area will be left bare when we leave'.) (In-depth interview held with an illegal miner in Adare farm, June 2021.)

During transect walks, I was fortunate enough to be shown a place located outside the two A1 farms that was still intact and had dense vegetation. The place gave me a glimpse of what the two farms may have looked like before deforestation became rampant. The area is nicknamed '*kumajeucheu*' – meaning when you are travelling in the area you should always look behind you, as you might be attacked without being aware that you are being followed due to the dense vegetation in the place. I was informed that the area had little activity because the people who resided there were resettled to Ruchanyu which is located about 30 kilometres from the two A1 farms, along the Zvishavane road. The area is now under the control of Unkie Mine and this has led to minimal activity in the place as few villagers venture there. In this odd case, the presence of a mining company has protected this particular area from deforestation, as the villagers are not allowed to cut trees. When I moved deeper into this forest, I had an opportunity to see where Unkie Mine was carrying out its mining activities. I observed the wholesale destruction by the mine of the area they worked, as there with massive clearing of trees on an area that covered nearly 2 hectares. This level of destruction of trees in the area was far larger compared to the destruction caused by illegal miners. Whereas illegal miners cut only a small portion of trees as they trace the gold in the ground, the case is different for LMCs like Unkie. LMCs cut down trees on a huge area leaving no hope for recovery of vegetation.

Making a comparison, I realised that the heavy machinery used by these companies led to the indiscriminate destruction of trees leaving the area with no vegetation at all, just heaps of sandy soil remaining behind. One male respondent spoke about this, based on first-hand knowledge and experience:

'I once partnered with a Chinese company as I needed their heavy machinery to clear an area. The Chinese sometimes partner with us and they provide us with the machinery

such as excavators which will help in clearing the area. However, the heavy machinery destroys larger places causing land degradation on a larger scale. The excavator destroys lots of trees and loosens the soil and causes a lot of damage to the land itself’.

(In-depth interview held with an illegal miner in Selukwe peak farm, June 2021.)

Nevertheless, the fieldwork showed that everyone in the area (including the villagers on the two farms) is involved in deforestation in one way or the other, given the different uses that they use trees for, inclusive of the following: clearing of fields, building homesteads and fences, firewood cooking and selling, and during mining activities. The councillor pointed out that,

‘The problem of deforestation is due to overpopulation which has meant more cutting of trees for building houses, mining, clearing fields and for firewood.’ (In-depth interview held with the councillor, May 2021.)

As well, grass has been affected on the two farms, further diminishing levels of vegetation. Grass has many uses in the area such as thatching houses. However, it is not thatching of huts that is the major threat to the grassland in the area. Illegal miners are proving to be the major threat. I was informed by a significant number of respondents that illegal miners start veld fires before they search for gold. Illegal miners use metal detectors in order to determine where gold is, but these detectors cannot function properly where there is grass. So, miners burn out all the grass in the area so that they are able to use their metal detectors. According to one female respondent in a questionnaire,

‘Sora refu rava shoma kuona kuno nekuda kwekugara rakapiswa’. [Tall grass is now scarce because of the recurrent veld fires.>] (Questionnaire held in Selukwe peak, May 2021.)

The Adare farm chairperson also spoke about this:

‘We are losing a lot of grass as illegal miners burn the grass. The miners cannot sense gold in tall grass so they need to burn the grass off first. [‘Manje manje tinenge tisisina uswa, vatanga kupisa, nyangwe mukamukira kuudzima, vanoutanga zvakare zvekuti munopedzisira masiya’]. ‘Very soon we will no longer be having this tall grass that you see, because they will burn it. If you put out the fire, they will start it again so that, in the end, we will just let it burn.’ (In-depth interview held with the Adare farm chairperson, May 2021.)

The threat of constant veld fires has become quite common in the area. This led EMA to increase its awareness campaigns about the need for villagers to put fire-guards in and around

their homesteads. Veld fires destroy the grass and plant matter and result in soil erosion as they leave the soil bare.

The veld fires are not limited to one place as they are evidenced everywhere in Shurugwi. This is because illegal miners do not carry out their mining activities in one area only; rather, they move around the entire areas leaving destruction in their wake, including in relation to grass-cover. As articulated by a male respondent:

‘Illegal miners are migratory; they move a lot looking for gold meaning that the destruction they cause becomes wide. They burn grass every year as they will be looking for minerals. They move around burning the grass and this leads to veld fires’. (FDG held in Adare farm, May 2021.)

Deforestation in the area, and at such a rapid speed, has arisen in part because once closed-off areas (under white farmer control) were made available under fast track to small-scale farmers who needed to establish their homes and agricultural practices. This also facilitated the entry of others into the area for purposes of mining. Indeed, the population in the area continues to increase because of on-going in-migration under the attraction of mining. Thus, the FTLRP increased the sheer volume of land use and also diversified land usages in Selukwe peak and Adare farm as people seek a means of survival by carrying out a variety of human activities that are now causing land degradation. The councillor spoke to this issue:

‘These were previously reserved areas under colonial masters. Gold or mineral reserves are plenty, meaning that the area is going to face more exploitation as people look for these minerals. It is difficult to compare land uses between the previous white farmers and the current A1 farmers mainly because the way they are utilising land is different. The white farmers left vast tracks of trees and land not used, only cultivating a few hectares and their farms were closed off from outsiders. This is a different scenario to the A1 farmers who are utilising land more, with the bigger area now under use. The area has also increased in population which means more activities in the area’. (In-depth interview held with the councillor in Shurugwi town, May 2021.)

Land uses between the previous white farmers and the A1 farmers are quite different, as mentioned by the councillor. The comparison between the two periods (before FTLRP and after FTLRP) does clearly illustrate the major causes of land degradation in A1 farms such as Selukwe Peak and Adare farm.

6.3.4 Other Land Degradation Causes

Other livelihood strategies of the farmers at Selukwe peak and Adare farms contribute to land degradation. Over-grazing is a major problem in the two farms, and is a cause for concern, particularly in Adare farm which is more mountainous. Over-grazing in the area arises for a number of reasons, one of which is the high number of cattle that the farmers have overall. Connected to this is the limited area meant for grazing. The coming in of illegal settlers who settled in designated grazing lands worsened the situation. According to the councillor,

‘The grazing lands are now becoming limited leading to the problem of overgrazing. This has been caused by illegal settlers who came and stayed in the area that were meant for grazing land. The villagers, in addition, have many cattle which roughly amounts to around 1,200 between the two villages. There are two dip-tanks and each dip-tank services about 500 cattle.’ (In-depth interview held with the councillor in Shurugwi town, May 2021.)

One A1 farmer from Selukwe peak spoke in detail about the various challenges related to over-grazing:

‘Grazing lands are being disturbed because of mining and also by new settlers who do not have offer letters and who are settling in grazing lands. The government could not chase these people away as they had already relocated and resided, and have nowhere to go. In addition, the Ministry of Lands continues to give out A2 farms. They have now added three A2 farmers making them four and we do not know where they are coming from. There is already a land shortage for our livestock to graze, yet more people are being brought in. ‘Vanhuri vari kutuwira minda as vamwe vari kutounzwa’. [‘People already residing in the area are fighting for more land but some people are being brought in’]. There is a top-bottom approach whereby orders and new developments come from the top without any knowledge by the people who reside in the area. They should be a bottom-up approach so that they [A1 farmers] will understand what is happening on the ground. Grazing lands that we had been using are also now people’s mines and homes’. (In-depth interview with A1 farmer from Selukwe peak, May 2021.)

This quotation provides important insights into the problem of over-grazing in the two areas. Overall, the grazing area is decreasing in size and this is forcing livestock to have increasingly limited access to grass.

LMCs and illegal miners are mining in grazing lands and this is limiting the grazing lands for the cattle as well. In fact, the villagers no longer feel that it is safe to let their cattle

roam and graze freely as the cattle may end up falling in open pits left by miners. A significant number of respondents indicate that they lost their cattle due to the open pits left by miners. The veld fires started by miners disturbing the grazing lands, as the grass meant for livestock is burnt, forcing the villagers to move their cattle to those areas which still have a bit of grass.

There are incidences in the two A1 farms of people involved in sand poaching. The sand is usually taken in rivers and sold to the people building houses. The councillor argued that:

'The city council is the only one allowed to sell sand to the villagers but there are some villagers who poach sand either for their own use or to sell to other people'. (In-depth interview held with the councillor in Shurugwi town, May 2021.)

I also found out that there are miners who use sand for ball mills during their mining activities. All activities, at the same time, affect rivers and also lead to soil erosion.

6.4 Illegal Miners and Licenced Mining Companies

As I was carrying out my field work I realised that there was a contentious issue among the A1 farmers as to who was the main culprit behind the land degradation on the two farms, illegal miners or LMCs. From the perspective of the A1 farmers, and the evidence supports this, farming is not the major cause of land degradation in the area, leaving the primary focus on mining. On this issue, the people of Selukwe peak and Adare farms were divided into two groupings, those who blamed illegal miners and those who blamed LMCs. Although both types of miners are looking for and extracting the same minerals, the way they carry out their activities differ greatly, though the overall end result (land degradation) is the same. A significant number of villagers raised concerns about the destruction caused by LMCs and several appeared to be emotional about the issue and largely blamed LMCs for all the land degradation that has taken place in the area. Through observation, however, I discovered that both LMCs and illegal miners are causing land degradation on a large scale despite the different equipment that they use.

6.4.1 Circumstances surrounding Legal Mining Companies (LMCs) and Land Degradation

Illegal miners have been shown to be behind much of the land degradation in Selukwe peak and Adare farm. However, as I was undertaking my research, I was compelled by the evidence to consider the possibility that LMCs were more heavily responsible for the degradation. Many A1 farmers believed so, as did the officer from the Ministry of Lands, who said:

'It is debatable as to who is causing land degradation more, the illegal miners or the mining companies. In as much as the Illegal miners disturb land, companies destroy more ground and disturb the environment on a larger scale. Illegal miners are better because they do not possess the heavy machinery that are used to open bigger ground'. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

The major mining companies in the area include Unkie Mine and ZIMASCO. There are also some individual licenced miners who own smaller mines in the two areas. The major difference between the LMCs and illegal miners is in the equipment that they use to mine. Illegal miners do not possess heavy machinery such as excavators, as indicated previously. They use metal detectors, picks and shovels which do not cover much ground, as they require the use of human strength. With their heavy mining machinery, the LMCs can literally clear an entire area (see earlier), and at considerable speed, only then to abandon an area once mined and move onto another area. In this respect, Photo 6.7 shows an example of the large area covered and cleared by these mining companies.

Picture 6.7: Mining Activity of a LMC



Source: Fieldwork.

Most of the companies mining on the two farms are from outside Shurugwi, with some having international ownership. The companies exist for making profit, which they seem to pursue in the Shurugwi area at almost any and all costs to the local people, their environment and their livelihoods. These LMCs even carry out mining activities in places that the villagers

consider to be sacred including springs, rivers and mountains. This is certainly the case with the Indian mining company discussed previously, a company which is infamous in the area for mining in the Mutevekwi River. As with the other LMCs in Shurugwi, the villagers had no influence or power whatsoever to stop this mining company's mining activities, as they were informed that the company had obtained a special mining license that allowed them to mine in the river.

The villagers were afraid to go to the site and confront this Indian company directly. One male respondent from Selukwe peak pointed out that he was nearly shot when he went to where the company owners and employees were camping. When I passed by the company's camping quarters, I could see that the owners were hostile and unapproachable, unless you were employed there. There were also guards guarding the place. Like me, the villagers had no option but to watch from a distance the company continuing with its mining activities in the rivers. At the site where they are mining, excavators had already made roads by the riverbanks and had put sand in the river to redirect the water as the company mines. I observed that the destruction was massive and most visible in terms of the large-scale cutting down of trees. Overall, the level of destruction showed the company's detachment to the place and its history as well as the meaning of the river to the people. The current condition of the river was literally leaving many villagers in an emotional state as they watched their river shrink before their eyes.

The A1 villagers seem to argue that the Chinese mining companies are the most notorious in the area for not closing up where they have mined and leaving the land degraded. I was shown a pile of sand that a Chinese company left in the middle of villagers' fields. The Selukwe farm chairperson provided the background to all this, and seemingly implicated the EMA in the official processes taking place:

'Companies are granted a special licence at which they defend themselves that they want to uplift the country. This special license allows them to mine in places that should not be mined such as in rivers or game parks. These special licences are not for everyone, only for those with money and the capacity to pay. The companies or the individuals will usually be connected at the top in the government and us at the provincial or district level cannot do anything about it. We are afraid and have fear of the unknown. We do not know who is connected to this person and we are not confident to go to the companies and even the people from EMA are also afraid. We know how to implement policies but we have the discrepancies and hindrances that we face in trying to implement these'. (In-

depth interview held with the Selukwe peak farm chairperson in Shurugwi town, May 2021.)

Corruption and nepotism are widespread within the Zimbabwean government, with the mining sector being central to this. The awarding of licenses to LMCs is a dubious process involving access to political connections and powerful figures within the Zimbabwean state, who may in fact have shares in the LMCs. This makes their presence within Shurugwi difficult to counter by the A1 villagers, yet the farmers watch these companies mine unsustainably and deepening land degradation in the process. This is not to suggest that LMCs are not expected to be guided by the relevant mining laws and regulations including in relation to the natural environment. In fact, they enter into an agreement with EMA about their environmental management plans, including on how they plan to reclaim and restore the land after mining. However, as shown, these companies are not reclaiming the land after mining a particular area.

One A1 farmer in Adare farm expressed disappointment about what is taking place by pointing fingers at the EMA officials, as part of the wider corruption networks existing in government:

'Although the companies have an agreement signed on paper between them and EMA, it is usually followed theoretically on paper only. There is no total adherence to the environmental management programme. The companies also bribe the people from EMA leaving some of them going scot-free. Even if they get a penalty they are able to pay to EMA as they usually can afford to'. (FDG held in Adare farm, May 2021.)

The existence of corruption between LMCs and EMA makes it easier for the mining companies to carry out unsustainable mining practices without government oversight and sanction. This is devastating not only for the land but also for the A1 farmers themselves, considering the large-scale disruption taking place. It even irks the illegal miners, who recognise the land degradation practices they (the miners) pursue. One illegal miner offered a lengthy criticism of the LMCs and their linkages to government:

'Companies are causing land degradation on a large scale in our area. We are mining in our homes and fields but these companies are mining in our forests on a large scale and they are not bringing any benefits to us the community. For instance Goddard, he has been taking and taking ever since he began mining here. As long as the companies produce papers there is nothing that we can say as a community against that company. In addition if companies want to mine in your field, because of the power they possess,

they go to the government and use the government's power to remove you from your field. There is nothing we can do about that because we do not know the law and they would have come from the government'. (In-depth interview with illegal miner from Selukwe peak, June 2021.)

All these sentiments about the LMCs showed the vulnerability of the villagers, as the companies continue to degrade land.

6.4.2 Circumstances surrounding Illegal Miners and Land Degradation

The circumstances surrounding illegal miners are quite different from the LMCs in the two A1 farms. Illegal miners do not have mining licences, the right equipment for mining and designated mining places, and they lack adequate knowledge on carrying out sustainable mining. They have different reasons for carrying out mining, but certainly they are looking for a means of survival in the context of minimum formal employment prospects.

As they do not have adequate financial means to acquire mining equipment, illegal miners use picks and shovels to mine. They depend on using their manual labour to dig pits in search of gold. The pits are quite deep and very narrow, usually square-shaped with all sides of the square roughly measuring one metre. The pits are about 60 metres deep underground or even, with a photo of a pit appearing in Photo 6.8. The miners dig steps on one side of the pit so that they will be able to get into the shaft of the mines. If a particular place is believed to have plenty of gold, there will be many pits in the area. Illegal miners mine in their own fields, in surrounding mountains and also beneath the *Boterekwa* road.

Picture 6.8: Pit Dug by Illegal Miners



Source: Fieldwork.

I was fortunate enough to see the areas where illegal miners carried out their activities. The mountains where they mine are full of gullies and open pits. However, there is a major difference between areas that are mined by illegal miners and LMCs. I observed that illegal miners only disturb places where they want to dig pits. They do not destroy trees and vegetation on a large scale and their activities are not seen from afar unless someone takes a walk up close. Most of the pits are seen nearby as one walks so that, if one is not careful and does not pay attention to their surroundings, they are likely to fall into an open pit. This is different to the places that LMCs mine, as their activities are easily noticeable even kilometres away. The effects of illegal mining on land degradation, for instance on deforestation, is only witnessed after a period of time. Photo 6.9 shows one of the areas where illegal miners constantly practice their mining activities. As can be seen in the photo, the illegal miners only cut trees in the space where they are mining.

Picture 6.9: Typical Illegal Mining Site



Source: Fieldwork.

Although illegal miners do not cause drastic deforestation as do the LMCs, their activities are spread all over Shurugwi inclusive of the two A1 farms. For this reason, if there is an awareness of their activities on multiple sites simultaneously throughout the area, then their effects will likely be seen as quite extensive. Hence, as one interviewee pointed out:

‘Illegal miners cause land degradation on a larger scale as compared to companies because illegal miners mine all over the place. There is no place that is not affected in the two farms, be it in fields, mountains and forests’. (In-depth interview with A1 farmer from Selukwe peak, May 2021.)

This makes the impact of their activities to be felt everywhere in Selukwe peak and Adare farm. The EMA official was of the opinion that illegal miners’ impact on land degradation was more significant than that of licenced mining companies:

‘Illegal companies are causing more land degradation than mining companies. Illegal miners, even as we speak, are spread out in these forests mining. Mining companies do not cause land degradation to the extent that the illegal miners do. We have no problem with Goddard as he reclaims land once he has finished mining. Companies reclaim the land as compared to illegal miners who do not reclaim the land. There are so many open pits lying around in the two farms. In addition, the rivers are silted because illegal miners carry most of their activities in rivers as compared to companies.’ (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

Perhaps unsurprisingly, the EMA official was though reluctant to discuss with me the Indian company which was mining in the Mutevekwu River. He portrayed as if he had no knowledge that there was a company that was mining in Mutevekwu River.

In order to have a deeper understanding of the character and rate of land degradation in the two A1 farms, I met up with one A2 Selukwe peak farmer. He argued that it was mainly the illegal miners who were causing land degradation in the two A1 farms, claiming that:

‘Companies are not causing land degradation. It is the illegal miners who are contributing the most. When I came here, there were miners who were in an uncontrolled environment and they practiced illegal mining. The coming in of many LMCs means that we are now moving to an environment that can now be controlled’. (In-depth interview held with an A2 farmer in Selukwe peak, August 2021.)

His point of view was guided by the property theory, that is, if a person has tenure and owns property, then it will become mandatory for that person to protect his or her property:

‘Land degradation through mining can only be stopped when many areas become licenced and are given to licenced individuals and companies. Illegal miners do not reclaim the land because they do not own the forest and the mountains. Legal companies lead to organisation in the area as they come with mechanisation and security that helps

in protecting the land. These companies own huge areas of land and they are obligated to protect and reclaim this land. They bring sanity compared to illegal miners.’ (In-depth interview held with an A2 farmer in Selukwe peak, August 2021.)

When I told him that the local people were blaming the LMCs such as Goddard of causing land degradation, he argued that the local people do not understand the scope of my research and they tend to be overdramatic. As an A2 farmer, and occupying a class position above that of the A1 farmers in the agrarian class structure of Zimbabwe, his perspective is also not surprising. According to him,

‘We are growing into a system that is organised. Organisation will lessen land degradation as LMCs will be limited to mining in their designated mining areas only. Goddard is my neighbour and I had an agreement with him that permits him to mine in my land. He promised that once he is done, he will reclaim my land’. (In-depth interview held with an A2 farmer in Selukwe peak, August 2021.)

He strongly believes that LMCs are bringing order to the area unlike the disorder that illegal miners bring. He reiterated the sentiments of some of the villagers that illegal miners were active everywhere including even in the mines of the LMCs.

Illegal miners do use unsustainable mining methods such as setting veld fires and mining in rivers. In addition, they are not licenced and guided by the law, and they do not seek to live up to any of the responsibilities and obligations that are place on the LMCs when mining. This means that illegal miners are not required to reclaim land, as they are not recognised as such by the state; further, they normally just run away from the law and EMA officials. One respondent supported this perspective when he stated that:

‘I believe it is the illegal miners who are leading to land degradation the most. LMCs are better as they believe in engagement with government authorities such as EMA. This is a different scenario with illegal miners whom you cannot even engage with because they are already illegal’. (Informal Conversation held with A1 farmer in Adare farm, August 2021.)

These are the general sentiments of some of the A1 farmers who believe strongly that it is the illegal miners who are causing land degradation in the two A1 farms. Illegal miners cannot be held accountable like LMCs as they are not registered. These respondents argued that illegal miners should be removed, leaving only LMCs who would be controlled as they were bound by the law to reclaim land.

The evidence on the ground, based on the fieldwork, clearly shows that both types of mining (reef and alluvial) and both kinds of miners (legal mining companies and illegal miners) engage in a range of practices facilitating and configuring land degradation in Shurugwi. Although the LMCs are monitored officially and guided by law, there are many shortfalls and ambiguities in the way the law is carried out, such that in many instances they act in ways (for example, not restoring land) about which they are critical when carried out by illegal miners. There will be scores of large pits and swathes of deforested land left behind after the LMCs leave the two farms. Their detached stance vis-à-vis the local villagers is quite alarming. For example, when I visited one LMC, the employees were using a road that had a collapsed bridge that resulted from the mining activities being executed there. When I asked why they cannot invest in building the bridge for themselves and for the community, one of the workers gave a statement that illustrated the detachment that most of these companies have regarding the two farms. He pointed out that,

'Ko isu tinovaka bridge kuti toritakura kuenda naro patinoenda here'. ['Why would we build a bridge here; it is not as if we will carry the bridge with us when we leave']. (In-depth interview held with the mining company agent in June 2021).

It is an issue about which they show no emphatic concern.

Undoubtedly, the granting of special licences to these LMCs has worsened the situation as some of the companies are now mining in protected areas that are sacred to many local villagers. But, this is no different than what the illegal miners tend to do. The illegal miners are also not reclaiming land and they are destroying forests and vegetation through their use of veld fires. In the end, all mining undertaken on or near Selukwe peak and Adare farm is undertaken in ways which place land-use sustainability at the back of the queue in terms of priorities. The A1 farmers are suffering because of this presently and they will continue to do so in the future, if the situation does not dramatically change.

6.5 Conclusion

Chapter 5 highlighted the livelihood strategies being practiced in the two villages and demonstrated their linkage to land. This chapter then went on to show how these livelihood strategies were the major causes of land degradation in the two A1 farms. The livelihood strategies of the villagers have altered the land use and land cover in the two farms. Changes which can be comprehended as morphogenesis (as pointed by Archer) have been shown in land cover with the two farms now widely covered in open pits and sub-soils. Villagers, through their own narratives managed to highlight the changes that had taken place to vegetation cover,

with deforestation being a major challenge. The major causes of land degradation which were identified, included farming, mining, and livestock production with a significant respondents in agreement that it was their livelihoods that were to blame for land degradation. In as much as natural causes such as climate change are also leading to land degradation, their impact is quite so low. It is anthropogenic causes that are largely to blame for the changes in land productivity, with mining being revealed to be the major cause behind land degradation. Although the people are quite aware of the implications that mining is having on land, the villagers are reluctant to stop.

Chapter 7: Antagonistic Relationships between Livelihood Strategies and Land Degradation in Selukwe Peak and Adare A1 Farms and the Ensuing Conflicts

7.1 Introduction

It is the purpose of this research to build a connection between livelihood strategies and land degradation and this is done in this chapter through different themes that emanated from the research's findings. Hence, this chapter is going to show the connection between the villagers' livelihood strategies and the land degradation that is taking place in the two A1 farms. The Chapter is divided into different themes and also the sections in the chapter have been informed by such themes. The first theme under discussion looks at the connection between livelihood strategies and how these livelihood strategies are leading to land degradation. The second theme shows how the land degradation brought about by the livelihoods strategies of the villagers are leading to conflicts in the area, conflicts that have emanated due to the livelihood strategies being implemented in the area. Four types of conflicts are comprehensively discussed as seen or discovered by the researcher during field work. These conflicts show how contentious the link between land degradation and land degradation is in these two A1 farms. The chapter proceeds to look at what the villagers are doing in order to counter the land degradation that is taking place in their area with section 7.4 looking at what the villages are doing as a way of protecting their land from further degradation. The chapter ends up by looking at institutional constraints affecting land sustainable management and enablements that promote land sustainable management.

7.2 Linking Livelihood Strategies and Land Degradation

There is a discernible relationship that exists between land degradation and the loss of rural livelihood strategies. The strong ties that exist between land, rural people and their livelihoods means that any disturbance to the land directly and indirectly affects these livelihood strategies and, in turn, rural food security (Miththapala 2008). Certainly, in the case of the two A1 farms studied, the pronounced land degradation taking place is having negative effects on the villagers' livelihood strategies. Although it is the people's livelihood strategies that are often fomenting land degradation (through both mining and agricultural activities), ironically these livelihood strategies are now in turn impacted by land degradation. As highlighted in earlier discussions, the need for survival is making the villagers to continue practicing livelihood strategies which are not sustainable, with mining being of major significance in this respect.

The consequences of such practices (i.e. land degradation) are now affecting the lives of the villagers. In this context, this section examines the mutual relationships that exist between livelihood strategies and land degradation, an interaction which is deeply troublesome.

Land degradation affects those communities whose livelihoods depend on land resources, and the type of economic activity pursued in rural communities has either positive or negative implications for land and its capacity to bear and sustain livelihoods (Limeneh 2004, in Gashu and Muchie 2018). Currently, there is a vicious (negative-reinforcing) cycle between the livelihood strategies of Selukwe peak and Adare villagers and land degradation. The cycle continues unabated because of the outright dependence of villagers on the land, with the productivity of local land on an on-going downward slope. At present, there are no viable alternatives to agriculture and mining, and little if any incentives to engage in these activities in ways which reverse or at least halt the land degradation process.

A significant number of respondents knew that their livelihoods were being affected by land degradation, and that their livelihoods were directly involved in intensifying land degradation processes. In as much as the local villagers are fully aware of all this, they are not able to put a stop to their own land-degradation inducing activities as these are their very means of survival. Further, they cannot halt the activities of the non-locals engaging in land degradation processes (particularly, miners) as they lack the power and control to do so. As the Zimbabwe Environmental Law Association (ZELA) notes, rural communities are not involved in the governance of local resources because of the application of the Mines and Minerals Act. Local villagers are also pushed to continue practicing unsustainable livelihood strategies because they will be competing with the non-locals whom they accuse of stealing their resources.

This makes it seem as if the A1 farmers at Selukwe Peak and Adare are not concerned of the long-term effects of land degradation on their livelihoods. According to the Ministry of Lands official,

'Mining has serious consequences both on the environment and the people themselves. Currently, the effects of land degradation are taken as minor but people do not realise that its effects are major especially in the long run. People are more into improving their livelihood in a short time and are not worried about how that livelihood may affect them in the long run'. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

I however, realised, that this was not the full story, as the local villagers were deeply concerned about how their livelihoods were now being affected by on-going land degradation. Regrettably, though, they are caught up in also trying to benefit from their resources before these resources are depleted by non-locals. The villagers know that gold is a finite resource, hence they feel an intense and immediate need to benefit from it before the non-locals exhaust it. In addition, they believe that even though they may begin to start practicing their activities in a sustainable manner, this would be of no use to them if the non-locals were to continue being unsustainable in carrying out their activities. In as much as there are such issues on the two farms that is contributing to the vicious cycle between livelihood strategies and land degradation, it is the local A1 villagers in the end who are left experiencing the long-term consequences of land degradation for their livelihoods. Notably, the non-locals take the minerals out and do not experience any consequences in terms of the damage they leave behind.

7.2.1 Effects on Crop Farming

As the major livelihood strategy of the villagers in Selukwe peak and Adare farm, crop farming has suffered due to land degradation. The unsustainable farming practices carried out by the villagers, such as failure to dig contour ridges, is contributing to soil degradation which leads to a drop in crop production and crop yields. People who carry out crop farming are greatly affected if soil productivity is reduced as any disturbance to the soil is likely to affect food production (Lal 1989). Depending on soil and climatic conditions, erosion may cause slight yield reductions or lead to a complete crop failure. Soil erosion affects soil depth which in turn affects yields and output in upcoming years, and this has knock-on effects for rural household income and welfare (Holden and Shiferaw 2004).

Fields in Selukwe peak and Adare farms are both affected by soil erosion, with Adare farm experiencing more severe soil erosion than Selukwe peak. This is because of the lack of a contour ridge protecting Adare's A1 farm, with villagers' fields lying beneath a mountain which has led to rain flowing straight from the mountain into the fields and washing away the soil. There is also no storm drain to direct the water to the river so the water ends up accumulating and lying still in some fields. The fertile top soil, which contains nutrients and organic matter, is being continuously washed away – making the soil less and less productive. This has reduced the yields of the villagers, though only an insignificant number of respondents attested to that. Although most villagers are not yet seeing the major consequences of soil erosion, if they continue practicing unsustainable farming methods, their soils are going to continue degrading, leading to a major problem regarding cropping capacities of the land.

The villagers also do not practice shifting cultivation which leads to most of them cultivating all the area in their fields every year. This has led to excessive tillage in most fields, a situation which loosens the soil and results in soil erosion and degradation. The mass cutting down of trees when the farmers were clearing their fields initially, also left the soil bare and loose. In this respect, instead of following the tradition of leaving all fruit trees in the fields, most villagers cut these down leaving only one or two trees in their fields.

The villagers of Selukwe peak and Adare farms did not express any great concern about soil erosion because land being used by the villagers, notably at Selukwe peak, had been virgin land and remained fertile many years later. A level of concern existed at Adare farm in that the Adare farm land, prior to fast track, had been used by the former white owner. However, the land still had fertility as the previous white farmer practiced soil and water conservation practices. This protected the land from soil erosion and soil infertility making the land to still exhibit some fertility. This is despite the problems arising from the lack of a contour ridge along the base of the mountain. Certainly, the fertility of the soil at Adare is still more fertile compared to nearby communal lands.

The possibility of soil fertility declining over time, though, made the villagers (at both A1 farms) to be deeply worried about the effects of land degradation arising because of the illegal miners in their fields. A significant number of respondents complained about the open pits that are in their fields and the presence of sub-soil at the top of the ground) in other field-areas. Selukwe peak farm is literally pockmarked with open pits, with some A1 fields affected more than others. Some of these pits were already there before the fast track villagers moved onto the farm, demonstrating that there were some illegal miners in the area before fast track, though there were few. The villagers (and others) continued the trend and dug more pits as they searched for gold in their fields. The fact that non-local illegal miners forcefully enter into villagers' fields and mine for gold magnifies the problem. Selukwe peak is the most affected as their fields are separated and individually closed off, as compared to Adare farm where the fields are all in one central place. The closed off fields make it easier for both the owner of the field and the non-local illegal miner to mine without being easily noticed by anyone. The open pits in the fields are also reducing the farm area meant for crop production.

Undoubtedly, open pits (and mounds of sand) left after mining activities result in loss of aesthetic value of landscape (Ncube-Phiri et al. 2015). But, in terms of land and livelihoods, these pits have further loosened the soil in the fields and are increasing soil erosion. Mining in the fields has led to loss of top soil, as those mining leave sub-soil on the top. Compared to top soil, this sub-soil is less fertile and affects crop productivity and reduces crop yields. It lacks

nutrients and organic matter that is found in top soil and thus it requires measures that will increase productivity. These fields are in danger of becoming rocky outposts due to continuous digging of pits and trenches for mining activities, as the soil dug up from the pits is usually quite rocky.

Irrigated lands have also been affected due to land degradation in both Selukwe peak and Adare farm. Rivers used for irrigations schemes, as siltation caused mostly by illegal mining has led to most of the local rivers being no longer perennial rivers. Many villagers initially placed their gardens near water sources such as rivers as they would be depending upon the available water during all seasons. However, this is no longer the case as the rivers are usually dry soon after the end of the rainy season. The drying up of rivers and the closure of irrigation schemes leave villagers vulnerable in terms of the ability to grow crops.

The LMCs are contributing to this challenge, as they mining in rivers. An example cited earlier is that of the Mutevekwu River, with the activities of the particular LMC hindering the flow of the water in the river and thereby undercutting water sources for villagers' crop farming. When LMCs are granted a mining claim, they tend to mark off the area and make it out of bounds for local villagers and enforce this by using armed guards. Villagers place gardens near the river but these gardens are removed and destroyed by the mining company. In addition, the roads constructed by the LMCs may crisscross the people's fields which are near the area taken over by the company. The fields are no longer accessible to the owners as they have been converted into roads for the company's bulldozers.

I observed that there was a garden that had been placed a few metres away from a particular mining company's activities. I was informed that the garden belonged to a woman who had her garden destroyed by the company and she had decided to place the garden further from the LMC's activities but still near the river. This was an act of desperation for a livelihood that was crucial to the woman. I also observed that the fields near the Mutevekwu River had both shallow and deep pits all over them. The shallow pits showed that they had been dug by people who had been sand poaching. The deep pits were the ones dug by illegal miners. All these pits ended up decimating the fields of A1 farmers, leaving most areas of the fields no longer arable. I realised that the utilisation of the area under plough in most fields in the two farms is constantly being reduced further due to open pits, roads being built near rivers and soil erosion.

Though this has exasperated the villagers, it has also meant that they have had to put more effort into their crop farming to ensure some level of food security. In effect, that degraded land requires more work for the villagers including in order to restore the soil's

fertility. More labour, income and inputs are required if the soil is to retain its current level of (lowered) fertility let alone to increase it. For instance, the presence of sub-soils in some parts of the fields has meant that there is more effort needed to reclaim the land and bring back the fertile top-soil back. The villagers are already facing additional costs as a way of replenishing soil nutrients that are being lost. A significant number of respondents pointed out that they were now using chemical fertilisers, with one A1 farmer indicating that he is using about eight bags for one hectare. The increase in the use of chemical fertilisers is a sign of loss of soil productivity through processes such as soil erosion. Further, the villagers are spending time trying to close up open pits in their fields – however, this is time consuming and laborious, hence explaining why only a few villagers have reclaimed land in their fields.

All these negative effects of land degradation have somehow affected crop production and crop yields of the villagers. The villagers are yet to notice a significant drop in household wellbeing mainly because of the presence of an alternative livelihood strategy (i.e. mining) that many villagers on the two farms are practicing. Mining as a livelihood activity covers and compensates for any shortfalls from crop farming. It is only those who are strictly farmers, and have not ventured into mining, who are feeling the full brunt of the losses from crop-based agriculture. However, if land degradation continues without serious measures around land sustainability being undertaken, food insecurity may soon be prevalent on the two A1 farms and will affect even those households presently diversified into mining. This is because the yields from crop farming will continue to decrease because of ongoing land degradation and mining will not be able to offer a sufficient basis for compensating for these decreases. Further, mining is only a temporary livelihood strategy which will end sooner or later and, when it does, the villagers will have to resort to depending on farming only. It is only then that they will realise clearly the huge challenges facing their fields (and thereby livelihoods) due to land degradation.

7.2.2 Effects on Livestock Production

A significant number of respondents on both farms practiced livestock production with almost every household having some cattle. Because of the significance of cattle amongst small-scale farmers in Zimbabwe as a measure of wealth and for ploughing, milk and meat, their loss is felt more deeply as compared to other livestock. On the two A1 farms, owning many cattle separates a farmer from those with no or little cattle as it adds status to the owner. Hence, protecting and maintaining their cattle holding is of paramount importance. However, cattle are facing a major threat on the two farms that have put the villagers in despair. The open shafts

and pits being left by miners in Selukwe peak and Adare are quite deep and narrow, making them to be quite dangerous to livestock such as cattle. One A1 respondent claimed:

‘Mining activities are carried out mainly in the mountains which are also the designated grazing areas of the villagers. It is in the mountainous areas where one finds mining claims of companies such as Zimasco, Goddard and small scale miners. These miners are not fencing off their activities and this becomes a trap to the domesticated animals and villagers’. (Questionnaire in Adare farm, May 2021.)

What makes these pits particularly dangerous is that over time they become surrounded by grass and, therefore, they become invisible for both livestock and people. I noticed as well that the pits dug by illegal alluvial miners posed more danger to the animals compared to those dug by LMCs. Those dug by illegal miners are not only narrow and deep, but they are dug in-between trees and grass; in contrast, LMCs clear large areas so that any pits can be easily spotted. Photo 7.1 shows the narrowness of the pits dug by illegal miners and the difficulty in seeing these pits. According to one respondent:

‘When you cannot find your cattle, you will know that it has fallen into these pits. If it does not have a bell, you may never find it. You will only know once there are flies and someone notices them and then tell you’ (Questionnaire held in Selukwe peak farm, May 2021.)

Picture 7.1: An Open Pit left by Illegal Miner



Source: Fieldwork.

The villagers are now reluctant to let their cattle wander far away from home into the mountainous and other grazing areas as they are afraid that they will fall into pits. This is detrimental to the health of the cattle as the cattle can no longer access green pastures. As well, there is a shortage of pastures in the grazing areas due to the activities of the illegal miners. The burning of grass by the illegal miners in order for them to use their gold detectors limits the grazing lands available; and, as Ncube-Phiri et al. (2015) note, veld fires cause widespread damage to the environment leaving cattle with little or nothing to feed on. Most of the time, cattle are left with less than adequate grazing land thereby affecting the possibility of healthy cattle production on the two farms. The presence of many polluted drinking river sources on Selukwe peak and Adare are adding to the troubles for the cattle, with villagers suffering the loss of cattle due to water pollution caused by LMCs. All these effects of land degradation undercut the quantity and quality of cattle production on the two farms, with drastic consequences for the future in terms of the importance of cattle as a source of ploughing, meat and milk.

7.2.3 Effects of Water Degradation on Livelihoods

Water degradation is quite extensive in magnitude in both Selukwe peak and Adare farms. Both of the two farms depend on rivers like Mutevekwu River, and water is connected to almost all of the activities that are carried out by the villagers. Major uses of water on the two farms include for domestic uses, for drinking by both the people and livestock, for irrigation (for crops) and for alluvial mining. Any negative effect to water sources has implications for all of these uses. While mining activities use water, these activities in turn are the major cause of local water degradation. The Ministry of Lands Official summarises this when he says,

‘Gold is a finite resource, rinopera and kana rapera tinenge tisisina rwizi, tisisina irrigation, mvura isingachanayi uye kuisina vegetation’. [‘Gold is a finite resource and, when it is no longer there, we will no longer be having rivers, [and] no irrigation schemes; we will be having less rainfall and less vegetation’]. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

The villagers are experiencing acutely the negative effects of water degradation in relation to their livelihoods. Ironically, it is the water uses that are most affecting the water in local rivers. River siltation is taking place in rivers such as Mutevekwu and Matimba River with most rivers now non-perennial. Gold mining processes in rivers and surrounding areas discharge large amounts of loose silt and heavy metals into the river system, leading to river

siltation and pollution. Livestock such as cattle are subjected to water pollution due to mercury and cyanide, and the villagers no longer feel secure to let their cattle drink river water (as they are afraid that their cattle will die which will lead to huge losses for their household). One male A1 farmer reflected briefly on the future in this context:

‘Siltation is being caused by alluvial mining and it is disturbing the water, and we will be left with no water soon. Where will we get water if our rivers run dry?’

Non-perennial rivers has reduced the extent of villagers’ gardens and irrigation schemes, and drinking water sources especially for livestock have dried up. One female respondent from Selukwe peak stated that:

‘Takushandisa mvura yemufuku nekuti nzizi dzinenge dzapwa. Tikutambura mvura, hatichina pekunwa mvura kuda kana tikawana zvibhorani’. [‘We are now using dry riverbed water (*mvura yemumufuku*)¹ for drinking because the rivers would have gone dry. We are facing challenges in getting drinking water, maybe it will improve if we get more boreholes in the area’]. (Questionnaire in Selukwe peak, May 2021.)

Another A1 farmer, in terms of irrigation schemes, highlighted that there were schemes that were no longer functional as the rivers were drying up. As she stated:

‘In Adare farm, gold was found near the irrigation and this disturbed the irrigation as the river ended up being silted. People concentrated more on mining and neglected the irrigation’. (FDG held in Adare farm, May 2021.)

People are prioritising mining, which is temporary, at the expense of more sustainable livelihood strategies such as irrigated crop-farming. One elderly respondent during an in-depth interview made this very clear:

‘Mining is temporary but it appears as if most people here have forgotten’. (In-depth interview held with an elder in Selukwe peak, June 2021.)

The privileging of mining is contributing to water degradation on an ongoing basis and to such an extent that, in the medium-term future, the two farms may no longer be conducive for practicing crop or livestock production.

¹ Dry riverbed water is water found in dry riverbeds whereby people will hand dig shallow wells in the dry riverbeds in order to get water.

7.2.4 Loss of Natural Resources

Lastly, I consider the effects of mining on the natural environment in Shurugwi. The villagers have lost and continue to lose access to natural resources such as trees, grass, soil, rivers and mountains. Wildlife has also become quite scarce in the area. There used to be animals such as leopards, which led to one local area being called *Mbada*, the Shona name for leopards. Currently, it is quite rare to see leopards as they have been chased away by the increase in population on the two farms and all the human activities in the forests and mountains. The only wild animals left are baboons and monkeys. The coming of miners from outside the area also led, at the same time, to an uptake in hunting of wild animals for food. The area is also suffering a loss in minerals; if mined under alternative conditions than the current ones, and in a way which empowered the A1 farmers, the mineral wealth could enhance socio-economic development in the area. One farmer had this to say:

‘Mugomo mava nemhazha nekuda kwemining. Goddard apedza uye kushakadza gomo iro’. [‘The mountains are now bare as most trees have been cut. Goddard has mined dry that mountain’]. (In-depth interview held with an A1 farmer in Selukwe peak, May 2021.)

The natural resources in Selukwe peak and Adare farm simply are not benefiting the locals but are being extracted in large quantities by the outsider mining companies. This has frustrated the villagers as they believe that these are their resources and they are meant to be for them and the coming generations. With the rate that gold is being mined and extracted, there is a high probability that the generations to come will be left with no gold in the ground. One A1 farmer lamented this:

‘The mining companies such as Goddard continue mining. It is never enough for them up until they have exhausted the minerals in the area. (Questionnaire, Selukwe peak, May 2021.)

This goes contrary to what local people desire and expect, as the Selukwe peak farm chairperson put it:

‘Minerals in Shurugwi are our resources and they should benefit us as the owners of the land and our communities. If an investor comes into our area they should recognise the owner, who are us’. (In-depth interview held with Selukwe peak Farm chairperson, May 2021.)

Once the LMCs have their mines pegged off, locals are no longer allowed entry into these areas as they are considered to be trespassing. There is no consideration that the LMCs

are in fact, from the perspective of local villagers, unwanted occupants of their forests and mountains. Although these areas are lawfully considered as state land, the forests and mountains contribute to the lives of the villagers. The villagers depend on these natural resources for their day-to-day survival and any outside intrusion and extensive disturbance to these resources minimises their capacity to construct land-based livelihoods. One A1 farmer thus highlighted that:

'There are so many licenced miners who have been placed in the mountains and they are just taking and taking. We do not even know where they are coming from; we only know of their names such as Chris, Sam, Stoddard, Goddard, Fambai. We are now eating dust due to their mining operations that are causing air pollution. They are always blasting stones with their heavy machinery that the area is now noisy and some of our houses are cracking. We do not sleep because of the noises emanating from the hammer mills and bore mills. We as a community are not benefitting from these licenced miners and companies. Currently there is a man called Sibanda who is destroying one of our mountains and we do not where he came from'. (In-depth interview held with an A1 farmer in Selukwe peak, May 2021.)

Mining and its noise has chased away most of the wild animals, and the health of the villagers is compromised by the air and water pollution. One elderly female respondent even pointed out that the weather itself was changing due to the destruction of local natural resources such as trees and grass:

'Maimbova nemiti yakawanda munomu asi yava mishoma uye izvezvi mhepo yakuita kuno yakutysia, dzimba dzakuwa'. [‘There used to be many trees before but now the trees are few. The area has now also become too windy and houses are falling’]. (Life history interview held with elder in Adare farm, June 2021.)

Human activities, mainly mining, are leading to deforestation, veld fires, and river siltation and this is exacerbating climate change and bringing about noticeable and unwelcome changes to local weather patterns. Selukwe peak and Adare farm are placed in a region that used to receive good rains; however, this is changing as the area becomes more arid. At the same time, unsustainable human practices are depleting the natural resources and combining with climate change to inhibit the prospects (in the future) of crop production alongside the presence of natural resources in abundance. Overall, the A1 villagers depend on land as a

provider of food for their households but this is becoming increasingly problematic as the natural resource base is under strain. According to one respondent:

‘Chinondirwadza hatina kumboita nzara asi nzara yakuuya nekudisturbiwa kukuitwa zvinhu. Takusvika nguva yekushaya mvura mumarwizi nematsime uye mvura yakuchinja kunaya kwayo’. [‘It pains me that we never used to have hunger in our area but hunger is now here because of the disturbances that we are now experiencing. We are now facing water shortages as we sometimes do not have water in our rivers and wells. It also used to rain frequently but now the rain is unpredictable’]. (FDG held in Selukwe peak, May 2021.)

Some of the villagers in fact believe that the destruction of their natural resources is contributing to climate change as they link the changes in weather patterns to the beginning of land degradation.

Again, mining comes to the fore when issues such as these arise in conversations in Shurugwi. The EMA official during an in-depth interview cited the impacts on the villagers that are being brought about by mining when he said:

‘Mining is also causing social impacts in our community. Whenever there is mechanised mining it means opening up of roads, destruction of trees, dust causing pollution, noise and siltation of rivers. It also means that many people will come to the area and there will be many people residing in one place. This increases diseases such as HIV/AIDS, TB and sexually transmitted diseases’. (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

There were only a few villagers who were of the view that LMCs had brought any benefits to the two A1 farms. Local support seemed to come from the – comparatively speaking – prosperous A2 farmers who benefited more fully from fast track. During an in-depth interview, one of the A2 farmers spoke about how he supported the presence of mining companies as they brought development to the area:

‘Development cannot be brought only by resettlement and communal farmers. We need companies because they bring development, employment and improvement in infrastructure. For instance, Goddard connected a power line all the way from town to his place bringing electricity nearer to the people. LMCs are usually capable organisations that can bring about development in the area. Companies bring security and this may in the long run lessen crimes in the area. Goddard has security that patrol

around his area that chases illegal miners and this minimises damage to the environment as the illegal miners will not be able to enter into fenced and secured areas and mine’.
(In-depth interview held with an A2 farmer in Selukwe peak, August 2021.)

Admittedly, some of the mining companies such as Unkie have managed to assist the A1 farmers in certain respects. For instance, Unkie mine built houses for some of the villagers, put in a windmill and constructed boreholes in Adare farm which the villagers are currently using. In addition, it constructed a tar road that begins from the main Shurugwi-Zvishavane road going to the mine. Though the tarred road is of value to the villages, many villagers no longer view the road as a blessing. This was after a terrible accident took place on the road. A child who was coming from fetching water across the road was run over and killed by one of Unkie’s mine workers as the vehicle sped along the road. The road has many curves and requires drivers to be extra- careful when driving. Subsequent to the accident, many speed bumps were placed in the road to prevent over-speeding of drivers. However, because of the ongoing danger from speeding cars on the road, some villagers still view the road as a curse.

Overall, villagers at Selukwe peak and Adare claim that any benefits arising from the presence of LMCs in Shurugwi are far outweighed by the problems created by them, including in relation to crops, livestock, water and the natural environment. The next section examines localised conflicts (including between villagers themselves) that are taking place on the two farms in connection with the villagers’ livelihood strategies and land degradation.

7.3 Conflicts over Livelihood Strategies in Selukwe Peak and Adare Farms

Throughout the period of my research, I noticed that there were conflicts occurring on the two A1 farms that centred on land use and land cover. These clashes, spanning more than a decade, have existed since the placement of the people on the two A1 farms. The major conflict is between the Ministry of Lands and the Ministry of Mines, which intensifies the farmer-miner conflicts in Selukwe peak and Adare farm. The farmer-miner disputes, which can be traced to the colonial era (Musemwa 2009), have continued into present-day Zimbabwe and have become increasingly evident due to the massive increase in illegal mining.

7.3.1 Conflict between Ministry of Lands and Ministry of Mines

The Ministry of Lands represent the farmers while the Ministry of Mines represents the miner. The two Ministries have been in tension with each other for a long time and there is no policy harmonisation existing between the two in terms of regulations around mining and farming, both land-based activities. The conflict that exists between the two ministries makes it appear

as if they serve different governments as there is a lack of synchronisation of policies and laws that govern mining and land distribution. This has resulted in endless confusion on the two A1 farms and conflicts between the miners and farmers.

The most contentious issue is rooted in the Mines and Mineral Act, which is believed to favour mining more than farming. The Mines and Mineral Act of 1961 has been castigated for disadvantaging the farmer and calls for amendments have been made continuously – but, to date, nothing concrete has emerged. Efforts are underway, though, as the issue has been raised in Parliament from 2012 and it is regarded as an on-going process. The Centre for Natural Resource Governance (CNRG) (undated) speculates that the 1961 act is now archaic and out of sync with current events on the ground as, when it was drafted, artisanal/illegal mining was not common. The Mines and Mineral Act was drafted in 1961 when there were only white settlers and communal areas. During 1961, the act aimed at protecting white farmers from white miners who encroached into their farming lands. Direct notification by miners to farmers who privately owned land was required if a miner aimed to make a mining claim in a farmer's field. Section 38 of the Mines Act therefore states that every person who intends to prospect for minerals must give notice to the landowner or relevant authorities. Hence, in order to protect their interest, white farmers made sure that notification of interest to mine in a specific area was only given directly to those who were conducting farming under private land or running forests. Blacks residing in the then Tribal Trust lands (now communal lands) would not receive direct notification, with only the relevant local (white) authority being notified. This protected the land of white farmers as they were given the right to refuse and prevent their farms from being turned into mining areas (showing that the act was drafted to suit the old land tenure system that existed under Rhodesian colonialism).

The act does not cater for the evolution of the land tenure system into what it is now in Zimbabwe, particularly since fast track reform. More specifically, A1 resettlement farmers have been placed on state land and lack private ownership of land. The continual presence and use of the 1961 act weighs heavily in favour of the miner vis-à-vis those black farmers who reside on A1 farms (as well as in communal areas) – the land is state land. This makes A1 farmers extremely vulnerable with regard to mining and miners. In effect, the Mines and Minerals Act is catering for the needs of the miners at the expense of resettled A1 farmers as there is no legislation that governs the A1 farmer-miner relationship regarding land use.

In addition, the major problematic issue stemming from the act is that its regulations seem to supersede all other laws with reference to land where minerals are discovered, such that mining is positioned as overriding all land use activities (including farming) (Mupfumi

and Masiya 2016). This law thus grants power to the Ministry of Mines to override land activities, leading to conflict between the two ministries with the Ministry of Land usually overpowered in terms of land uses. Notably, miners are allowed to (and expected to) mine minerals underground while the surface is reserved for farmers. However, in practice, this is not always the case where minerals are discovered. Rather, the Ministry of Mines ends up taking over the land at the expense of farming villagers who then suffer the loss of their land. In this context, it has proven difficult for the miners and villagers (farmers) to share the same piece of land – farmers are almost compelled to abandon farming on their land, or it becomes exceedingly difficult to farm because of all the disturbances to the land brought about by mining, as detailed.

The lack of harmonisation of policies has gone a long way in ensuring the lack of cooperation between the two ministries, paving way for each ministry to pursue different agendas. The lack of harmony between the two ministries becomes particularly evident and prevalent on the ground in rural communities where there is both minerals and farming. Indeed, the conflict between the two ministries is witnessed at Selukwe peak and Adare farm and is affecting the villagers in multiple ways. According to the Ministry of Lands Official,

‘There is a conflict between the Ministry of Mines and the Ministry of Lands. There are always contentious issues [in communities] that are resonating from the Mines and Mineral Act versus the Lands Act’. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021).

The lack of coordination between the two ministries has contributed to arguments and confrontations over land in the two A1 farms, with villagers in Selukwe peak and Adare finding themselves at odds amongst themselves or against the mining companies. I now turn to the local conflicts that exist in the two A1 farms.

7.3.2 Conflict between Miners and Farmers

As mentioned above, the conflict between the two ministries is being played out among the villagers leading to a farmer-miner conflict. Villagers, particularly those who are strictly into farming, are in dispute with both LMCs and illegal miners who sometimes infringe onto their farming lands and start practicing mining usually by force and without consent. A significant number of A1 villagers cited that the government laws from the Ministry of Mines tend to favour the miner, where a miner would be given a claim in a farmer’s field leaving the farmer

with no choice but to comply with the miner's will. The Selukwe farming chairperson pointed out that:

'There is a strong conflict between miners and farmers. Miners do not consider us farmers as important and they have caused serious land degradation in our area. Government should recognise the farmer because, for one to be a miner or a pilot, it is all about food. Without food you cannot be anything; the clothes we wear even comes from the soil. Therefore the farmer should be recognised'. (In-depth interview held with the Selukwe farm chairperson, May 2021.)

Currently, the farmers with the help of the Ministry of Lands are fighting this legal arrangement, calling for a 'farmer first choice of refusal'. The farmers claim that they should be given the right to refuse miners from entering their fields and lands, including those miners who might be coming from the top echelons of government or are well-connected with the political elite. One male respondent during an FDG in Selukwe peak farm expressed support for the farmers in this way:

'The Ministry of Lands should be given more power compared to the Ministry of Mines. The miner is always on top of us. Miners want to mine on top of the land and, after they have dug their pits, they do not close them'. (FDG held in Selukwe peak farm, May 2021.)

In this regard, the Mine and Minerals Act is being challenged at times in the day-to-day interactions between farmers and illegal miners. The law, as mentioned, gives power to the miners which leave farmers with little or no say. All farmers though are of the opinion that if a miner wants to mine in a farmer's field, the miner has to seek permission from the farmer first. If the farmer agrees, they will work together and draft an agreement on the percentage of the mining earnings that the farmer will receive. This is not, however, what happens on the ground as miners can come and peg without notifying the farmer. Such issues have resulted in endless conflicts between miners and farmers. At the same time, some officials from certain government departments seem to think that the Act facilitates order and harmony by allowing leeway for negotiations between the miner and the farmer. The Department of Mechanisation official described the process:

'If a miner wants to mine in a farmers' farm, they have to agree with the owner of the land first. After they have agreed between themselves on how much they will pay each other, then they will go to the Ministry of Lands and write it down'. (In-depth interview held with the Department of Mechanisation Official, June 2021.)

Despite this claim, it appears there is controversy on the ground as observations during fieldwork depicted a story of dissatisfaction and disgruntlement among farmers in relation to the mining operations enabled by the Act.

Another contentious issue relates to Mines and Minerals Act (1961) which states that a miner cannot make and stake a mining claim without consent unless the land is more than 100 hectares. According to Madya and Muzaza (2021), written consent of the owner or occupier is required on land that is less than 100 hectares. This should help the A1 farmers in protecting their land as their fields are far below 100 hectares, but this is having no meaningful effect. A significant number of Selukwe peak and Adare villagers are crying foul because their lands and fields are being turned into mines or being mined without their consent even though they measure less than 100 hectares. The Adare farm chairperson stated that:

‘We have villagers who are into mining and most are illegal miners and we also have licenced mining companies. We have those who mine in their fields and those who mine elsewhere. Among those, there are miners who invade other people’s fields and there is nothing you can do about it. For example, if my children happen to find minerals in my field today, tomorrow miners will be in my field and some will even go on to lay a mining claim in my field. There is nothing you can say about it because there is already a farmer-miner conflict that is still ongoing and the miner is still on top of the farmer. The current law at the mines says that mining precedes all activities on the ground. If a miner comes here with all his papers, the farmer would have lost. The Mines and Minerals Act however states that a miner cannot peg a mine that is less than 100 hectares. However, this is not happening on the ground as we are seeing a lot of farmers who are losing their land to miners. When gold is discovered in a field, the miners come and take over and, once that gold has been exhausted, the miner who was once claiming that mine disappears. (In-depth interview held with the Adare farm chairperson, May 2021.)

The LMCs were mostly mining in the farmers’ grazing lands while the illegal miners were involved in both the farmers’ fields and grazing lands. I observed that there were many farmer-miner conflicts that were taking place in the two farms and I categorised these conflicts into four groups. The first group is conflict between the farmers and illegal miners (i.e. farmer-illegal miner conflict), the second conflict is between farmers and LMCs (farmer-LMC conflict), the third is between the miners themselves (i.e. illegal miner-LMC conflict) and the last is between illegal miners themselves (i.e. illegal miner-illegal miner conflict). I examine each of these in turn.

7.3.2.1 A1 Farmer-Illegal Miner Conflict

The first conflict, which is the farmer-illegal miner conflict, is very complex as the farmers were also involved in illegal mining, making the conflict rather difficult to understand and solve. In order to understand this conflict, it is important to highlight that there were those villagers who were strictly farmers and did not practice any mining at all, although these were an insignificant number. These strictly-farming farmers are against all illegal mining, whether undertaken by the peaceful illegal miners or the brutal illegal miners. It was mentioned previously that there are two types of illegal miners in Selukwe peak and Adare farms, those who are peaceful (a term also used by Crisis Group Africa Report (2020)) and those who are brutal and violent in nature. To strictly-farming farmers, both types of illegal miners are destroying their land. The only major difference between the two types of illegal miners in terms of degrading land was the fact that peaceful illegal miners did not forcefully enter into farmers' cropping fields in order to mine there. Brutal illegal miners have a tendency of entering into farmers' fields looking for minerals and then mining without consent from the owner of the field. Because of this, the farming-only A1 farmers were more hostile to the brutal illegal miners. The councillor stated that this usually happens in Selukwe peak, as it affects the fields of A1 farmers at this farm. The Ministry of Lands official described this:

'Another conflict occurs usually between farmers and brutal illegal miners. Brutal illegal miners have a tendency of mining in the fields of other farmers usually without permission. Occasionally, the farmer and the illegal miner will agree and work on a partnership that benefits both. However, common are incidences of forced entry into someone's farm where brutal illegal miners enter into a farm and dig pits and mine there. This is so because illegal miners are bullies in nature and use brutish force and frighten the farm owner. They sometimes even mine while the landowner is sleeping'. (In-depth interview held with the councillor in Shurugwi town, May 2021.)

The EMA official concurred with this by bringing to the fore that,

'There are conflicts that happen in the community that are linked to the livelihoods of the people. There is a conflict between the brutal illegal miner and the farmer. When gold is discovered in a farmer's field, brutal illegal miners end up going into the farmers' fields sometimes without permission and using brutish force. The farmer ends up with no option but to give in and opt to be given a percentage that will come from the proceeds of the mining'. (In-depth interview held with EMA Official in Shurugwi town, May 2021.)

There were also incidences whereby these brutal illegal miners target female headed households and mine in their fields as these households are easier to steamroll over without resistance. Sometimes even if the affected villagers report to the police or to EMA, the officers may sometimes end up being bribed and teaming up with the brutal illegal miners, leaving the farmers on their own to fend for themselves. These brutal illegal miners usually come to realise that there is gold in a farmer's field by being observant of the proceedings that take place in the two A1 farms, including the farmers' fields. They can therefore easily tell if gold has been found in a particular field by the farmer him/herself. One illegal miner during an informal conversation described what takes place:

'When miners find that there is gold in a farmer's field, they sometimes enter by force. Most farmers do not have metal detectors so when they suspect that they have found gold in their farms they call other miners who have metal detectors to come and scan the area. Once these miners find gold, news will spread leading to some illegal miners want to join in mining for gold. (Informal Conversation held in Selukwe peak, June 2021.)

The farmer-miner conflict extends as well outside the farmers' fields and into community resources, including grazing lands. Both peaceful and brutal illegal miners also carry out their activities in the mountains and forests surrounding the A1 farms. The Ministry of Lands officer highlighted these conflicts:

'There are several conflicts that take place in Selukwe peak and Adare that are strongly linked to land. There is conflict in grazing areas that exist between farmers and miners. Farmers use offer letters to block miners from entering their farms but these offer letters are restricted to their fields and homesteads only. These letters are not relevant beyond their fields and homesteads where the communal grazing lands are situated. This creates a conflict whereby the miners go and mine in these communal grazing areas'. (In-depth interview held with the Ministry of Lands Official, in Shurugwi town, June 2021).

The A1 farms have undesignated land that is outside the farmers' fields, and this land is used by the farmers as grazing lands for their livestock. However, these areas, which are constituted by mountains and forests, are no longer for livestock alone as they have been encroached upon by both types of illegal miners. Illegal miners carry out their activities in the grazing lands by burning grass, cutting trees and digging deep narrow pits – all this is a danger to the livestock. As noted, this means less grass for grazing cattle as well as the loss of cattle which fall into the unseen pits.

Another conflict that often takes place between the farmers and brutal illegal miners relates to water sources. During a focus group discussion held in Selukwe peak (May 2021), villagers cited an example of how these illegal miners diverted water from the Dunraven falls (meant for the irrigation canals) and used the water for their own mining purposes. When they finally let out the water into the canals, the water was now dirty and it contained toxic chemicals.

These brutal illegal miners also have a tendency of mining wherever they find gold and, as gold usually follows a belt, the gold belt may sometimes pass through a road. The brutal illegal miners do not care about the road, as all they care about is following the gold belt. Some roads have been destroyed leading to conflict between villagers and illegal miners:

‘There is a conflict that exists in the two farms between the miner and other users of resources. Mining is leading to dirty water and the destruction of roads. You actually find mining taking place on a road and this leads to a conflict between miner and road users’. (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

During transect walks in Adare farm, I came across an open pit that was left in the road and inhibited cars from passing the road. Further, brutal illegal miners are blamed for spoiling the popular and beautiful *Boterekwa*. There are many tunnels under the *Boterekwa* dug by illegal miners as they search for gold. The councillor spoke about this:

‘Mining is affecting Boterekwa [Wolfshall pass], as brutal illegal miners are digging tunnels under the Boterekwa. The road is on the verge of collapse and sometimes it shakes making it dangerous for cars to use the road. The state security and the police forces are doing their best [to stop this] but it is difficult to be aware and access all underground tunnels that are being used’. (In-depth interview held with the councillor in Shurugwi town, May 2021.)

7.3.2.2 A1 Villagers-LMC Conflict

The second conflict exists between the villagers and the LMCs and this conflict has seen a significant number of villagers acting against the mining companies that are active in the area. There is outright bitterness and hostility between these two groups as the villagers feel strongly side-lined by these companies, leading to land degradation and livelihood losses. Many respondents highlighted that most of the companies that practice mining in the area were there to take (in fact, steal) the villagers’ resources leaving the villagers with nothing of benefit. One villager pointed out that

'The Ministry of Mines and the Ministry of Lands should work together and stop the power play. We are not benefiting anything from mining in the area. We are not even consulted by the many companies that continue to come here in our area and mine our resources, and destroying our land and natural resources'. (FDG held in Selukwe peak, May 2021.)

The LMCs were being blamed for destroying the locals' natural resources and causing land degradation in the area, with particular emphasis on the loss of grazing for their cattle. Most of the LMCs' activities take place outside of the villagers' fields and in the mountains and forests designated for A1 farm grazing. Livestock are also endangered considering that most companies do not fence off their activities, leaving cattle to fall into large open pits at times. Water degradation is rampant because of these mining companies, as the chemicals they use during mining such as mercury and cyanide enter the water sources of the villagers. This has led to the pollution of drinking water sources affecting both the villagers and their livestock. The Ministry of Lands official articulated this at length:

'When LMCs carry out their mining activities they do not fence their areas. This creates a bigger problem for the farmers whereby their livestock faces the danger of falling in open pits left by miners or drinking polluted water. Some boreholes and rivers were polluted and this led to conflict with the villagers. For example, Goddard was arrested after many cattle from both Adare farm and Selukwe Peak had died in his mining area. Unkie mine also caused the death of many cattle after the cattle drank water that was polluted with cyanide. Along the Dunraven gold mines, cattle from Selukwe peak also drank water polluted with cyanide and they died. The companies are just given a fine and they pay the fine but these incidences continue to happen'. (In-depth interview held with the Ministry of Lands in Shurugwi town, June 2021.)

Even more significantly, people are also dying due to pits that are left open by the companies. The councillor mentioned one incident where a man was found dead in an open pit,

'There was a man who was found dead many days later after falling into one of the shafts. It appeared that he had been drinking alcohol and stumbled into the pits as there were also found beer bottles beside him'. (In-depth interview held with the councillor in Shurugwi town, May 2021.)

All this has led to an antagonistic relationship between villagers and LMCs. This is despite the fact that other big companies like Unkie have mine built roads and houses for the villagers,

I realised that the anger of the villagers was also directed to the government, as government was not consulting them with regards to issues of whether the mining company should be allowed on their land or not. They felt it was the government's obligation to give them a say and a chance to deny or accept entry to these mining companies that are taking resources that rightfully belong to them. According to one respondent,

'We do not want these companies which are mining in our rivers and sacred mountains but there is nothing that we can do about it. I once went to the Ministry of Mines to complain about the companies mining in rivers but I was told that the companies had mining certificates to carry out mining activities in these places. It is unheard of that people are allowed to mine in rivers but these companies are being given certificates to allow them to mine in our rivers. Rivers such as Angwa, Save and Mutevekwu are now silted. We know that there is a law that points out that no one should carry out activities 30 metres to 50 metres from the river so we are wondering who is giving these people authority. These companies are coming from the head offices in Harare and jumping the provincial and district level and this is worrisome'. (In-depth interview held with elder in Selukwe peak, June 2021.)

This was the sentiment of most villagers as they were worried that corruption and nepotism is leading to LMCs being allocated mining claims in restricted areas such as rivers, and how this was now affecting their livelihoods.

There were also some incidences in which the LMCs would mine in villagers' fields though few respondents attested to that. In line with this, one A1 farmer argued that,

'If companies want to mine in your field, they go to the government and use the government's power to remove you from your field. There is nothing we can do about that because we do not know the law and they would have come from the government'. ['Isu hatizivi mitemo, tinongoti zvakava kumusoro ndizvo'.] 'We are ignorant to laws and we have the belief that everything that comes from the top is correct, leading us to abide'. (In-depth interview held with A1 farmer in Selukwe peak, May 2021.)

Thus, whether in the fields or not, the same scenario exists with reference to the disempowerment experienced by villagers in relation to both the LMCs and government.

During an in-depth interview, the Selukwe peak Chairperson spoke about how the two sets of conflicts (farmer-miner and villager-LMCs conflicts) are a very serious cause for concern amongst the farming villagers. He recounted agreement from the past which have been seemingly discarded, all to the detriment of the A1 farmers:

‘When we started residing here it was agreed that the miners and farmers should co-exist together. A boundary was given with the arable land designated for farmers and across the road where there are mountains being for miners. We are farmers and GMB [Grain Marketing Board] even knows us farmers from Selukwe peak. The problem, however, is that Shurugwi is a destination for illegal and licenced miners [LMCs]. Illegal miners carry out mining activities against the law while legal miners do so under the law. Both illegal miners and [mining] companies are causing land degradation. Even though LMCs use the law as miners, they are times where they go into conflict with farmers. Companies like Goddard were given many hectares of land to mine, and that land that he was given was our grazing lands. We can no longer enter those areas as they are now protected by armed guards who carry firearms. It was in those areas that our livestock grazed but we can no longer access those areas. Illegal miners leave open pits and our livestock fall into these pits. The open pits have reduced the number of cattle such that some who came here with 10 cattle are now only left with 2. Mining has also led to mercury and cyanide’. ‘Tsu zvatiri kudai tiri makuva akutofamba nekuda kwe mercury ne cyanide’. [‘We may seem to be looking healthy on the outside but inside we are just graves walking because of mercury and cyanide.’] Miners are also not fencing their areas. When miners want to mine they do not consult us, they just mine; if you ask them, they answer you in a bullying way. We ourselves are not bullies but just farmers.’ (In-depth interview held with the Selukwe peak farm chairperson, May 2021.)

This lengthy quotation sets out the multiple problems faced by A1 farmers at the two farms, problems pertaining to land degradation and livelihood challenges which the farmers face daily. In the conflicts discussed, it seems that the A1 farmers typically are on the losing side.

7.3.2.3 Illegal Miner-LMC Conflict

The third conflict on the two farms is between illegal miners and the LMCs. Of note is that both brutal illegal miners and peaceful illegal miners have conflicts with the LMCs. This therefore makes A1 farmers who are illegal miners to be involved in this conflict. Therefore, in this section, I will refer to both the brutal illegal miners and peaceful illegal miners simply

as illegal miners. Though the illegal miners and the LMCs share a common activity, namely, discovering and extracting minerals, there is a wide gulf and indeed tension between them. The major factors in this respect are that the LMCs have access to significant financing and the law on their side (along with the support of political elites), while the illegal miners do not. These differences have led to an unequal playing field between the two groups. For instance, as the illegal miners do not have the financial means to purchase the basic equipment needed for other types of mining (i.e. not just alluvial, but also reef mining), they have to go and seek assistance from the LMCs if they wish to venture beyond their small-scale operations. This compels them to sometimes work for the LMCs or at least to go into some kind of partnership with these companies. The problem with the partnership between the illegal miners and the LMCs is that the agreement of payment between the two is usually favours the mining company. According to one illegal miner,

'I once identified a place where there was gold but unfortunately I did not have the right equipment to carry out mining. I had to engage the Chinese and partner with them in order to use their machinery. I however did not get much from the deal because the Chinese are not fair in their dealings and you will only get to discover that after you have already partnered with them'. (Formal conversation held with an illegal miner in Selukwe peak, June 2021.)

There were many complaints among the illegal miners who had partnered with the Chinese companies, but these complaints were also directed at other LMCs active in Shurugwi. One A1 farmer (also an illegal miner) during an in-depth interview put his views across in the following way:

'We prefer not to work with companies because they are not fair in their dealings. If you work with them they take about 85 percent and leave you with 15 percent and you would have worked for nothing'. ['Simba rangu rinenge raperera mahara']. 'These companies are also causing land degradation in our area. We are mining in our homes and fields but these companies are mining in our forests on a large scale and they are not bringing any benefits to us the community. For instance Goddard, he has been taking and taking ever since he began mining here. As long as the companies produce [official] papers, there is nothing that we can say as a community against that company'. (In-depth interview held with an illegal miner in Selukwe peak, June 2021.)

Experiences like this make illegal miners reluctant to partner with LMCs. However, they may end up doing so because they do not have any other options if they want to practice reef mining. In addition, illegal miners are at times forced to go and work for mining companies as a way of getting money. Sometimes the illegal miners will go for many days without having discovered any gold at all and, as a survival method; they become casual workers for the companies to earn enough money to tide them over until they find their own gold.

Some LMCs are antagonistic to illegal miners as they view them as brutal, untrustworthy, violent and robbers. This has led these LMCs to employ armed guards on their premises so as to deal with and thereby prevent forced entry onto their property-claim by illegal miners. There have been incidences on the two farms where illegal miners (brutal) have gone into LMCs' territory and mined. As noted by the Ministry of Lands official,

'The people who mined under Boterekwa are illegal miners from Selukwe Peak. They wanted to trespass into Goddard's mine and get to the mineral belt in his mine unseen.'

(In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

This creates significant tension, with the LMCs seeking to remove illegal miners from the area as they consider the miners a threat. Both groups of illegal miners have a different view, as they believe that the LMCs are taking resources out of the area that do not belong to them. The minerals are not considered as belonging to LMCs – these companies are owned by people who are not from Shurugwi, hence they are regarded as outsiders engaged in pilfering local resources.

7.3.2.4 Illegal Miner-Illegal Miner Conflict

The fourth conflict that exists in the two A1 farms puts illegal miner against illegal miner, mainly between brutal illegal miners. This at times includes some of the A1 farmers (or at least their children) from Selukwe peak and Adare farm who fall into the brutal miner category. The EMA officer succinctly put it:

'There is violence among the illegal miners as they sometimes fight for control of the territory'. (In-depth interview held with the EMA Official in Shurugwi town, May 2021.)

Turf wars are common amongst the illegal miners as they fight for dominance in the mining camps. Some of these miners fight for control of an area where gold has just been discovered, with miners chasing other miners away from this gold-site. In recent years, the violence during

these turf wars has escalated with some serious injuries and even deaths being reported. One elderly respondent pointed out that,

‘There are turf wars also taking place in the mining camps. Illegal miners sometimes fight for territory. There is an incidence where one was axed due to these turf wars’. (In-depth interview held with an elder in Adare farm, June 2021.)

The practices of the illegal miners from in and outside of Shurugwi have resulted in the garnering of a wide reputation locally of being violent people who have no morals: hence, the notion of brutal illegal miners. These types of illegal miners, also found elsewhere in rural Zimbabwe, are regarded as people of questionable morals, socially unstable, disorganised and involved in drug and alcohol abuse, prostitution and many other criminal activities (Mkodzongi and Zano, 2020). Ordinary citizens, including A1 farmers, are afraid of these illegal miners and when a person is identified as an illegal miner, other people tend to give him a wide berth. However, in 2019, the reputation of illegal miners worsened as they became associated with rapes and killings across the country. Of crucial significance is the fact that the increase of brutality nationally among the illegal miners began in Shurugwi. One illegal miner stated that,

‘KuShurugwi ndiko kunotanga zvinhu zvakawanda zvemining. Zita rekuti mashurugwi rakatanga muno and mashurgwi vacho vanga vari isu. Zita iri rakabva pakurwa kwataiita pachedu’. [‘Shurugwi is the place where most issues related with mining begin. The term ‘*mashurugwi*’ emanated from here in Shurugwi and it was referring to us. The term came depicting the violence that took place between illegal miners’]. (In-depth interview held with an illegal miner from Adare farm, June 2021.)

The very dangerous and more brutal illegal miners were nicknamed ‘*MaShurugwi*’, a term that became widespread and made headline across the whole country. ‘*MaShurugwi*’, literally originally meant very brutal illegal miners from Shurugwi, who travelled in groups and carried machetes terrorising local villagers and other illegal miners. Scholars such as Mkodzongi (2020) have focused on *Mashurugwi* and the politics behind the development of such a terrorising group, which went on a spree of robbing, raping and murdering people in their houses. The problem of *MaShurugwi* in Shurugwi prompted the government to introduce state security soldiers and increase police reinforcement in the area in 2019 through an operation termed, ‘*chikorokoza chapera*’ (meaning ‘illegal mining is over’) as a way of limiting violence and killings. This did reduce violence in the area as the presence of armed forces brought fear to the *Mashurugwi*. In addition, Covid-19 reduced the violence as there were continuous

lockdowns that led to the limited movement of people. The state security officers are still in place in the Shurugwi area.

Considering the presence of the *Mashurugwi* all over the country, I was interested in finding out more precisely from where the term emerged. Some respondents claimed that the term originated from local Shurugwi illegal miners who were fighting for dominance against outside illegal miners who wanted to take over mining in Shurugwi. According to an illegal miner,

'I am aware of the term 'Mashurugwi', and it came about as we realised that we needed to get into groups and team up so as not to be bullied by other miners especially outsiders. When we go to mine to other places like Chimanimani we are bullied by the illegal miners from there because it is not our territory. When we do back home here in Shurugwi we no longer want to be bullied by outsiders. Many illegal miners from outside of Shurugwi were coming in groups, bullying us and chasing us from our territories. This did not sit well with us. We then decided to team up and fight for our territory using weapons in order to dominate the outsiders'. (In-depth interview held with an illegal miner in Adare farm, June 2021.)

The local illegal miners were tired of losing their mining areas to illegal miners who would have come from other places outside of Shurugwi. These outsiders would come in large groups and chase away local illegal miners who usually worked individually or in smaller groups. They were more brutal and violent than the local illegal miners and usually won out in the turf wars that took place in the mining camps. The concurrent losses by the local illegal miners forced them to team up and form groups of their own in order to fight back against the outsiders. One respondent during an informal conversation thus indicated:

'Illegal miners in Shurugwi worked individually and this caused trouble for them as people from other places outside of Shurugwi worked in groups and when they came to Shurugwi they would team up against the Shurugwi people. Illegal mining includes a lot of bullying and you need to be strong to survive. This led the locals to feel the need to form groups and team up as a way of protecting their claims. When outsiders came, the locals then managed to fight them by equipping themselves with weapons like machetes. They therefore were nicknamed 'Mashurugwi' and the name spread all over the country'. (Informal conversation in Adare farm, June 2021.)

The battles between the two groups led to substantial violence in the area as many illegal miners started travelling with machetes. These illegal miners were called ‘*MaShurugwi*’ and the name grew in popularity. The weaponisation of illegal miners created a major problem that not only affected Shurugwi, as this phenomenon slowly cascaded across the country with many illegal miners now carrying machetes and knives. The carrying of weapons by the *MaShurugwi* created for them a sense of power and superiority over all those who sought to hinder or block their illegal mining activities. As I was carrying out my fieldwork, there was an incidence that had just happened whereby two women were raped in the evening near Unkie mining by two men who had machetes. When I asked one interviewee about this, he gave the following perspective:

‘It is probably people who were imitating illegal miners as illegal miners are not rapists. They only do violence when they are fighting for mining claims but, when it comes to women, they can easily get women at beerhalls where they can pay for the women in return for sex. Illegal miners are usually not thieves, they are people who look for money through mining and they are not robbers. They are only reckless when it comes to spending their money, as they spend it recklessly. They usually do conflicts when they are digging at the mining sites’. (In-depth interview held with Mr Mafa in Selukwe peak, July 2021.)

This view, that most illegal miners were not involved in rape or murder in an indiscriminate manner, was shared by other villagers who stated that these miners only became violent during turf wars or when they wanted to mine.

During my fieldwork, I also realised that local illegal miners (in particular A1 farmers) do not want to be associated with violence so they act ignorant if you ask them about violence. It is only after much probing that they seem prepared to cases of violence. They do not want to be portrayed as an evil presence, and they believe that they have been misrepresented in the media. They perceive themselves as ordinary individuals who are simply looking for a means of survival to take care of their families.

The entry of the term ‘*Mashurugwi*’ in local and national discourse certainly tarnished the image of illegal miners, as it led to other unscrupulous people from across the country engaging in action associated with the term to their own benefit. People who were not illegal miners began traveling with machetes and committing crimes all over the country. At first it was believed that it was the illegal miners from Shurugwi, the original *Mashurugwi*, who had gone rampant and started travelling across the country stealing from people. With time, though,

it was realised that it was other individuals who had hijacked the term *Mashurugwi* and began to commit atrocities under the disguise of being *Mashurugwi* in order to throw suspicion away from themselves. This led to the illegal miners from Shurugwi aiming to dissociate themselves from the term (*Mashurugwi*) because of the negative image this conveyed. The situation around *Mashurugwi* spiralled out of control and it is still happening all over the country, though it has reduced of late.

The EMA official expressed concern about the image of Shurugwi now existing in other parts of Zimbabwe:

‘The term ‘Mashurugwi’ has tarnished the image of Shurugwi. When you travel out of Shurugwi and you tell them that you come from Shurugwi, you are given a different reception’. (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

The villagers of Selukwe peak and Adare farm were themselves concerned with the derogatory use of their home name and how this was tarnishing their image. Indeed, the rise of *Mashurugwi* affected the peaceful illegal miners all around Shurugwi who now face arrest from the police as the police have a tendency of pursuing and arresting all illegal miners without first distinguishing between perpetrators of violence and illegal miners who are only seeking a livelihood.

According to the Crisis Group Africa Report (2020), political interests shape the interactions among mining companies, artisanal miners and security forces – and the resulting violence. Noteworthy is that there have been some controversies concerning the reason behind the emergence of *Mashurugwi*, with for instance Mkodzongi (2020) viewing it as a reflection of the politics taking place in the country. More specifically, Mkodzongi (2020) argues that *Mashurugwi* was a protest movement by illegal miners against the elite capture of resources. The Crisis Group Africa Report (2020), though, sees the uprising of *Mashurugwi* as a politically-orchestrated event organised by certain politicians as a way of retrieving minerals from illegal miners. The report says that these politicians sponsored the machete-wielding group to retrieve gold from other illegal gold miners as a way of ensuring that the political elite become the main accumulators of gold-based wealth. The persistence violence carried out by the *Mashurugwi* and the inability of the security forces to stop it, thus gave rise to the belief and accusations that politicians, including from the ruling party, were behind the *Mashurugwi* (Crisis Group Africa Report, 2020). In as much as there are controversies regarding the emergence of *Mashurugwi* in the scholarly literature, the villagers in Shurugwi believe that

they are the ones who are behind the term. It was a phenomenon that they practised thinking that it would stay confined to their area but, unfortunately, was taken out of context and hijacked by other brutal illegal miners and people across the country. As to why they hijacked the idea of *Mashurugwi*, most villagers indicated that they have no idea.

In the context of these significant conflicts at the farms, this chapter now turns to the notion of sustainable land management and the possibilities that exist for this at Selukwe Peak and Adare farms, with specific reference to government constraints and enablements.

7.4 Land Sustainable Management in Selukwe Peak and Adare Farm

As mentioned in Chapter 3, Sustainable Land Management (SLM) is crucial particularly in rural areas where there is a reliance (and perhaps often an overreliance) of natural resources for livelihood sustenance. Selukwe peak and Adare A1 farms need SLM in order to maintain and enhance land resources so that future generations will be able draw upon for livelihood purposes as well.

The story of Selukwe peak and Adare farms is, from the perspective of this thesis at least, a story about land degradation, caused primarily by human activities. The moral of the story is the need to protect the land (and water) on these A1 farms from further degradation and possibly to reverse the degradation process. The importance that land holds for the lives and livelihoods of these A1 farmers makes this both necessary and urgent, as future generations are bound to suffer more dramatically than the current generations. In this context, I consider whether any efforts are being undertaken by villagers to bring about land sustainability in their fields, forests and mountains.

Farmers of the two villages are aware of the need to practice SLM as they see evidence of land degradation all around them. As well, they receive SLM information from such as bodies such as EMA, AGRITEX, and Ministry of Lands and sometimes from the Zimbabwe Environmental Law Association (ZELA). Even though nearly all villagers spoke about the significance of sustainable land management, observation walks during the fieldwork demonstrated and confirmed that most villagers simply were not practicing sustainable land management practices. Farming and mining are the major livelihood strategies at the two A1 farms, and particular SLM practices (if and when implemented) tend to be specific to either farming or mining. In relation to farming, given their official status as A1 fast track farmers, the villagers are directly incorporated into the SLM trainings on offer by the bodies cited earlier. This is very different in the case of mining – the A1 villagers engaged in alluvial mining

do so illegally (i.e. they are amongst the illegal miners) and hence they are excluded from any possible training around practicing sustainable mining.

In agricultural production, the villagers are encouraged by AGRITEX and the Ministry of Lands to practice conservation agriculture as a way of protecting the land and preventing further degradation. As one respondent noted:

‘We have organisation such as AGRITEX and the Ministry of Lands that inform us on land sustainability. The AGRITEX people are the ones who frequently visit and carry out lessons on protecting the land’. (Questionnaire in Adare farm, May 2021.)

The villagers are required to (or are supposed to) dig contour ridges, engage in minimum land tillage and reforestation, and practice mulching, mixed cropping and *dhiga udye* (planting basins). As the Adare farm chairperson indicated:

‘We are aware that we need to protect our fields and there are measures that we employ in protecting land. We are encouraged to use organic manure to reclaim soil fertility, we cut grass and do mulching, and we also apply ashes. We use manure from cattle, chickens and goats. We do not have anthills in the area so we do not use termitaria’. (In-depth interview with the Adare farm chairperson, May 2021.)

In conjunction with the Ministry of Lands and the Department of Mechanisation, AGRITEX tries to enforce the regulations that pertain to land protection so as to minimise land degradation. According to the AGRITEX official,

‘We work hand in glove with Ministry of Lands in encouraging farmers to do conservative farming such as minimum land tillage, dhigaudye, zero tillage to keep the soil intact. Also, we work with the Department of Mechanisation. After pegging land, we consult the people from Mechanisation to go and peg contour ridges. We also encourage farmers to undertake soil conservation protection; measures like putting storm drains on arable land. We also tell the villagers not to disturb vegetation and not use tree branches for fencing, but they continue doing so because they are poor. We teach the villagers to do selective tree cutting, for example, use thorn bushes leaving other trees such as medicinal trees’. (In-depth interview with the AGRITEX Official in Shurugwi town, June 2021.)

The villagers are encouraged to put property beacons (pegs) around their homesteads and fields so that they protect their area. The idea of placing property beacons is to make sure that the villagers carry out their activities in their designated/demarcated areas and do not

expand their activities outside of their farms. Any area that is outside of their homestead and crop-farming hectares is not for their own personal use. Delineating the villagers' fields in this way, and thereby compelling the villagers to keep their activities inside their A1 plots, is meant to protect the outside areas which consists of forests and mountains. It also makes it easier for villagers (and government officials) to identify the culprits who are possibly disturbing the environment outside of their farm-plots by carrying out land-based activities.

In terms of reforestation, many respondents agreed that they knew that, whenever they cut a tree, they should replace it by planting another tree in order to stop desertification from taking place. The Ministry of Lands holds Forest Day annually at Tongogara Rural Council offices where villagers are urged to plant trees and carry out afforestation. Though there is tree-planting taking place, it seems that the main focus of the A1 villagers is on planting fruit trees at their homesteads, perhaps forgetting that the mountains are severely affected by deforestation. Observation walks and informal conversations showed that most villagers have fruit trees around their homesteads and that these fruit trees were planted when they first started residing in the area. There is national tree planting also advocated by the state president, though there is no evidence that local villagers are stimulated by this to engage in tree-planting. Only a few villagers had new young trees on their plots, showing that any reforestation practices are very limited in scope. Indeed, the EMA official state categorically:

'Vanodzvara zvefake'. ['They [the villagers] lie about planting trees']. (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

Overall, only a small number of villagers showed any commitment to land protection and sustainability measures; the rest of the villagers were simply ignoring them or refusing to implement them. For instance, it was only an insignificant number of respondents who had actually dug contour ridges in their homesteads. This is despite the fact that all villagers were fully aware that contour ridges reduce soil degradation. I noticed that the villagers know what they should be doing in terms of land sustainability, but they simply chose not to pursue or practice it. They cited such reasons as the laborious labour involved as well as lack of motivation and lack of interest. The councillor brought this to the fore:

'There is need to create more awareness programmes to promote contour ridges. The laws are also failing to protect the land to a great extent because people go and break these laws during the night, when no-one is watching. Even if you tell them that it is against the law to cut down trees you wake up in the morning to find that trees have been cut or there have been people who have been mining. There is no way of finding out who

cut down that tree or who was mining’. (In-depth interview held with the councillor in Shurugwi town, May 2021.)

Indeed, the biggest challenge in terms of land degradation in Selukwe peak and Adare farms comes from unsustainable mining activities. There is rampant land degradation being caused by mining activities including water pollution, deforestation, siltation, soil erosion and air pollution. It would seem that it would be of paramount importance for sustainable mining practices to be propagated and encouraged in Shurugwi, to protect land from further degradation. However, in relation to the two farms, the villagers are not involved in any programmes that involve teaching about sustainable mining. This is because the villagers are, as noted, practicing illegal mining, which is against the law. Illegal miners are being hunted down by the police, hence it would come across as contradictory if these illegal miners were, at the same time, part of official government programmes around sustainable mining – this would imply justifying their illegality. Organisations such as EMA and the Ministry of Mines do not train illegal miners, as they believe these miners should be banned rather than regularised. This is all quite paradoxical given the centrality of mining to water and land degradation in both Selukwe peak and Adare farm.

At times, EMA tries to address the problems indirectly. Thus, in disseminating information about sustainable environmental practices to the villagers, it might cover issues around the need for practicing land reclamation. According to one EMA official,

‘We abide by the Environmental Management Act [Chapter 20:27] which aims to ensure that mining takes place in a manner that protects the environment in a sustainable way. The aim of EMA is to reclaim land in terms of mining, poor farming methods and deforestation. We aim for sustainability for the generation to come. We train people on Natural Resource Management. We train them on how to stop veld fires, handling hazardous waste; make them be aware of pollution and waste management and how to protect the environment’. (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

The villagers do receive information regarding protection of land from EMA. In this regard, they have been informed about the dangers of mining in rivers, deforestation, of the failure to reclaim land and veld fires. Considering the high risk of veld fires in the area due to illegal miners, villagers are encouraged to put fireguards around their homes and fields in order to protect themselves and their property from veld fires. As well, they were supposed to be given

fire beaters by EMA, though most villagers never physically received them, as they disappeared during the handouts.

Although the villagers spoke to me about the information provided by EMA, they were complaining about the frequency of the visits from EMA. EMA officials are said to meet up with the villagers on a seldom basis only, with many respondents citing that they visit once a year. A few villagers even stated that EMA no longer comes to carry out land awareness campaigns:

‘EMA haichauyi, handitozivi kuti iripi. Tinongoona mota yacho dzimwe dzenguva tisingaizivi kwainenge ichienda’. [‘EMA no longer comes. We do not know where it is, sometimes we see their car not knowing where it will be going’]. (FDG held in Adare farm, May 2021.)

The villagers believed that EMA should increase its visits in the area and closely monitor the situation on the ground. One elderly respondent pointed out that,

‘EMA officers should walk around and see the destruction that is taking place in the area. Shurugwi was once beautiful but right now it is like a deserted place. (In-depth interview held with an elder in Adare farm, June 2021.)

Another villager indicated that EMA only comes to the farms sometime after a veld fire has already taken place or they want to hand out fines, rather than in order to demonstrate environmental management practices. This claim was supported by the Ministry of Lands official when he stated that,

‘EMA is better at imparting information than it is at carrying out training and awareness programmes. They do inform villagers not to start veld fires and to put fireguards. However, they react late to environmental emergencies, for instance, they may be informed that there is a fire in Selukwe Peak and they will tell you that they are far, like maybe in Harare. They only react fast where there are fines involved. This means that they are not fully active’. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

The organisation is allowed to give out fines to those who are found to be degrading the land, with one villager stating that:

‘Ndakarima kumatoro mudhuze merwizi ndikabhadhariswa fine. Ndakabva ndatorega kurimapo’ [‘I once farmed near the river bed and EMA gave me a fine. This made me to stop farming there’.] (Questionnaire in Selukwe peak, May 2021.)

There are some villagers who accuse EMA officials of being corrupt in their dealings and they also speak about how these officials are also fuelling land degradation in the two farms. EMA, as a government body, is expected to monitor the mining activities of LMCs and to make sure that these companies are mining in line with environmental and mining laws. However, some villagers believe that the EMA officials sometimes work in cahoots with these companies and allow them to mine in areas that are not supposed to have mining activities. In addition, when these companies break the law, villagers claim the LMCs pay bribe money to EMA so that they end up being let off the hook. One respondent was very adamant about this, declaring:

'There is corruption within the EMA people. Mining companies have to pay to the city in order to be given permission to mine in the area. However, the council people do not have knowledge on environmental areas and they refer the mining companies to EMA to evaluate. EMA officers take advantage of this as the mining companies are expected to estimate the damage that they will make to the environment and then pay for the damages that they will inflict on the environment. For instance, if the company is destroying about a 1,000 trees, they need to pay for each tree and EMA will calculate and give a very high price which the company cannot afford. For instance, one tree is charged at RTGS\$18,000. The EMA people will then come to an agreement with the company in reducing the money, that is, if the company agrees to give some money to the officer. There is therefore a lot of corruption going around EMA and mining companies, leading these companies to carry out unsustainable farming practices even under the watch of EMA'. (In-depth interview held with an A 1 farmer in Selukwe peak, May 2021.)

EMA officials denied all this and they believed that they were doing all they can in disseminating land sustainability information to the villagers. In fact, the officials blame the villagers for not following the laws and advice that they give them:

'We enforce environmental management but people do not abide. They continue going to carry out mining activities in the rivers and cutting trees and starting veld fires. We try to give them fines so that they stop but sometimes they just continue afterwards'. (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

It is easy to give out fines to the A1 villagers who are not practicing illegal mining as they are not dangerous and are easy to find. This is a different scenario to the case of both peaceful and brutal illegal miners who are evasive to law officials and always run away when they see law enforcers. In addition, brutal illegal miners are more difficult to handle as they are usually

armed making them to be quite dangerous as EMA officials will not be armed. The EMA official pointed out that they faced challenges in catching and fining brutal illegal miners as, unlike these miners, they are not armed. These type of illegal miners (brutal), who are involved significantly in causing land degradation, are sometimes violent and armed with machetes, such that EMA requires the back-up of armed forces in order to arrest them. As the official put it:

'It is dangerous for us to go where there are many illegal miners especially if they are mining. They will turn against you as they can be very violent. If you decide to go and make arrest you will need armed police to go with you in order to protect yourself'. (In-depth interview held with the EMA Official in Shurugwi town, June 2021.)

The difficulty for EMA in carrying out its duties is made worse by the lack of adequate working staff. When I visited EMA offices, the office only had two officials who oversee the entire Shurugwi district. As also indicated by the Ministry of Lands officer,

'EMA is incapacitated as they only have two officers and this hinders their full capability in carrying out their duties'. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

In order to address the lack of adequate staff, EMA has involved villagers in monitoring and protecting the environment. There are people who have been chosen by EMA to be EMA Watchmen or Environmental Monitors who assist the organisation in carrying out its duties by monitoring and reporting any land unsustainable activities being carried out in the A1 farms. This has been a viable move in protecting land as the people are aware that if they practice unsustainable practices they will be reported to the EMA official.

However, the efforts being undertaken by EMA and Ministry of Lands in stopping land degradation are falling far-short due to a number of reasons. One of the major reasons is the fact that most villagers practice illegal mining, an activity that is not recognised by the law. This means that the villagers dissociate themselves from mining as they are aware that if they openly acknowledge that they are illegal miners they will be arrested. The dissociation of the villagers from illegal mining is a major problem as it means that they cannot openly attend trainings and guidance on practicing proper mining. It also hinders the restoration and reclamation of land as they are afraid of being caught mining. This leads them to carry out their mining activities in a hurry or in the dark, leaving pits open in the process as they would not want to risk being caught. According to one A1 farmer who practiced illegal mining,

‘Haungavhari gomba iwe uchitya kubatwa uye uchimhanyidzana nezvekuraramisa mhuri’. [‘You cannot close a pit when you are afraid of being caught and you also want to protect yourself in order to feed your family’]. (Formal conversation held in Selukwe peak, June 2021.)

The dilemma also affects the government officials because, even if they are aware that the villagers are illegal miners, they simply cannot sit down with them and engage in training on how to practice sustainable mining. The government officials, as noted, are bound by the law to arrest illegal miners or have them arrested by the responsible authorities. They cannot interact with illegal miners (including A1 farmers as illegal miners) except when they are enforcing the law. I also came to realise that the government officials, in as much as they were aware that the villagers were practicing illegal mining, felt and understood the predicament of the villagers. The economic hardships in the country are affecting everyone, including these officials, making them understand the need for A1 farmers and others to be involved in an alternative livelihood strategy (such as mining, even illegally) that can help sustain the family. This is also the reason why some police officers have become involved in the illegal mining sector, as they need to compensate for their meagre income.

It therefore becomes clear that almost everyone is involved in mining in Shurugwi, with differences evidenced on the type of involvement or the extent of involvement. Even the central government benefits from the illegal mining sector as illegal miners are the major supplier of gold in the country – this of course requires that the gold is not externalised (out of Zimbabwe) illegally. This complicity of multiple actors in illegal mining leads to a serious dilemma in the two A1 farms, one that is difficult to end unless the economic situation in the country improves and other livelihood opportunities become available. Despite the effects of illegal mining on water and land degradation, there currently is stronger pressures for it to continue than to discontinue. The only group that might want to see an abrupt end to illegal mining are the (legal) large mining companies which could then monopolise fully the mining opportunities in Shurugwi. But this would not end water and land degradation. This is because corruption and other negative tendencies mar the effective practice of sustainable land practices by LMCs as most of these mines are allowed to mine in rivers and wetlands.

7.5 Institutional Constraints and Enablements

Since the villagers of Selukwe peak and Adare farm were settled by the government under the FTLRP, and their land remains as government land, the government is involved in the lives of the villagers. According to the Ministry of Lands,

‘The government has programmes that it is carrying out in assisting the people in their livelihood activities such as irrigation schemes and putting up boreholes’. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

The villagers have been provided with irrigation schemes in order to assist them in becoming food secure all year round. The villagers have been encouraged to form groups and join an irrigation scheme on this basis. However, though the idea behind the introduction of these schemes was a positive one, the irrigation scheme in the two A1 farms faces neglect, resulting in it being dysfunctional. The Ministry of Lands official gave his understanding of the problem:

‘The villagers are reluctant to adopt ideas from the government. They tell you that they do not have money to join the irrigation schemes. For example, in Adare Farm, they were given an irrigation place but they do not want to work as a co-operative. The irrigation equipment is idle and the people are usually fighting over the equipment. They want to work as individuals. Government provided some irrigation pipes to be also used by other villagers but the people do not want to help each other. People are reluctant to carry out irrigation schemes to the extent that the government removed some irrigation equipment’. (In-depth interview held with the Ministry of Lands Official in Shurugwi town, June 2021.)

From the sentiments above, I realised that cooperation is a major problem as the A1 farmers prefer working individually on their farms. Community ownership is something divorced as individualism is a major norm when it comes to farming as people prefer taking the equipment to their own farms where they can produce more. As well, poverty has intensified this situation, as villagers begin to compare the yields they get individually as opposed to what they get as a group. The irrigation schemes are also failing because rivers are no longer perennial due to siltation. The practice of mining in rivers has increased siltation in local rivers and this has affected water quantity in rivers with some rivers such as Manzimudhaka drying up soon after the end of the rainy season. Related to this, some villagers are also neglecting irrigation schemes in favour of going to engage in alluvial mining, in order to diversify their livelihoods. Few villagers are willing to put effort into the irrigation schemes while most of the villagers neglect these irrigation schemes in preferring to go and mine and

hopefully make ‘fast money’. Hence, mining is acting as a restraint to the full functioning of irrigation schemes as the villagers believe that it is not worthwhile to focus their energy on irrigation.

The government gives agricultural inputs such as seeds and fertilizers to the A1 farmers. There is a problem though in the provision of these inputs, as the government tends to sometimes fail to provide and, when it finally does, the inputs are late in coming. One respondent highlighted that,

‘The problems that the villagers face in their livelihoods include lack of inputs with most of the inputs from the government coming in very late. (In-depth interview with an A1 farmer from Selukwe peak, May 2021.)

The government simply lacks adequate agricultural inputs to give to the farmers. This acts as another constraint to those who want to practice farming full-time. Indeed, the lack of adequate farming inputs (or late inputs) was one of the reasons why the villagers end up compensating farming losses with illegal mining. Those who form part of the wealthier category of A1 farmers at the two farms do manage to buy inputs such as seeds and fertilizers on their own. But, it is very different for the poorer households, as they lack the financial means to buy inputs on their own. In this context, many children from these families go into illegal mining and bring the money to their parents who might use some of it to buy agricultural inputs.

The Department of Mechanisation assists villagers through the development of programmes that help in, for instance, protecting land and provides villagers with agricultural inputs such as ploughs and farm carts. It has three programmes that it carries out in Adare farm and Selukwe peak, as set out in very glowing terms by the Mechanisation official:

‘We have the Solid Water programme, the Farm Power and Machinery programme and the Post-Harvest and Structures programme. The Solid water programme involves pegging small dams and weirs for communities and supervising their construction. We are also involved in erosion control both on arable and non-arable lands. In arable areas, we peg contour ridges in arable fields and we also do gulley settlements, reclamation and control. We work with NGOs. NGOs come to us and we make designs because communities do not have money. We work with NGOs such as Lid Agency and Caritas (Gweru diocese Roman Catholic). For instance Lid Agency helped us in rehabilitating a bridge in ward 8. The second programme we do is the Farm power and machinery programme. This programme involves giving out people farming equipment. Selukwe Peak and Adare farms are in the irrigation scheme and we gave equipment such

as tractors, disk plough, disk harrow and vicon spreader. The irrigation department put a horse reel [a type of irrigation]. The villagers are paying for the equipment to the government. They pay the rates and the department manages the equipment. The villagers need assistance in calibration of the equipment. We have a mechanic at the provincial level who helps us for the maintenance and use of equipment. There are 80 people from many different A1 farms [not just the two A1 farms studied here] in the irrigation scheme and it has 20 hectares. The irrigation area was one land that was farmed by the people, then we pegged it for irrigation. We just said everyone who was farming on that land can be in the irrigation scheme. It is along the green belt along the Muteveki River. The third programme is the Post-harvest and structures schemes. If there are farm structures needed at the farms we draw and design them such as granaries and we do at a cost. We do trainings to farmers on how they should maintain their harvested crops so that they cut harvest crop losses. We teach them methods on how to prolong crop shelf life of different commodities for instance drying kufusha [vegetables] using solar driers for later use. An NGO can buy solar driers for the villagers to use. The villagers are then taught to make the solar driers so that they can adopt the technology and make them for themselves. We also encourage the farmers to build metal silos granaries to keep their grains. We also encourage the farmers to use hermetic bags; these are bags that exclude air from outsides when sealing them. This means that if pests get in the bag with the grains, they will die and the harvest will be protected. There are challenges associated with the adoption of such technologies as the villagers lack the money to buy the technological equipment that is required for them to adopt easily. This makes adoption to be low’.

While this comes across as a very all-inclusive and comprehensive set of programmes which would likely have a significant impact on the two A1 farms in terms of at least limiting the scale of land degradation and enhancing farmers’ livelihoods, there is little to show for it on the ground – as the Mechanisation official admitted at times. As mentioned by the Mechanisation officer, the villagers lack the money to buy the equipment on offer, and they end up depending on assistance from NGOs. In addition, there are cases of corruption in the use and access of the equipment and assets made available on a collective basis. There are some villagers, especially those who are in leadership positions, such as farm chairpersons, who tend to monopolise farming equipment such as tractors and use it for their own private use at the expense of other ordinary villagers (as mentioned previously).

Overall, farming is being neglected and most villagers no longer put all their focus on farming as they concentrate on illegal mining. There are a few villagers only who are now solely involved in farming and these tend to be the ones with the financial resources to buy agricultural inputs, and cultivate and utilise most of their land. Those who do both illegal mining and farming were never in a strong position to become farmers only, particularly with the allure of gold mining constantly reminding them of the prospect of pursuing an alternative livelihood strategy. It may be that, if mining was not available as an alternative livelihood, the A1 villagers of Selukwe peak and Adare farm might adopt sustainable agricultural practices more easily and fully, so as to harness the agricultural potential that resides in Shurugwi in relation to good soil and good rains.

In this light, many of the A1 villagers spoke quite admirably about a local (and successful) A2 farmer whom I call Mr. Sithole. He was considered by the villagers as an inspirational farmer who had managed to reclaim his land and prosper by farming. I decided to visit his farm and was able to see what he had done with his farm. The following is his story and his thoughts on farming as a livelihood strategy.

Box 7. 1: Story of an A2 Farmer (Mr. Sithole)

I started residing here in Shurugwi in 1997 and I was coming from Denmark. I am an engineer by profession and I was forced to come back from Denmark because of racism that I faced. When I came to Shurugwi, the land I was given was full of gullies and open pits and was degraded. I had to begin by reclaiming the land using bulldozers and closing up the shafts that were in my fields. There were stones all over the place and there was sub-soil on top. Top soil was removed and as you can see this area has many stones on top. I have yet to reclaim all of my land and on the land that I have not yet reclaimed there are still pits and big stones everywhere. I do intensive farming and I also do conservation agriculture in my fields in order to maintain and restore soil fertility. For instance I put contour ridges to control soil erosion. I have also planted sugar cane in water prone areas as a way of holding the soil and reducing soil erosion. Currently, I have ripe maize cobs in my field and some tomatoes. For any place to be habitable there is need for water and energy and these are the first things I invested in. I started by placing boreholes and then moved on to putting solar energy. I started using solar energy in 2001 before people started believing that solar can really work. I use CIS solar which are all weather solar panels. It means that they still work well even if it is cloudy. Currently I use a 25 kilowatt substation system and it is a huge machine with an industrial scale power. The main purpose of the substation is to drive water pumps, drive refrigeration and also contribute to air-conditioning, lighting and entertainment and also domestic purposes (heating and cooking). The driving pumps are designed to irrigate about 20 hectares. I have 12 boreholes which are powered by the power station. I also have a cold room for my produce and it is also powered by the station. I do chicken production and it also consumes a lot of power. The fowl runs are heated from the same heating solar station. Heating consumes a lot of power. I use infra bulbs to radiate heat where we put little chicks so that they can be warm. We also use the heating for domestic cooking. Using solar power is different from someone

who is constantly buying electricity power. This investment that I put in my farm allows me to get profit from farming. I have recently bought a mini bulldozer from South Africa and it is going to help me in farming. I am strictly into farming and I am not a miner. Where money is involved people become interested and mining provides that but I am passionate about farming. Maybe later on I will mine but currently I am just a farmer. With farming you need to be passionate about what you need to do and when you have knowledge and financial resources you can benefit from it.

Source: In-depth interview held with A2 farmer in Selukwe peak August 2021.

Mr. Sithole of course faced many challenges as an A2 farmer. But, unlike the vast majority of A1 farmers, he started off with significant enablements, particularly in the form of his educational background (as an engineer) but also because of his financial resource base. Up until now, twenty years after receiving his A2 farm, he has felt no need or desire to engage in any form of mining, either legally or illegally. On his A2 farm, he has also engaged in a variety of land sustainability practices. His story, of farming only and farming sustainably, is in contrast to the stories of the A1 farmers on Selukwe peak and Adare farms, as detailed in depth.

7.6 Conclusion

The Chapter has highlighted on the linkage that exist between livelihood strategies and land degradation in the two A1 farms. There is a huge connection between land degradation and livelihood strategies being implemented. It has become more of a cycle with livelihood strategies leading to land degradation and in turn land degradation affecting livelihood strategies. This huge nexus also comes along with the conflicts that end up rising in the area. The chapter has discussed all the conflicts all of which centres around intensification of mining which has increased land degradation. The impacts of land degradation have paved way for heavy losses on livestock as cattle get trapped in pits that are left open. It has also been shown that land degradation has affected agricultural production and has also led to water degradation with siltation being evidenced in most rivers. The chapter also paid attention to the land sustainable measures being implemented in Selukwe Peak and Adare A1 farms. It has been noted that not much is being done in addressing promoting land reclamation as mining companies in most cases do not seem to abide to such protocols that centres on land reclamation. This does not exclude illegal miners as they do not see the essence of land reclamation. It has however been found out that the only land sustainable practices are done by farmers in their fields as they want to promote their agricultural production. Methods that farmers make use of are inclusive of mulching and afforestation with most farmers however being reluctant to dig contour ridges. The chapter ended by highlighting on the constraints and

enablements that inform sustainable land managements. Constraints include lack of knowledge and financial resources while enablements include the existence of institutions like Agritex. The major sentiments of the chapter are that almost everyone in Shurugwi is mining though at different levels which is heavily impacting on land, with limited efforts aimed at land sustainability. Mining in Shurugwi is not likely to end soon as several parties appear to be benefitting from it.

Chapter 8: Conclusion

8.1 Introduction

This thesis has examined and analysed the interrelations between land degradation and rural livelihoods on two A1 farms (Selukwe Peak and Adare) in the Shurugwi District of Zimbabwe, with a particular focus on the conditions and practices which are leading to (and deepening) land degradation. In concluding the thesis, the main purpose of this chapter is to revisit the central arguments put forward and to show how these arguments facilitate addressing the main and subsidiary objectives of the thesis. I start with the subsidiary objectives (as set out in chapter one) and then turn to the main objective because, when considered in combination, addressing the subsidiary objectives indirectly entails addressing the main objective. The focus on the main objective will also involve indicating the manner in which the theoretical framing of the thesis contributed to pursuing this objective. I end the chapter by detailing the contribution of the thesis to prevailing literature and possible areas for further research. To remind the reader, the main objective of the thesis is to: examine the interrelationships between land degradation and rural livelihoods on two A1 farms in Shurugwi District in Zimbabwe.

8.2 Addressing the Subsidiary Objectives

The subsidiary objectives of the study were addressed in the empirical chapters 5 to 7. One of the subsidiary objectives (objective a) was to examine past agricultural and other livelihood practices dating back to the pre-colonial period and local historical memories of these. In part, this objective was covered in chapter 4. This objective sought to provide some sort of historical-comparative basis for identifying and assessing the form and extent of land degradation on the A1 farms. Chapter 4 examined past events in Zimbabwe, dating back to the pre-colonial period and up to and including fast track land reform, in terms of the land use and land practices that took place. The events that took place in the colonial era, including the erosion of indigenous knowledge systems, the formation of Reserves, the introduction of scientific land management practices and the 1961 Mines and Mineral Acts have all left historical traces in the land use practices of villagers of Selukwe Peak and Adare farm. The fast track programme sought to redress the colonial-racial land injustices which continued after 1980 but the evidence suggests that, despite its important contribution to facilitating access to land on a more inclusive basis, it has done so at the expense of land vitality. In this regard, the sheer scale of land degradation

on fast track farms over the past twenty years is likely comparable to what took place in the Reserves and Tribal Trust Lands prior to 1980. At the same time, the empirical evidence demonstrates that many of the villagers on Selukwe Peak and Adare farms, particularly amongst the elderly, have deep memories of the past and they still visualise land as something sacred and watched over by ancestors. However, the manner in which the villagers treat the land on the two A1 farms is far removed from the respect for land expressed by their pre-colonial ancestors.

The second objective (objective b) involved examining the trends and trajectories of A1 farmers' livelihood strategies in Shurugwi. In considering the closeness of A1 farmers to land for livelihoods, chapter five in particular showcases the livelihood strategies pursued by villagers at Selukwe Peak and Adare farm: namely, farming and mining. Rural Zimbabwe, even dating back to pre-colonial times, has been characterised by the presence of both mining and farming, though the forms these take and the ways they interact have been subject to significant historical variation. On the A1 farms, many farmers have diversified into mining such that they might more aptly be described as farmers-miners. Moving into mining was not made possible by investing agricultural profits into mining ventures; rather, farming needed to be supplemented by alternative earnings, and mining was most obvious local choice. As the thesis shows, however, mining and farming have become a toxic mix in terms of their combined effects on land and land degradation, which does not bode well for long-term agricultural prospects.

The third objective (objective c) sought to examine the proximate and underlying causes of land degradation on the A1 farms in Shurugwi. The underlying causes of land degradation in Selukwe Peak and Adare farm include poverty and economic decline in Zimbabwe, including because of fast track reform. The most important proximate cause of land degradation is mining – mining carried out by A1 farmers, plus illegal mining by others and the mining of LMCs. Most of the villagers are aware that farming is more sustainable (as a livelihood foundation) than mining, but the precariousness and insecurities marking their lives in effect compelled them to become miners. Farming was also an important factor in contributing land degradation, in large part because the farmers were either unwilling or unable to practice sustainable agricultural practices, including soil conservation measures such as contour ridges.

The fourth objective (objective d) entailed examining the narratives of A1 farmers in Shurugwi in relation to land degradation. The narratives are important because they speak to the local understandings and perspectives of the A1 farmers and how these mediate the

livelihood practices in which they engage. As set out in chapters 6 and 7, the villagers articulated what they were witnessing and experiencing in their area relating to land degradation. For the villagers, the fast track programme opened up the boundaries of former white commercial areas (held previously under freehold by white farmers), leading to an influx of people onto the farms and surrounding areas – not just the A1 (and A2) farmers, but others as well. This led to dramatic changes in land use and land cover over a number of years now. The presence of minerals in the district of Shurugwi was a curse in this respect, drawing in multitudes of people in search of wealth-bearing rock. These farmer narratives around land degradation also brought to the forefront the many conflicts that are being experienced by the villagers, with the conflicts exuberating land degradation. The farmer-miner conflict was highlighted by many villagers as if they were on one of the side, when in fact they have one foot in farming and one foot in mining.

Finally, the fifth objective (objective e) considered the manner in which land degradation affects livelihood strategies of A1 farmers in Shurugwi. Clearly, the villagers of Selukwe Peak and Adare farm are being affected deeply by land degradation with specific reference to the capacity of the land to sustain their livelihoods in the future. This implies that a mutually-reinforcing relationship exists between livelihood strategies and land degradation on the two farms, a vicious cycle from which currently there is no clear break – with sustainable land management systems, including those put forward by government agencies, having only minimal positive effects. All aspects of the A1 farmers' lives and livelihoods are now problematic – including soil erosion, the drying up of river sources, and declines in crop and livestock production. The elderly villagers also complained about the loss of their cultural sites in the area due to continual mining in and along their sacred rivers (and without chiefs present as custodians of the past).

8.3 Addressing the Main Objective

The main objective of the study, as indicated, is to examine the interrelationships between land degradation to examine the interrelationships between land degradation and rural livelihoods on two A1 farms in Shurugwi District in Zimbabwe. Indirectly, and combined, addressing the subsidiary objectives has entailed addressing the main objective. Overall, there is mutual interaction between land degradation and livelihood strategies, and they both condition and configure to each other. They can be disentangled and examined as two separate processes but, in actually-existing reality, they are part and parcel of the same process or different elements of the same process: for instance, a practice which from one perspective might be viewed as a

livelihood strategy, can be reviewed as a land degradation practice from another perspective. This thesis thus viewed farm-based practices from a dual perspective.

Both theories, the Sustainable Livelihood Approach (SLA) and Archer's theory of morphogenesis, facilitated the addressing of the main objective. Because of its emphasis on locality, the SLA contributed to a detailed understanding of household-based livelihoods and in a way which is sensitive to land as part of 'natural capital'. While 'natural capital' was drawn upon by A1 villagers in pursuing their livelihoods, this was being done in a way which did not replenish 'natural capital' – and hence land degradation was taking place. In terms of the SLA, land degradation would be labelled as a trend, and a disturbing one at that, which now forms a central component of the vulnerability context for the A1 farmers on Selukwe Peak and Adare farms. The SLA is also important because of its consideration of household-based agency. Despite all that is weighed against them, A1 farmers seek to activate the potential contained in 'natural capital' (land and its resources), whether successfully or not.

In this regard, Archer's theoretical work is of some significance. Agency is crucial for Archer, in terms of the notions of internal conversations and personal projects, including livelihood projects for this study. The A1 villagers, as borne out by my interactions with them, show signs of engaging in internal conversations – of being highly reflexive in terms of thinking about their life circumstances and likely futures, including in relation to land and livelihoods. They think about what is within their reach of doing, and what is beyond their reach and control. These conversations and ensuing perspectives do in part condition and configure their actual livelihood practices, but perspectives can never be directly translated into practices because of the underlying and broader systemic conditions (including at national level) nullifying what is possible for them at the local level. Still, agential power has real effects on both land degradation and livelihood strategies.

But, structures have real effects (i.e. structural power) even if not directly experienced, interpreted or understood. In fact, deep structures 'produce' the world in ways in which humans do not fully or even partially comprehend. So, irrespective of whether or how A1 villagers on the two farms feel the effects of underlying structures (broadly, the political economy of contemporary Zimbabwe), there will be structural traces embedded in their local lives and livelihoods. For example, the economic and political configuration of present-day Zimbabwe has pushed many villagers into becoming both farmers and illegal miners in order to sustain their survival. In a way only partially understood by the A1 villagers, the LMCs in Shurugwi are an embodiment of the playing out of national power at local level – as these mining companies are typically aligned with the national political elite. This is further 'pushing' the

A1 farmers to be involved in mining in order to benefit from their local resources before they are exhausted by outsiders, though again this is mediated by reflexivity and entails conscious deliberation and choices (Golob and Makaranovic 2019).

The notion of morphogenesis was used in order to understand the connection between the livelihood strategies of the A1 farmers (from 2000) and the interplay that exists between their livelihood strategies and land degradation. Morphogenesis shows the changes in the villagers' livelihood strategies (beginning as farmers only to becoming both farmers and illegal miners) and how these changes have brought about land degradation. Through Archer's morphogenesis theory, the interplay between structure and agency was shown over time on the farms. In as much as the 'structures made' the villagers to become farmers (through the FTLRP), the A1 farmers due to the situation they are currently facing due to economic hardships have 'made themselves' into become illegal miners. It is this active response by the villagers that is now resulting in deeper levels of land degradation on the two A1 farms.

8.4 Contribution of Thesis and Future Research

Land degradation is a very serious social, economic and political problem on a global scale, and any scholarly work on this topic has, potentially, important programmatic implications in terms of stalling or reversing it. At the same time, in order to maximise programmatic benefits, we need to advance the scholarly study of land degradation, which this thesis has sought to do. This thesis has contributed to scholarly work on land degradation and rural livelihoods in a number of ways, in relation to Zimbabwe and beyond. First of all, it shows the significance of deeply localised studies in furthering our identification and understanding of the sheer complexities of the multi-layered relationship between land degradation and rural livelihoods. Secondly, and related to this, the thesis highlights the importance of focusing on the everyday agency of rural people – i.e., focusing on the perspectives, experiences and practices of rural people as they pursue their lives and livelihoods under precarious and vulnerable conditions. Thirdly, the empirical case study shows the necessity of a diachronic (or temporal) understanding of land degradation and rural livelihoods, particularly given that land degradation is not simply a condition but a process as well. Fourthly, and finally, the thesis makes an analytical contribution to the prevailing literature by showing how macro-sociological theory (in this case, the work of Margaret Archer) adds significant insights into the ways in which both agential and structural power have a bearing on land degradation and rural livelihoods.

One of the key ways of deepening our understanding of land degradation and rural livelihoods would be by way of a greater sensitivity to forms of rural differentiation and stratification. Though there was some sensitivity to this in this thesis, more focused attention is crucial. While this thesis spoke to the existence of wealth differentiation and generational differences on the two A1 farms, it did not pursue the implications of these fully, regarding land degradation and rural livelihoods. Concentrating on rural differentiation, including in relation to gender and ethnicity as well, would only strengthen land degradation-rural livelihoods studies. Hopefully this thesis encourages other scholars to do so.

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Appendix 1: Questionnaire

The information captured in this interview is strictly confidential and will be used for research purpose. Participation is on a voluntary basis and non-financial benefits will be paid during or after participation. The respondent should be the household head or someone well informed about the household. Withdrawal from participation can be done at any period if one wishes to.

A. Identification

1. Name of A1 farm

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2. Time

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3. Date

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B. Demographic Characteristics

1. Name:

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2. Gender

- a. Male ☐ b. Female ☐

3. Age

- a. 18-24 ☐ b. 25-34 ☐ c. 35-44 ☐ d. 45-54 ☐ e. 45-54 ☐
f. 55-64 ☐ g. Above 64 ☐

4. Marital Status

- a. Married ☐ b. Divorced ☐ c. Separated ☐ d. Single ☐ e. Widower/Widow ☐

5. Level of education Attained

- a. None ☐ b. Primary ☐ c. Secondary ☐ d. vocational/training ☐
e. college/university ☐

6. Number of people residing in household most part of the year

- a. 0-4 ☐ b. 5-6 ☐ c. 7-8 ☐ d. 9-10 ☐ e. Above 10 ☐

7. Family position of the respondent

- a. Household head ☐ b. Spouse of the household head ☐ c. Grown up child ☐
d. Relative ☐ e. Other: please specify ☐

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8. Years residing in the village

- a. Less than 5 years ☐ b. 5-10 ☐ c. 11-20 ☐ d. more than 20 years ☐

C. Land

1. Where did you move from? And what prompted you to move to this area?

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2. Do you own the land you currently occupy? Yes ☐ No ☐

3. If you own land, what kind of land ownership do you have?

- a. 99 year old lease ☐ b. offer letter ☐ c. waiting list ☐

4. What is your land size?

5. What do you use your land for? If yes please indicate the estimate size of the land under each type of land use

Land use activity	Yes	No	Estimate land size
Cultivation			
Construction			
Livestock grazing			
Fallow land			
Forest			
Water reservoir			
Mining			
Others: Please specify			

6. What source of /which form of energy do you use for cooking and other household chores. Please tick in the table below where appropriate

Energy source	Yes	No
Firewood		

Charcoal		
Paraffin		
Gas		
electricity		
solar		
Others: Please specify		

7. What natural resources do you use at your homestead?

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8. What do you use for building and roofing your houses?

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9. What significance does land hold to you?

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10. Are there any cultural practices and beliefs that you associate with land? If yes may you please state them?

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11. Do you have any indigenous laws that protect your land? If yes may you please state them?

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12. Do you undertake any of the following agricultural measures on your land?

Agricultural measure	Yes	No	Frequency of use
Shifting Cultivation			
Crop rotation			
Mulching			
Applying Chemical fertilizers			
Applying organic manure			

Incorporating crop residue			
Erosion control			
Land levelling			
Irrigating land			
Others: please specify			

13. What measures do you take as a household in protecting and taking care of land?

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14. If you use chemical fertilisers how many bags do you add to the soil during the planting and growing season?

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15. What is your tillage method?

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16. Do you own livestock? May you please fill in the table

Name of livestock	Yes: Number owned	No
Cattle		
Goats		
Sheep		
Donkeys		
Chickens		

17. What is the source of water for your animals?

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18. Are they grazing lands in your village? If so how far away are they from your village?

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19. What are the major water sources in your area?

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20. What water sources do you use for drinking?

- a. borehole ☐ b. Protected well ☐ c. unprotected well ☐
d. River/stream ☐ e. tap waters ☐

21. Source of water for domestic purposes

- i. Well ☐
ii. Borehole ☐
iii. River/stream ☐
iv. Other ☐

22. Have you ever heard of climate change? If so what do you understand by climate change?

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23. Is there any climate change in the area?

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24. Indicate which changes have you noticed in the table below.

Changes	Yes	No
Floods		
Drought		
Drastic Temperature increases		
Drastic Temperature decreases		

D. Livelihood strategies

25. What is the current occupation/livelihood of the household head?

i. Employed ☐ ii. Farming ☐ iii. Business ☐ iv. Others: Please specify.....

26. What are your livelihood strategies?

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27. May you give a historical perspective of your livelihood strategies since you began living in this village?

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28. Have there been changes in your livelihood strategies ever since you started residing in your village? If yes may you explain in what way?

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29. What determines/controls the livelihood strategies you do?

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30. What are the challenges associated with your livelihood strategies?

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31. What are your livelihood strategies that are linked to land?
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32. Do you think there is a link between your livelihood strategies and land degradation?
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33. What natural resources do you use to carry out your livelihoods strategies?
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34. Do you carry out agricultural intensification on your land?
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35. What are your agricultural practices?
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36. What do you use to cultivate your land?
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37. What crops do you cultivate in your fields?
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38. Do you have contour ridges? May you explain your answer?
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39. Are you in the irrigation scheme?
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40. If yes what do you cultivate at the irrigation?
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41. Do you mine? If yes where do you carry out your mining activities?
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42. Do you have a mining license?
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43. Are you involved in these livelihood activities

Activity	Yes	No
Firewood selling		
Sand poaching		

E. Land degradation

44. Do you know what land degradation is? Yes ☐ No ☐

45. What do you understand as land degradation?
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46. Is there land degradation in your village? Yes ☐ No ☐

47. What do you see to say that there is land degradation in the area?
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48. How do you describe land degradation in your village

a. Extreme ☐ b. High ☐ d. medium ☐ e. low ☐

49. Which one would you say is the major cause of land degradation in our village?

a. Natural activities ☐ b. human activities ☐ c. both ☐

50. What are the major causes of land degradation in your area?
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51. May you state the human activities that are leading to land degradation?

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52. May you state the natural causes of land degradation in your area?

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53. Are there any activities that you are undertaking that are causing land degradation? May you please name them?

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54. How would you rate the changes that have taken place on land (forest cover, vegetation cover, land cover and water)?

a. Extreme ☐ b. high ☐ c. medium ☐ c. low ☐ d. no change ☐

55. Can you explain to me any observational changes that have occurred on the land (forest cover, vegetation cover, land cover and water) since you began staying your village?

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56. Are there any trees, animals, vegetation that has gone extinct or disappeared due to changes in the environment? If yes may you please state them?

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57. What are the types of land degradation that are taking place in your area

Type of land degradation	Yes	No
Soil degradation		
Vegetation degradation		
Forest degradation		

58. Has there been any instances of water contamination or pollution in your area?

Yes ☐ No ☐

59. If yes may you explain what the causes were?

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60. Have there been any changes in the terms of water quantity and water quality? If so what have been the major causes of these changes?
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61. Has there been any diseases outbreaks due to water pollution or contamination? If so what has been the causes of the water pollution or contamination?
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62. Is there soil erosion in the area? If so which areas are facing soil erosion taking place?
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63. Is there soil erosion in the area?
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64. What changes have you brought about in terms of land use and land cover? What has prompted these changes?
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65. Is there a relationship between your livelihood strategies and land degradation? If yes may you please explain the relationship?
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66. May you please list your livelihood strategies that are linked to land?
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67. What livelihood strategies are the major causes of land degradation in the area?

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68. Is livestock contributing to land degradation and if so may you explain in what way?

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69. What are villagers doing in order to deal with land degradation in the area?

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70. What are you doing in terms of curbing land degradation in the area?

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71. In your own view does land degradation have any effects on people's livelihoods?
If yes please explain further?

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72. Impacts of land degradation on livelihood strategies

- a. No effects ☐
- b. Negligible effects ☐
- c. Significant effects ☐
- d. Severe effects ☐

73. Frequency of livestock loss due to open pits and shafts

- i. Nil ☐
- ii. Seldom ☐
- iii. Quite often ☐
- iv. Increasingly more often ☐

74. Land degradation impacts observed on

- i. **Wetlands** a. none ☐ b. medium ☐ c. high ☐ d. extreme ☐
- ii. **Rivers/streams** a. none ☐ b. medium ☐ c. high ☐ d. extreme ☐
- iii. **Wells** a. none ☐ b. medium ☐ c. high ☐ d. extreme ☐
- iv. **Boreholes** a. none ☐ b. medium ☐ high ☐ d. extreme ☐

75. Low crop yields due to soil degradation

- i. Nil ☐
- ii. Seldom ☐
- iii. Quite often ☐
- iv. Increasingly more often ☐

76. The state of water source for the following uses:

- i. **Drinking:** a. purified ☐ b. unpurified ☐
- ii. **For irrigation** a. good/reliable ☐ b. deteriorating ☐ c. poor ☐
d. critically scarce ☐

77. Is mining leading to land degradation? If yes may you explain in detail how?

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78. Did the fast track land reform programme lead to land degradation? If yes may you explain how?

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79. Has there been changes in grassland?

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80. In your own view between these two what land use is leading to land degradation the most?

- a. Agriculture ☐ b. Mining ☐

81. What other land uses are causing land degradation in the area?

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82. What extent is deforestation in your area?

- a. Low b. medium c. High e. extreme

83. What are the causes of deforestation in your area?

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84. Can you link climate change with land degradation in your area?

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85. Has land degradation affected your livelihoods? If yes may you explain how?
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F. Organisations operating in the area

86. Are there any institutions or organisations that work here trying to protect the environment? If yes may you name them?
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.....

87. What kind of help do you receive from these institutions

i. Education and training ☐

ii. Input supplies ☐

iii. Food supplies ☐

iv. Other

support.....
.....

v. No support ☐

88. Is EMA active in your village? Yes ☐ No ☐

89. Does EMA carry out awareness campaigns and if so how often?
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90. What has EMA done to combat land degradation in your village?
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91. Is EMA carrying out its duties effectively?
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92. What is the government doing in addressing land degradation in the area?
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93. Is what the government doing adequate

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94. What do you think the government should do in order to address land degradation

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95. Are there any companies that are causing land degradation in your village? If yes may you name them and explain how they are leading to land degradation?

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G. Sustainable land management practices

96. Are there any agricultural practices that you are making use of that protect the land?

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97. What land management techniques have you adopted?

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98. Are there any land management practices carried out in your village?

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99. How often do you receive awareness on land sustainability?

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100. Are there any NGOs that promote land sustainability issues in your villages?

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101. Do you carry out reforestation?

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102. How often do you receive information pertaining to land sustainability?

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THANK YOU!!!

Appendix 2: Key Informant Interview Schedule (1)

I carried out key informant interviews with the DDC, ward councillor, ministry officials (ministry of lands, ministry of mechanisation, AGRITEX and EMA).

DATE	KEY INFORMANT
May 2021	District Development Coordinator (DDC) Shurugwi Office
May 2021	Ward Councillor (Shurugwi Office)
June 2021	Ministry of Lands Official (Shurugwi Office)
June 2021	Ministry of Mechanisation Official (Shurugwi Office)
June 2021	EMA Official (Shurugwi Office)
June 2021	AGRITEX Official (Shurugwi Office)

The following is the list that guided both the DDC and the ward councillor

A. Interview questions

1. For how long have you been staying in Shurugwi?

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2. Is Shurugwi your birth place?

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3. May you briefly explain to me the map of Shurugwi

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4. Are there wards in Shurugwi and how many are they?

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5. How many villages are in each ward?

.....

6. In which ward is Adare and Selukwe peak?

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7. How many households are in Adare and Selukwe peak?

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8. Are there herdman (Sabhuku) in these two villages and if so may we see them?

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9. Are there any female headed households in these two villages?

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10. How many A1 farms and A2 farms are in Shurugwi?

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11. How were the A1 farms distributed and how big in size are they?

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12. Who owned the land (A2) farms before the redistribution?

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13. Who were targeted during the re-distribution of these A1 farms?

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14. Were Selukwe Peak and Adare farm part of the re-distribution process?

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15. How many villagers and households are in Selukwe peak and Adare farm (the number of people in each farm)?

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16. How many female headed households are in the Selukwe peak and Adare farm?

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17. How long have these two farms been in place and how long have villagers resided in the A1 farms?

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18. May you please list the names of schools, hospitals, clinics that are in the area?

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19. How many kilometres are the two villages from the Shurugwi town?

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B. Land, land use and significance

20. What significance does land hold to the villagers?

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21. What cultural values and beliefs are given to the land?

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22. May you give a brief background on the uses of land in the area?

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23. What has changed in the uses of land up until now? (in the area)

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24. What changes have been brought by the villagers in terms of land use and land cover?

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25. Have there been observational changes in terms of land (forest cover, vegetation cover and water) in the area in general and the two farms in particular? If yes may you please state these changes?

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26. What is the history and pattern of settlement in the area?

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27. Are there any conflicts in relation to land and water uses in the area?

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28. Do villagers have tenure to their land? If Yes or No explain further on how it influences land. What impact does having tenure or not have on land?

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29. Are there any sacred areas and mountains in the area? Have there been any physical changes to these over the years?

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30. What are main water resources available and used by the villagers in the area-both for drinking and domestic use?

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C. LIVELIHOODS

31. What sort of livelihoods would you say people in Adare and Selukwe survive on?

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32. Who or what determines people's livelihood strategies?

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33. May you list the off farm livelihood strategies and on farm livelihood strategies that are undertaken in the A1 farms.

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34. What are the main livelihood strategies during i) rainy and ii) dry seasons?

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35. Have there been changes in people's livelihood strategies ever since the establishment of the A1 farms. If yes may you explain in what way

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36. What are the main natural resources that the community uses for production/livelihoods? (e.g. Cropland, grazing land, fuel wood, timber, medicinal plants, dry season , water sources)

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37. What are the main livelihood strategies problems or difficulties both long and short term faced by rural households (e.g. poverty, poor access to resources)? Given all that they face what then do they do as counter measures?

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38. What is the average number of livestock that is owned by households i.e. cattle, goats, chickens, donkeys?

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39. Is livestock contributing to land degradation and if so may you explain in what way?

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40. May you explain the wealth categorization that is used in the two farms?

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41. May you give a rough percentage of those who are ranked rich, medium, poor, very poor

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42. Is there a difference in the use of resources in the households and what determines this difference?

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43. Do the better-off households use the same natural resources as the poor households and do they carry the same livelihood strategies?

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44. Who carries out activities that lead to land degradation, better- off or poor households?

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45. What would you say are the root causes of land degradation in the two farms?

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46. Are people aware that their livelihood strategies may lead to land degradation?

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D. Land degradation

47. In your view what is land degradation?

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48. Are people aware what land degradation is?

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49. Are people aware that livelihood strategies may lead to land degradation?

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50. Is there a link between the people's livelihood strategies and land degradation? If yes may you please explain the linkage?

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51. What are the types of land degradation in the area?

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52. What are the human activities (direct causes) that are causing land degradation in the two farms?

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53. What are the root causes/indirect causes of land degradation in the area?

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54. Is agriculture causing land degradation in the area? If so may you explain how?

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55. What indicators do the locals use to describe soil erosion /degradation (e.g. loss of fertility, soil loss, gully formation, water pollution, vegetation degradation, forest degradation)

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56. Is there land degradation in Shurugwi and in the A1 farms?

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57. What observations do you see for you to say that there is land degradation?

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58. Are there any trees, animals, vegetation that has gone extinct or disappeared due to changes in the environment?

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59. Whom do you think is causing land degradation in the area?

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60. What has triggered practices that cause land degradation?

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61. Is there soil degradation in the area? If so which areas are facing soil degradation taking place

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62. Is there soil erosion in the area?

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63. Is there water degradation in the area?

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64. What are the major sources of water in the area?

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65. Have there been any changes in the terms of water quantity and water quality? If so what have been the major causes of these changes?

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66. Has there been any diseases outbreaks due to water pollution or contamination? If so what has been the causes of the water pollution or contamination?

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67. Is mining leading to land degradation? If yes please explain how in detail?

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68. Who carries out mining activities in the area?

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69. How many households are involved in mining and are there any women headed household involved? (high, medium or low)

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70. Is mining affecting Boterekwa (The Wolfshall pass)? If yes may you write the effects that you see below

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71. Has mining ever affected the water quality in the area?

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72. Is there climate change in the area and if so is it contributing to land degradation?

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73. What were the objectives of the Fast Track Land Reform Programme and would you say it achieved its intended objectives?
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74. Would you say Fast Track Land Reform was one of the major drivers for the rapid land degradation in the area?
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75. Which among the two models, A1 or A2 has the most land degradation? Explain why
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76. Before the Fast track land reform program what were people's livelihood strategies like?
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77. Did the Fast track Land reform program bring any changes in terms of land condition? If yes please explain in what way?
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E. SUSTAINABLE LAND MANAGEMENT PRACTICES

78. What do you think should be done to curb land degradation in the two farms?
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79. Are there any indigenous/cultural laws that protect the land?

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80. If so may you please go into detail in explaining these laws i.e. who has the power to carry them out, who put these laws, and how far back can we trace them?

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81. Do people abide by these laws and if they do not are there any punishments that are undertaken?

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82. Have these laws managed to protect land and the environment?

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83. What land sustainability practices were practiced long back and what are those that are being practiced now?

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84. What strategies or coping mechanism are adopted in the area to deal with land degradation(e.g. to deal with issues such as soil erosions, deforestation, water pollution)

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85. Are there any government laws that villagers abide to that deal with protecting the land?

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86. If so who gives awareness campaigns to these villagers?

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87. Are there Non-Governmental Organizations (NGO) that promote land protection awareness and if so may you please name them and give details on what they do?

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88. Is EMA active in disseminating information regarding the protection of land?

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89. In your own view, is EMA carrying out its duties in protecting the environment?
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90. Are there companies and organisations that are leading to land degradation in the area?
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91. If that is the case what activities are carried out by these companies that are contributing to land degradation?
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92. Are there successful areas where land degradation control (i.e. conservation restoration and/or improvement of land resources) has been achieved? What led to that success?
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93. What major social divisions (e.g. poverty, wealth, religious groupings) exist in the villages that affect the differential access people have to resources or to the way that they manage the land?
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94. Who is causing land degradation in the area, is it the villagers or its outsiders?
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95. Are there external forces that are leading to land degradation?

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96. What action is being done to curb land degradation in the area?

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97. Has land degradation affected the livelihoods of the people? And if yes may you please explain?

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98. What are the villagers doing to protect the land and the environment? Are there any measures that they are taking?

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99. What is the government doing in terms of curbing land degradation?

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100. Are there any sustainable practices that the villagers are doing to promote
sustainable management

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101. What is the government doing in addressing land degradation?

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102. Is what the government doing adequate

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103. What do you think the government should do in order to address land
degradation

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Thank you!!!!

Appendix 3: Key Informant Interview Schedule (2)

The following is the list that guided the interviews carried out with the Ministry of Lands Official

1. For how long have you been operational in Shurugwi?

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2. May you briefly explain to me the map of Shurugwi in terms of settlements

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3. What is the current population of Shurugwi?

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4. How were the A1 farms distributed?

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5. Who distributed these A1 farms and what category was implemented in the distribution process?

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6. What is the history and pattern of settlement in the area?

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7. When did Selukwe peak and Adare A1 farms formed?

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8. Who owned the A2 farms before they were re-distributed?

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9. Is there any land that is reserved in the A1 farms, that is not in use (that is protected)?
What are A1 farms?

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10. What were the objectives of the fast track land reform programme?

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11. Did the FTLRP achieve its intended objectives?

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12. Who were targeted in the re-distribution of the A1 farms?

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19. What livelihood strategies do the people in these farms practice?

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20. What kind of livestock do the people in the two farms keep and how many do each household have?

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21. Do they have designated grazing lands?

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22. How big are the grazing lands? How far are they from the people's homesteads?

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23. What are the sources of water that the people use in the area?

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24. How many rivers, dams, boreholes are in the area?

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25. Where do villagers get their source of water from?

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26. Have there been incidences of water degradation in the area i.e. water pollution, contamination, reduction in water quality and quantity?

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27. If so what has been the cause of this?

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28. In your own view, what is land degradation?

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29. Did you give people awareness lessons in terms of land sustainability before they inhabited these A1 farms?

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30. If so what were the lesson on?

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31. Do you have any requirements that the people should practice on land sustainability in their farms? If yes may you please state them

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32. Is there land degradation in the two farms and in all A1 farms in general?

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33. If yes may you please give the extent of the land degradation?

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34. What are the root causes of land degradation in A1 farms?

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35. What are the direct causes of land degradation on A1 farms?

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36. What are the types of land degradation that are found in A1 farms?

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37. What is the extent of soil degradation in the farms?

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38. What is the extent of vegetation degradation in the A1 farms?

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39. What is the extent of water degradation in the A1 farms?

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40. What cultural values are given to land by the villagers?

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41. What significance does land hold to the villagers?

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42. Are there any cultural practices and beliefs that the villagers associate with land? If yes may you please state them? What cultural value does land hold to the villagers

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43. In your own view does land degradation have any effects on people’s livelihoods? If yes please explain further?

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44. Are there NGOs that operate in the area that deal with environmental issues? If yes may you please name them?

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45. In your own view is EMA carrying promoting land sustainability in the area?

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46. What is the government doing in addressing land degradation

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47. Is what the government doing adequate?

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48. Are there any government laws that villagers abide to that deal with protecting the land?

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49. Have these laws managed to protect land and the environment?

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50. Is there Climate Change in Shurugwi?

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51. Has climate change contributed to land degradation in the area? If yes may you explain how?

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Appendix 4: Key Informant Interview Schedule (3)

The following is the list that guided the interviews carried out with the EMA Official.

1. For how long have you been operational in Shurugwi?

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2. Before EMA which organisation was operational in terms of environmental management both nationally and in the area?

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3. What is EMA doing in promoting Sustainable Land Management (SLM)?

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4. Does EMA have any programmes meant to promote Sustainable Land Management? If yes may you please state the programmes

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5. Are there other organizations that you work with in promoting land sustainability?

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6. What role does your organisation play on land degradation issues in the community?

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7. Would you say there is land degradation in the area? If yes please explain further

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8. How do you measure land degradation in the area?

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9. Do you have estimates of extent of land degradation in terms of forest cover, land cover, vegetation degradation and water degradation in the area?

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10. What observational changes in the environment (forest, land, vegetation, soil, water) have you noticed since you started operating in the area?

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11. Do you carry out any awareness programmes that deal with protecting land?

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12. To what extent do villagers implement or follow your recommendations and advice on land protection?

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13. What are the types of land degradation that are found in Shurugwi?

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14. Is there soil degradation in the area and what are the major types that are found in the area?

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15. Do you assess soil health and soil erosion status and trends?

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16. What are the major cause of soil degradation in the area?

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17. Is there water degradation in the area and what are the major types?

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18. How does land degradation affect land-water linkages?

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19. What are the major causes of water degradation in the area?

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20. Has the area faced water degradation problems such as siltation of rivers and water pollution?

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21. Is there vegetation degradation in the area?

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22. Is there any vegetation that has gone extinct in the area?

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[illegible]

24. What are the main drivers (root causes, the important socio-economic institutional and

[illegible]

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25. What are the direct causes of land degradation in Shurugwi?

[illegible]

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26. What is causing land degradation more, natural or human activities?

[illegible]

27. What human activities are causing land degradation in the area?

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28. What are the natural causes of land degradation in the area

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29. Have there been natural disasters in the area (drought, floods) and what was their impact on land?

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30. Do villagers in the area know what land degradation is?

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31. What are the impacts of land degradation on people's livelihoods?

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32. Are people's livelihood strategies linked to land degradation? If yes may you explain further

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38. What has been the effects of illegal mining on land in the area?
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39. What is being done to stop illegal mining in the area?
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40. What are the major causes of land degradation in A1 farms in the area?
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41. Which area has the most land degradation, A1 farms or A 2 farms and explain why?
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42. In your opinion has the Fast track land reform programme contributed to land degradation?
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43. According to your statistics which area has seen the biggest percentage in terms of land degradation, before the fast track land reform program or after the fast track land reform?

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44. What measures have you put into place to stop land degradation in the area?

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45. Do you carry out fieldworks with community members?

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46. To what extent do villagers understand that land is degrading and that their livelihood strategies may be contributing to that?

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47. What are the negative impact of land degradation in the area that you are seeing?

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48. Are there laws that are meant to punish those who damage land? May you please state them?

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49. Do people abide by the laws?

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50. Do you observe villagers' indigenous beliefs as you carry out your endeavours?

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51. What challenges have you faced as an organization in promoting environmental protection?

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52. Have you been effective in carrying out your programs on land sustainability practices?

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53. Are there any suggestions that you would like to give on land use practices on Shurugwi?

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Appendix 5: Key Informant Interview Schedule (4)

The following is the list that guided the interviews carried out with the AGRITEX Official and the Ministry of Mechanisation Official

1. For how long have you been operational in Shurugwi?
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2. What is your organisational mission and vision?
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3. What are your operations in Shurugwi?
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4. Would you say there is land degradation in the area? If yes please explain further
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5. What are the causes of land degradation in Shurugwi?
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6. What are you doing to address land degradation in the area?
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7. What is Agritex/Ministry of Mechanisation doing in promoting Sustainable Land Management (SLM)?
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8. Does Agritex/ Ministry of Mechanisation / have any programmes meant to promote Sustainable Land Management? If yes may you please state the programmes
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9. Are there other organizations that you work with in promoting land sustainability?
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10. What role does your organisation play on land degradation issues in the community?
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11. How do you measure land degradation in the area?
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12. Do you have estimates of extent of land degradation in terms of forest cover, land cover, vegetation degradation and water degradation in the area?
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13. What observational changes in the environment (forest, land, vegetation, soil, water) have you noticed since you started operating in the area?
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14. Do you carry out any awareness programmes that deal with protecting land?

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15. To what extent do villagers implement or follow your recommendations and advice on land protection?

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16. What are the types of land degradation that are found in Shurugwi?

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17. Is there soil degradation in the area and what are the major types that are found in the area?

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18. Do you assess soil health and soil erosion status and trends?

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19. What are the major cause of soil degradation in the area?
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20. Is there water degradation in the area and what are the major types?
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21. How does land degradation affect land-water linkages?
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22. What are the major causes of water degradation in the area?
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23. Has the area faced water degradation problems such as siltation of rivers and water pollution?
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24. Is there vegetation degradation in the area?
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25. Is there any vegetation that has gone extinct in the area?

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26. What are the land use types in Shurugwi (e.g. no use, protected use, urban, large scale irrigated areas, combination of cropland and livestock)?

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27. What are the main drivers (root causes, the important socio-economic institutional and policy drivers) of land degradation in Shurugwi?

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28. What are the direct causes of land degradation in Shurugwi?

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29. What is causing land degradation more, natural or human activities?

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30. What human activities are causing land degradation in the area?

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31. What are the natural causes of land degradation in the area

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32. Have there been natural disasters in the area (drought, floods) and what was their impact on land?

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33. Do villagers in the area know what land degradation is?

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34. What are the impacts of land degradation on people's livelihoods?

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35. Are people's livelihood strategies linked to land degradation? If yes may you explain further

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36. Is livestock contributing to land degradation in the area? If yes please explain how?

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37. Which livelihood strategy/human activity in your opinion is contributing the most to land degradation in the area?

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38. To what extent is mining being carried out in the area? Is it a major cause of land degradation in the area?

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39. Are there laws that prohibit illegal mining?

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40. Who carries out illegal mining in the area?

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41. What has been the effects of illegal mining on land in the area?

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42. What is being done to stop illegal mining in the area?

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43. What are the major causes of land degradation in A1 farms in the area?

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44. Which area has the most land degradation, A1 farms or A 2 farms and explain why?

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50. What are the negative impact of land degradation in the area that you are seeing?

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51. Are they laws that are meant to punish those who damage land? May you please state them?

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52. Do people abide by the laws?

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53. Do you observe villagers' indigenous beliefs as you carry out your endeavours?

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54. What challenges have you faced as an organization in promoting environmental protection?

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55. Have you been effective in carrying out your programs on land sustainability practices?

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56. Are there any suggestions that you would like to give on land use practices on Shurugwi?

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57. Is there climate change in Shurugwi?

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58. Do you think climate change is causing land degradation? If so to what extent may you explain to what extent?

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59. Are there any other factors outside of mining, agriculture and climate change that are leading to land degradation in the area? If yes explain further

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Appendix 6: Focus Group Discussion Guide

The following is the list that guided the FDGS held in Selukwe peak and Adare A1 farms

1. What is your major livelihood strategy?
2. What do you practice more between mining and farming?
3. Do you understand what land degradation is?
4. What are the causes of land degradation in your A1 farm?
5. To what extent is land degradation a problem in your A1 farm?
6. Who is causing land degradation in your A1 farm?
7. Are farmers also practicing illegal mining?
8. Who is causing land degradation more: illegal miners or LMCs?
9. What conflicts exists in your area?
10. Who is behind these conflicts?
11. Do miners invade in farmers' fields?
12. Do you know what Sustainable Land Management is?
13. Which organisations educate you on SLM practices?
14. To what extent do you practice these?

Appendix 7: Life History Guide

The following is the list that guided life histories:

1. Where were you born?
2. When did you come to reside in the A1 farms and what prompted you to move?
3. Tell me about your life when you were growing up (include cultural practices, the vegetation and land cover).
4. What livelihood strategies that were linked to land did you carry out when you were growing up?
5. What cultural practices did you carry out that were linked to land?
6. What were the roles of chiefs in maintaining land?
7. What was the area like when you started to reside in the A1 farms?
8. What changes have you observed in terms of land and vegetation cover from when you started inhabiting in the A1 farms?
9. What cultural practices are being carried out in the A1 farms that are meant to protect land?
10. Who is implementing these cultural practices?
11. Is it necessary to have chiefs in the maintenance of land?
12. Is there land degradation in the area?
13. Was there land degradation when you were growing up and in comparison, which era has more land degradation, the past or the present?
14. Do you practice mining?
15. In your opinion who is causing land degradation more, illegal miners or LMCs

Appendix 8: Informal Interview Questions

The following is the list that guided the interviews carried out with the Selukwe peak farm chairpersons and Adare farm chairpersons.

1. May you tell me the history of Selukwe peak/ Adare farm.
2. What is the number of male headed, female headed and child headed in the area?
3. How big are the people's farms?
4. What are the people's livelihood strategies in the farms?
5. what is the major livelihood strategy in the A1 farms?
6. What crops are grown by the farmers?
7. Is there an irrigation scheme in the farm? If yes how many people are involved in the scheme?
8. How many boreholes are in the area?
9. What source of water do people depend on for drinking and home uses?
10. Do people own livestock? If yes how many per each household do people have?
11. Are they grazing lands? If so are they adequate for people's livestock?
12. Are there illegal miners in the A1 farms?
13. Are farmers also illegal miners?
14. Is there land degradation in the A1 farms? If yes may you explain the types of land degradation found in the area?
15. What are the major causes of land degradation in the A1 farms?
16. Have there been changes in land cover, vegetation cover since the two A1 farms were occupied?
17. Is there a link between livelihood strategies and land degradation?
18. To what extent is mining causing land degradation in the area?
19. Do farmer mine in their own fields?
20. Are they illegal miners who are mining who mine in villagers' fields?
21. What significance does land hold to you?
22. Are they any indigenous laws or cultural practices in the area that are followed by the villagers that protect land?
23. What practices are being undertaken by the farmers to sustain their land?
24. What is the Ministry of Lands doing in terms of land sustainability, land degradation? Explain in detail?
25. What is the ministry of Mines doing in terms of land sustainability, land degradation? Explain in detail?
26. Is there farmer-miner conflict in the two A1 farms?
27. Are there any effects on people's livelihood strategies due to land degradation? Explain in detail?

ILLEGAL MINER

1. How long have been staying in Shurugwi?

2. What are your livelihood strategies?
3. What livelihood strategies are undertaken in the area that are linked to land?
4. In your own view which livelihood strategies are leading to land degradation?
5. Are you into mining? What prompted you into mining?
6. Are you an illegal miner or you hold a mineral mining licence?
7. What is the procedure of attaining a mining licence?
8. Why do you not have a mining licence?
9. For how long have u been mining?
10. What do you mine?
11. What equipment do you use when you mine?
12. Where do you carry out your mining activities?
13. Can you explain to me in detail the activities that you carry out at the mine?
14. Is mining leading to land degradation? If yes may you explain in detail how it is leading to land degradation?
15. What measures do you undertake to stop land degradation when you mine?
16. Are they any environmental organisations that you work with?
17. Do illegal miners do land reclamation after mining?
18. Is there a conflict between farmers and illegal miners? Explain in detail?
19. The farmers are blaming illegal miners for causing land degradation in the area. What are your thoughts on this?
20. Do you work with the Ministry of Minerals?
21. Are they illegal miners who mine in rivers, Boterekwa and in villagers' farms?
22. Do you work with Licenced mining companies? If yes may you detail the procedures?
23. Do LMCs cause land degradation in the area?
24. Who is causing land degradation more: illegal miners or LMCs?
25. What should be done to curb land degradation caused by both illegal miners and LMCs

A1 and A2 Farmer

1. When did you reside in Shurugwi?
2. Where were u coming from?
3. What prompted you to move into this area?
4. How big is your land?
5. What livelihood strategies do you carry out in your fields?
6. Do you own livestock and how many do you own?
7. What was the condition of your land when you first inhabited your farm?
8. What measurements did you take to reclaim your land?
9. What crops do you grow in your fields?
10. Do you practice illegal mining? If yes explain further?
11. Do you ever face problems where miners invade your land and mine?
12. Is there land degradation in your fields and also in A1 farms?
13. What are the causes of land degradation in A1 farms?
14. Who causes land degradation more between illegal miners and LMCs? Explain in detail?

15. Are there any cultural practices that you follow to sustain your land?
16. What organisations deal with land sustainability and land degradation?

ELDERLY

1. Tell me about your life experiences living in the A1 farms?
2. What changes are you seeing in the A1 farms?
3. Are you strictly farmers or you also mine?
4. Do your children practice mining?
5. What should be done to stop land degradation in the A1 farms?

Appendix 9: Consent Form

This serves to show that I have given my consent to participate in a research titled *“Understanding Rural Livelihood Strategies in the Context of Land. Degradation in Zimbabwe: The Case of A1 Farms in Shurugwi District”* conducted by Tendai Nciizah.

I have gone through all the information provided in the information letter and it is my will to participate in the study. I have asked all relevant questions pertaining to the study and all my concerns were addressed.

I have been informed that excerpts from the interview may be included in the thesis but however anonymous names will be used.

I have been told that recordings may be used however permission will be sought for before use. Recordings are used to ensure that valuable information shared during the interview is captured for later data coding. I have also been informed that the recordings will not be used for any other purposes outside of this study. I have been informed that I am allowed to go through the transcription of the recording which I have participated in at any time.

I have been informed that all the opinions gathered during interviews and focus group discussions or any other data collection method will be viewed as strictly confidential and access is only to members of the research team.

I have been informed that if I so wish to withdraw from the study I can do so at any time I so wish. I am therefore participating in this voluntarily.

I have also been told that the study does not provide any monetary benefits as it is for academic purpose only.

If I have any questions I may contact the Supervisor Professor Kirk Helliker on 0027793532819 email k.helliker@ru.ac.za . I can also contact Tendai Nciizah on 0774209213 or email her on tendinc@gmail.com

I, the undersigned.....(full name)
have read the above information and I declare that I understand it and I therefore agree voluntarily to participate in the research.

Signature of Participant.....

Signed

at

.....**on**.....

Witnesses

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2.