

## SALIENT ENVIRONMENTAL ISSUES IN SOVELELE RESETTLEMENT AREA IN MWENEZI DISTRICT, ZIMBABWE

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### Abstract

*The Fast Track Land Reform Programme (FTLRP) was a government initiated reform effort to benefit a majority of land hunger-black Zimbabweans through the compulsory acquisition of vast tracks of land previously owned by white minority. Courtesy of the FTLRP, a majority of Zimbabweans benefited pieces of land with a view to improve their livelihoods. The process was chaotic and done with limited mainstreaming of the environmental principles. The qualitative study was informed by a descriptive survey and data were collected through observations and interviews with conveniently sampled land settlers and local leadership in Sovelele resettlement area. Results of the study suggests that although the FTLRP improved land ownership and livelihoods of the poor families, it also created massive environmental degradation, pollution, soil erosion, deforestation and ecological damages. The challenges are exacerbated by limited awareness and education to new settlers on the sustainable environmental and agricultural practices, and limited implementation of environmental management law and regulations in the aftermath of the FTLRP. Based on the foregoing, the study recommends concerted and integrated approach in Land Reform policy formulation and implementation for sustainable development.*

**Key Words:** *Resettlement, Land Reform, Land Settlers, Environment, Sustainability, Environmental Management Policy*

### Introduction

Since attaining independence at 1980, the government of Zimbabwe engaged in Land Reform Programme (LRP) to acquire vast tracks of land from the white minority for redistribution to the landless black majority (Shoko and Dziva, 2019). The process of land acquisition has been through ‘willing buyer willing seller’

basis since 1980 until the year 2000, when the government of Zimbabwe upped its land acquisition and compulsorily took vast tracks without compensation from whites for redistribution to mostly black Zimbabweans. This process of compulsory land acquisition became known as the Fast Track Land Reform Programme (FTLRP). By end of 2003,

4,324 farms had been redistributed covering 6.4m hectares and 34 percent of this area had been allocated to 7,260 beneficiary households who received A2 (medium-scale) holdings and 66 percent to 127,192 holders of A1 smallholdings (Cliffe *et al.*, 2011). It was during this compulsory land acquisition process that many scholars lamented limited environmental mainstreaming and projected the emergency of environmental challenges in resettlement areas created by the FTLRP.

Indeed, the FTLRP has been considered a subject of heated public, scientific and political debate considering Zimbabwe's racial skewed land ownership history, rationale and the chaotic nature in which the program was undertaken (Chaumba *et al.*, 2003). Sparked by land occupations locally referred to as '*Jambanja*' meaning the violence and militant nature in which groups led mainly by war veterans forcibly took land, the process has not surprisingly proved contentious among international and national commentators and policy-makers (Cliffe *et al.*, 2011). The chaotic manner in which the program was implemented is predicted to result in untold environmental challenges in future. Most scholars clearly highlight on the likelihood of increased demand for natural resources in resettlement areas due to concentrated population (Moyo, 2004; Masiwa, 2004; Zembe *et al.*, 2014). More so, the chaotic FTLRP process meant limited efforts by the government and beneficiaries to adequately mainstream environmental sustainability issues into policy and practice.

While many scholars have expressed concern over environmental sustainability of the FTLRP, Scoones *et al.* (2010),

strongly refute the claims that the FTLRP has caused untold environmental destruction. In fact, they argue that land clearance for agriculture can only be construed as degradation if the woodland that it replaces is deemed to be more valuable. In relation to poaching of wild animals, the authors further argues that hunting and culling of wild animals may reduce crop damages and danger to humans from large animals in newly created areas. Similarly, Abel and Blaikie (1989) argued that what constitutes environmental degradation or not depends on what users want from the resource in question. Limited literature however justifies this observation as a majority of scholars decipher the wider environmental challenges as a result of the FTLRP (Moyo, 2004; Mubvami, 2004; Zembe *et al.*, 2014).

Although most of these studies have expressed grave concern over environmental sustainability issues around the FTLRP in Zimbabwe, there remains a narrow and starved literature in that respect. Some researchers feel that despite the feasible ways to connect land tenure, land use change and degradation, no approach of a nationwide spatial correlation of Land Reform and degradation currently exists (Hentze and Menz, 2015; Prince *et al.*, 2009). In a similar vein, the implementation of institutional strategies by the government was problematic and failed due to resource constraints and limited donor support (Manjengwa, 2006). On the other hand, majority of studies (Chitsike, 2003; Moyo, 1995, Scoones *et al.*, 2010; Matondi, 2012; Cliffe *et al.*, 2014; Hentze and Menz, 2015) rather focused on analysing process of land acquisition and projections of the impact especially

social, economic and political, and less on the environment.

An attempt by Scoones *et al.* (2010) to investigate the impact of the FTLRP on the environment has not adequately dealt with pertinent environmental issues. Hentze and Menz (2015) attest to the fact that most of these studies did not explicitly link the Land Reform process to environmental issues. With the year 2020 marking two decades after the FTLRP, there remains limited literature on the FTLRP with particular reference to environmental sustainability issues in resettlement areas in Zimbabwe. Without studies of this nature, policy makers and other Africans contemplating to redistribute land remain starved of ideas on the link between models of redistribution and the wider environmental impact. This study therefore seeks to unearth salient environmental issues in Sovelele resettlement area with an overall objective of influencing policy and practice in land reforms and environmental sustainability.

#### ***Study Area***

Sovelele resettlement area lies within Mwenezi district in Masvingo province. The district has a total land area of 1,339,657 hectares, made up of Communal Areas, Intensive Conservation Areas for wildlife, large- and small- scale commercial farms, and old resettlement

areas. According to ZimStats (2012) the district has 4073 households with an average household size of 5.2 people. The area was formerly part of a wildlife conservancy and Sovelele being one of the community in the district has marginal population due to land redistribution and resettlement (inter and intra-district, voluntary and non – voluntary). The climate is characterised as hot, and rains are normally experienced in summer. Mwenezi district, in which Sovelele lies, lies between agro-ecological regions IV and V. The mean annual rainfall over Mwenezi District is some 450 to 650 mm. Although the rainfall in the district is highly variable, the majority of households in Sovelele rely on agricultural production including livestock production. Crops that are mostly grown by resettled farmers include sorghum, rapoko, groundnuts, millet and round nuts. These crops serve a subsistence purpose as well as income generation through selling to other communities. Due to unreliable rains and generally bad farming seasons, most able bodied people migrate to different towns while some choose crossing over to South Africa (Shoko and Dziva, 2019). Those that remain local are normally engaged in artisanal mining of gold, tantalite and emerald along the Mwezha range, and other areas in the surrounding areas.

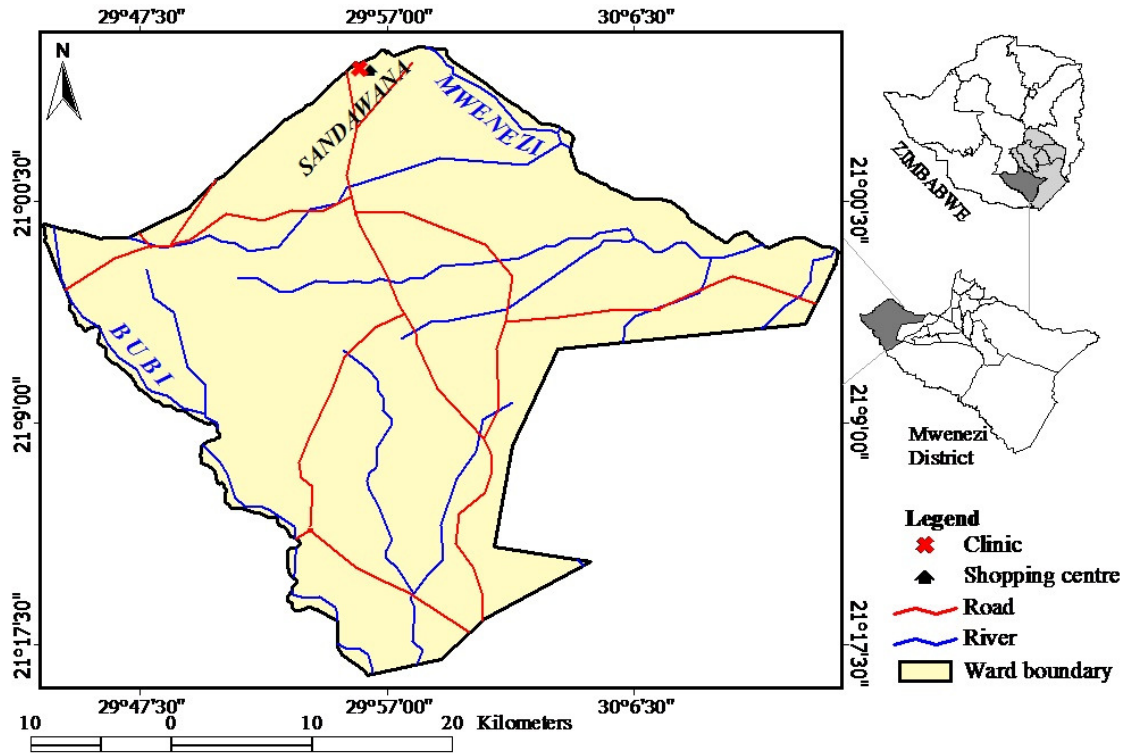


Fig. 1: Map showing the location of Sovelele area (shaded black) in Mwenezi District, Masvingo.

Source: Shoko and Dziva (2019)

The major townships in Sovelele are Bokwe (approximately 4 km from Sandawana going South), Section 7 (6 km from Bokwe), Buruka (12 km from Section 7), Mvoko (11 km from Sandawana going east wards), all of which became established after the year 2000 (Shoko and Dziva 2019), hence the absence of the sites on the above map. Sovelele has generally a flat terrain and bushy predominantly covered with mopane species (*Colophospermum*).

**Methodology**

This study adopted a qualitative methodology as informed by a survey design to understand emerging environmental problems emanating from the FTLRP in Sovelele area. Data were gathered through semi-structured

interviews with 5 local leaders purposively sampled from the research area and three focus group discussions, each composed of 8 conveniently sampled settlers in ward 17. Interviews gave room for clarifications and took about an hour of participants’ time. The focus group discussions were conducted at Bokwe, Sovelele and Mananga townships and comprised of mixed age groups and gender categories. The corresponding author was the facilitator while the other two authors were rapporteurs to ensure precise capturing of the findings. Researchers also took time to observe the environmental issues during transect walks around ward 17, and visiting community leaders and key areas around the ward.

Data was analyzed and presented using the thematic approach. Using this thematic analysis technique, authors established various environmental

problems that have been brought by the FTLRP in the study area including deforestation, environmental degradation, pollution and ecological damage.

## **Results and Discussion**

**Table 1: Demographic Characteristics of Participants**

Sex	Local Leaders	FDGs	Age Group (in years)		
			30 and below	31- 50	Above 50
Male	4	13	2	10	1
Female	1	11	3	9	-
Total Participants	5	24	5	19	1

### ***Deforestation***

This study identified deforestation as one of the emerging environmental issue in Sovelele Resettlement area. During transact walks, researchers noted wanton clearance of land by settlers for varied purposes which included land preparation, firewood, building poles, fencing and kraals making. These findings confirm previous studies that aptly provides evidence that widespread deforestation characterise areas born of the FTLRP (Moyo, 2004, Mubvami 2004; Ndlovu 2015; Zembe *et al.*, 2014). One of the lamented practices by previous studies that is not evident in this study included land clearance by farmers for tobacco curing. A research by Moyo (2004) similarly revealed that the farmers experienced problems accessing coal and resorted to using wood to cure tobacco. In Sovelele, tobacco is not grown hence no need to fetch firewood for tobacco curing. All the same, firewood is mainly used by settlers for cooking and traditional beer brewing. Thus, the need for firewood has also resulted in increased deforestation. While a majority of scholars views massive land clearance for settlement and other activities by farmers as an environmental challenge, Scoones *et al.* (2011) view it differently as they argue

that clearing land for agriculture can only be construed as degradation if the woodland that it replaces is deemed to be more valuable. While their views cannot be overlooked, this study lacked a cost benefit analysis of the activities practiced in most resettlement areas. Apparently, these scholars have failed to realise the existence of a strong link between environmental sustainability and food security as anticipated by the FTLRP. By deforestation, the hydrological processes are adversely altered, something that can potentially result in loss of soil fertility and effectively affect rainfalls in the long run. It is based on these implications that this study found deforestation to be unworthy any justification as long as the hydrological cycle depends on vegetation cover as a major determinant factor. Whatever activity or project leading to land clearance including farming still requires water for its sustenance in one way or the other. Weighing the net effects of deforestation, therefore, it is clear that the FTLRP has brought greater damages on the environment than its protection.

### ***Land Degradation***

This study also found land degradation to be an emerging environmental concern in Sovelele resettlement area. Observations in areas

such as Bokwe, Mananga, Mvoko and Vuruka clearly indicated the presence of gullies and open pits. Discussions with local communities indicated how these gully and open pits have become death traps for human beings and their livestock. In Sovelele, problems of land degradation mainly emanates from the challenge of massive deforestation, and limited vegetation cover, which results in excessive soil erosion during the rainy season. Besides erosion, land degradation emanates from Gold, Tantalite and Emerald panning in some parts of Sovelele resettlement area. Indeed, some settlers confessed to be active participants in gold rush panning at Masiriri area and Emerald panning in some parts of Sovelele including Eros area. In carrying out mining activities, settlers dig open pits and use blasting as well as heavy earth moving machineries, resulting in land degradation, including soil compaction.

It also emerged from this study that mineral panning has caused untold land and water pollution due to the use of mercury and cyanide in purifying the highly sought minerals. Results of this study further revealed that panning leads the destruction of soil profile and deforestation. Results of this study therefore arguer previous studies in revealing how mineral panning leads to environmental degradation (Mubvami, 2004). More so, water pollution as a result of mineral purification chemicals like cyanide put the lives of people, wild animals and livestock at risk as water sources get contaminated.

#### ***Stream Bank Cultivation***

The study also noted stream cultivation in Sovelele resettlement area-an on-going threat to environmental degradation and desertification. This practice entails the cultivation of crops

within 30metres from the highest flood level of the bank of water bodies for water and fertile soils. The problem of stream bank cultivation was explained by one respondent who stated that:

‘People with influential positions in the community choose the land they want. In most cases they choose the land closely to rivers or any water source to easily access water for irrigation in the case of drought. They also use such water bodies to grow vegetables for family consumption and sell all year around. However, the only challenge come during rainy season, where they lose some parts of their fields thereby causing siltation of our dams and other water bodies down the stream’.

With many settlers deriving their livelihood from horticulture, they tend to establish Gardens alongside water bodies including the main river that feeds into water bodies including the Sovelele Dam. This practice therefore loosens the top soil, thus making the area prone to erosion during flooding of rivers (Zinhiva, 2017). As the top soil is eroded, it then causes siltation of water bodies in the long-run. Thus, water shortages for domestic use and livestock in the long run (Gandiwa and Zisadza-Gadniwa, 2015).

In some instances, stream bank cultivation result in washing away of farm chemicals such as fertilisers, pesticides and herbicides, and their ultimate deposition and pollution of water bodies. Indeed, agricultural chemicals including Atrazine, Carbaryl and round-up are poisonous to the extent of polluting and reducing aquatic biodiversity in small water bodies (Scholz *et al.*, 2012). A non-selective post emergence herbicide

glyphosate is known to reduce population of juvenile frogs and fish, on which many rely on for nutrition boosting and income generation through fishing (Relyea 2005; Forson and Storfer, 2006; Rohr *et al.* 2008). It is based on these arguments that stream bank cultivation is found to be a serious environmental challenge in Sovelele resettlement area.

### ***Decline in Biodiversity***

This study also found reduced population of biodiversity in Sovelele resettlement area. Evidence on the ground clearly shows an increase in mortality of soil microbes, bees, birds and death of non-target plant species in the surrounding environment. This emanates from the heavy reliance on the use of veld fires to clear land and pesticides (insecticides, fungicides, herbicides) including the cotton (*Gossypium hirsutum* L) by settlers in Sovelele resettlement area. A study by Lang and Cai (2009) revealed how the use of Chlorothalonil and dinitrophenyl fungicides disrupt the functions of nitrification and denitrification bacteria, thereby affecting fixation of atmospheric nitrogen into accessible forms by plants. Similarly, a non-selective post emergence herbicide, Glyphosate was reported to retard growth and activity of nitrogen-fixing bacteria in soil (Santos and Flores 1995; Mahmood *et al.* 2015). The heavy reliance on the use of pesticides in Sovelele was narrated by local cotton Agricultural Extension Officer- also a beneficiary of the FTLRP:

‘Throughout cotton (*Gossypium hirsutum* L.) production cycle, we use a number of chemicals such as fusillade forte, Glyphosate, Command, Dimethoate, Karate to mention a few. But the main challenges with these products include injury of plants, resistant

build up and decline in soil productivity. As a result, soil toxicity affects our crop rotation programmes. It is only after I decided to rotate cotton (*Gossypium hirsutum* L.) with Sorghum (*Sorghum bicolor*) our source of food that I found the growth of Sorghum to have been compromised to an extent that I decided to plough it down and eventually I abandoned the land for a longer period of time. As a farmer, to leave my land idle was a wasteful’.

Lang and Cai (2009), stipulated that, command herbicide create rotational challenges with small grains. With Reflex herbicide noted to have rotational restrictions with most vegetables, the most devastating challenge with this herbicide use remains the time it takes to dissipate from the soil. A period of about 18-month or more is required for its effective breakdown. With limited knowledge to all these issues, most farmers in Sovelele suffer heavy losses.

With many settlers engaged in cotton farming as their only cash crop in Sovelele, the biodiversity remains highly compromised. As pesticides are released into the environment, their formulations break down into more toxic substances (metabolites) and subsequently pollute the soil. Resultantly, soil productivity is affected as the beneficial soil microbes that maintain soil health are killed, as there is injury and death of non-target species (Mahmood *et al.*, 2015). Consequently, there is reduced nutrient uptake, breakdown of organic matter and soil fertility thus rendering the soil unproductive in the long-run.

More so, agricultural chemicals used in farm lands can escape to the

environment through drifting or volatilisation and subsequently affect non targeted plant species. A research carried by Dreistadt *et al.* (1994) states that, drifting of Glyphosate herbicide injures nearby plants and trees, making them susceptible or prone to plants diseases. Also in non-organic farms, mortality of beneficial insects is high due to heavy use of insecticides such as carbamates, organophosphates and pyrethroids. This can therefore have an impact on food production as bees play crucial role in pollination of plants and honey production.

#### ***Ecological Damage***

It also emerged from this study that there exists increased ecological damage in Sovelele resettlement area. This challenge is a result of increased construction of small up-stream dams for irrigation by settlers. While upstream farmers benefit from these activities, this practice causes untold externalities to downstream settlers especially when regulation is limited like in Sovelele. Reduced river flow, results in ecological damage due insufficient water for other activities including irrigation, domestic use and for livestock. Besides this, reduced flow of perennial rivers has some negative effects to aquatic life. Therefore, without strong policies that emphasise on sustainable irrigation, this practice will remain a challenge to the surrounding environment.

#### **Conclusion**

The FTLRP in Zimbabwe clearly benefited many farmers through land acquisition and food security. It has also resulted in serious environmental damages due to the chaotic nature of the process. This study noted massive environmental degradation due to

unsustainable anthropogenic activities practiced by the new farmers. The rapid use of wood by communities as a source of fuel, clearance of land for cultivation coupled by unsustainable agricultural practices has led to serious land degradation. Generally, the study noted that resettled farmers lack adequate education and awareness on the best environmental management measures. The traditional system of managing community environment through the Ministry of Lands, Agriculture and Resettlement was no longer applied in resettlement areas, leaving the environment exposed to haphazard kind of land management and control by individual farmers. Besides evidence of disconcerted governance system, most respondents indicated that they do not prioritize environmental management as they considered it basic knowledge and awareness. Most farmers were contented with land acquisition and not much concerned about environmental issues.

This study recommends the government to strike a balance between food security in resettlement areas and environmental management in the view of sustainable development goals. Specifically, the study recommends that the ministries responsible for agriculture and environment come up with an integrative environmental management approach to mainstream and reduce environmental problems in such areas. Further, the government of Zimbabwe and its agencies including the Environmental Management Agency, Forestry Commission, and Agricultural Extension department should endeavour to concertize and educate settlers on sustainable agricultural and environmentally sound practices. This form of education should be a multi-



stakeholder-holistic process following the inclusive approach to target leaders and settlers in resettlement areas. For other countries contemplating to engage land acquisition, this article recommends such to be done properly with measures in place to mainstream environmental problems for such can remain the missing link to the achievement of sustainable livelihood in newly created areas. The study also implore further studies to be carried out to quantitatively establish the impact of FTLRP, and the use of chemicals in agriculture on the health and safety of Sovelele farmers and their families.

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