

Food Security and Rural Livelihoods in the Doldrums: Exploring Alternatives for Sanyati through Sustainable Development Goals

Tinashe Mitchell Mashizha

<https://orcid.org/0000-0001-5582-2157>

Lower Guruve Development Association

tmashizha@gmail.com

Munyaradzi Admire Dzimbo

<https://orcid.org/0000-0001-6390-1541>

Lupane State University, Zimbabwe

munyadzvimbo@gmail.com

Abstract

The topical issue of sustainable development has received significant attention from scholars, social commentators and decision-makers, yet it seems there is a gap with regard to the examination of alternatives and sustainable methods of combating food insecurity. This article makes a number of observations that point to a deepening food insecurity, and it makes recommendations to avert further catastrophes. Findings from the study indicate that the Sanyati district in Zimbabwe faces perennial food shortages and relies on government food handouts, drought relief and donor food aid. The study found that command agriculture (a government initiative) is perceived as a catalyst for ensuring food security and nutrition and enhancing self-sufficiency among smallholder farmers in rural communities. Knowledge of sustainable development goals can lead to an expanded understanding of food security in general and the manifestations of alternative rural livelihoods strategies in particular. In this article, we recommend the implementation of climate-smart agriculture at local and national levels to help farmers adapt to the changing climatic conditions. However, there is a need to make subsidised inputs available in time so as to increase household adaptive capacity and improve livelihoods.

Keywords: food security; livelihoods; poverty; rural; sustainable development

Introduction

In 2000, the United Nations (UN) summit adopted a global action plan known as the Millennium Development Goals (MDGs). This global action plan had eight anti-poverty goals with the aim of encouraging development by improving social and economic conditions in the world's poorest countries. The year set for meeting the MDGs was



Africanus: Journal of Development Studies

<https://upjournals.co.za/index.php/africanus>

Volume 48 | Number 2 | 2018 | #4752 | 16 pages

<https://doi.org/10.25159/0304-615X/4752>

ISSN 0304-615X (Print)

© Unisa Press 2019

2015, but Zimbabwe largely failed to achieve the targets outlined in the global framework. Because of the “international isolation” boat the country cruised in, it was very difficult for her to meet the targets or at least be in the same position as other countries (for example, Rwanda) that made tremendous strides in achieving the eight goals. Although there were notable improvements, the depth of poverty in Zimbabwe remained relatively high (Government of Zimbabwe 2016) and there was no success in eradicating extreme poverty and achieve the first goal of the MDGs. Likewise, the MDG target of reducing the mortality of children under five years of age by two-thirds between 2000 and 2015 was not achieved. Nevertheless, all the indicators showed some progress, despite the severe economic recession from 2000 to 2008 (Government of Zimbabwe 2016). According to the 2012 population census, the maternal mortality rate was 526 deaths per 100 000 live births in 2012, which was far from the target of MDG 5 of 174 deaths per 100 000 live births (Zimbabwe National Statistics Agency (Zimstat) 2012). Adult HIV prevalence in Zimbabwe, although declining, remains high, and the MDG target of an HIV prevalence rate of nine per cent was not achieved. Furthermore, Zimbabwe failed to achieve MDG 7 (relating to environmental sustainability) as the country witnessed a reduction in the quantity and quality of its natural resources mainly as a result of uncontrolled deforestation, siltation, various forms of pollution, and poaching of both flora and fauna (Government of Zimbabwe 2016). In 2014, the country was ranked at 170 out of 189 economies in terms of ease of doing business, and it failed to meet the MDG target of establishing a global partnership for development.

On expiry of the deadline for the MDGs, there was a concerted global effort to create a new global programme for development, which resulted in the formulation of 17 Sustainable Development Goals (SDGs). The post-2015 agenda is defined by the SDGs, and these goals were set through a far-reaching consultative process across the world (Chiweshe and Mutondoro 2017). For a country like Zimbabwe to achieve these 17 goals, economic stability must first be achieved, otherwise it will not be a walk in the park. Many would agree that economic instability was the reason for the country failing to achieve the MDGs. This instability presented challenge after challenge. The recession of 2000 to 2008 led to hyperinflation, which reached 231 million per cent in July 2008 (Mukoka 2018) and impacted on economic enablers, namely, power, water and sanitation, and roads and rail. Over-reliance on rain-fed agriculture, frequent climate-change-related droughts and floods have had a negative impact on the agricultural and other sectors (Kanyepi and Tanyanyiwa 2016). The withdrawal of most of Zimbabwe’s bilateral donors due to the country’s violation of human rights and political violence between 2000 and 2008 also had a negative impact on the achievement of the MDGs (Mutangabende and Shava 2018). By 2008, there was a near collapse of the health and education delivery systems, worsened by a severe brain drain into the diaspora (Chipika and Malaba 2011). All of these factors exacerbated the already challenging situation into which the MDGs were introduced.

SDGs are action oriented, global in nature and universally applicable (United Nations Development Programme (UNDP) 2016). Chiweshe and Mutondoro (2017) further

state that SDGs take into account different national realities, capacities and levels of development, and respect national policies and priorities. Food security is a subject of the SDGs: the second goal of the 17 SDGs sets out to end hunger, achieve food security, improve nutrition and promote sustainable agriculture (Musekiwa and Mandiyanike 2017; UNDP 2016). The goal for the future is to end hunger and malnutrition once and for all by 2030; hence, the focus is to promote sustainable agriculture and to support the small farmer. The question that many would ask is: “Will Zimbabwe be able to address all major components of food security, and achieve SGD2 by 2030?” Zimbabwe is faced by a mixture of political and economic factors that strain the government’s ability to respond to the food security issue. Although measures are being put in place to respond to the food crisis, some measures have exacerbated the food insecurity situation. Because of food insecurity, rural people in Zimbabwe try to make a living in diverse ways, often in tormenting physical and economic environments. Such contexts are fast changing, requiring shifts in livelihoods strategies and becoming involved in a mixture of activities. For almost a decade, the rural livelihoods base has been shrinking, and thousands have been struggling (Scoones et al. 2012). Rural people depend on agricultural production as their main source of livelihood, but, with the ongoing changing climate, they are cornered in a compromising situation, with few alternatives to save their livelihoods base. The situation has been further complicated by inefficient and disorganised responses to the crisis. Therefore, this article seeks to look at alternatives and solutions that the SDGs can offer to remedy the crisis.

This article is structured as follows. First we review literature relating to food insecurity and livelihoods dynamics in Zimbabwe. We then present the SDGs and theoretical arguments relating to food security and rural livelihoods and development in sync with the SDGs. Following on that, we discuss the findings of the research and make recommendations to pave way to developing alternatives through the SDGs to achieve food security in the Sanyati district.

Decades of Crisis and Food Insecurity

It is generally not disputed that the economy of Zimbabwe has been underperforming for close on two decades, and that the Government of Zimbabwe has instituted a succession of economic programmes to try to resuscitate a dying economy (Assubuji 2016). In 1980, the then President Robert Mugabe inherited a dualistic economic development policy, and the indigenous people had many expectations that colonial inequalities would be reversed. The government sought to address the imbalances of the past by providing services that were development oriented (Mashizha and Mapuva 2018). Amongst the challenges that the government faced were massive income differences along racial lines, rural poverty and the land question (Chirau, Nkambule, and Mupambwa 2014). Despite the challenges Zimbabwe faced in the 1980s, the economy performed well, earning the tag of “the bread basket of Africa.” Three decades down the line, Zimbabwe is no longer the “bread basket of Africa” but a “basket case.” Since the turn of the new millennium, Zimbabwe’s economy has been on a downward

trajectory, characterised by high inflation, chronic unemployment and soaring national debt levels (Mapuva and Makaye2017). The introduction of the multi-currency regime, which coincided with the coming into power of the Government of National Unity in 2009, seemed to have halted the haemorrhaging of the economy, but in recent months, following ZANU PF's victory in the 2013 elections, challenges resurfaced. The crisis that arose in the 1990s evolved around economics and politics, and, amongst the events that were critical to the Zimbabwean downfall was the introduction of the Economic Structural Adjustment Programme (Chirau, Nkambule, and Mupambwa 2014). Instead of this neoliberal informed programme spurring economic growth, eliminating inefficiency and increasing Zimbabwe's "competitive edge" on global markets, the opposite happened. The economic tragedy was experienced as all foreign investments did not materialise, affecting both urban and rural citizens.

So much has happened in economic and political cycles since 1990. In November 1997, an unbudgeted gratuity was offered to liberation war veterans, causing the value of the currency to fall heavily (Davis 2005). In 1998, there was the deployment of troops to the Democratic Republic of the Congo—an unsanctioned expenditure that caused the economy to deteriorate further (Raftopoulos 2009). The chaotic situation was further compounded by the frequent changing of pro-inflationary policies, notably the Millennium Economic Recovery Programme of 2001–2002, the National Economic Recovery Programme of 2003, and the Macroeconomic Policy Framework of 2005–2006. Zimbabwe was in a situation similar to that of a country at war. The gross domestic product (GDP) continued to decline. Flamini, Schumacher, and McDonald (2009) argue that the cumulative GDP decline in Zimbabwe between 1998 and 2006 was at minus 37 per cent. To put more pressure on the economic base, in 2000 the fast-track land reform programme began to be implemented, with war veterans leading the wave. According to Moyo (2004), the land reform decision was a radical one, which affected the grain production reform. With the GDP declining at an average of 7.59 per cent per annum, the African Development Bank referred to the period between 2000 and 2008 as the Lost Decade of Zimbabwe.

The consequences of food insecurity in Zimbabwe can be ascribed to the way the country's economy is organised and the choices the country has made to address food insecurity. World food aid has become a major source of relief to avert a national food security crisis (Matongerera et al. 2017). In the mid-2000s, the economy of Zimbabwe was characterised by a high inflation rate, a budget deficit and growing unemployment. In 2008, the inflation rate was above 2 000 000 per cent, and this affected the livelihoods of rural people and food security (Mukoka 2018). Because of that, rural livelihoods have become characterised by heterogeneity in order to make a living in a country where the rural-urban gap is very wide. Opportunities for smallholder agriculture became undercut by chronic African unemployment amidst the Zimbabwean crisis. In 2017, the cash crisis hit Zimbabwean citizens, as such affecting their livelihoods. Many of Zimbabwe's communal farmers have suffered due to the serious economic decline, with many finding it difficult to access farming inputs, loans and transport. When finance is

available, it is expensive. It is against this backdrop that this article investigates alternatives to the SDGs that can steer the country towards food security and improved rural livelihoods.

Livelihoods Dynamics in Zimbabwe

Zimbabwe is a country that has a highly unequal distribution of livelihoods opportunities, an inheritance of the colonial era. With a total population of 16.15 million (World Bank 2017), its average GNI per capita stands at \$818.89. In 1980, the government embarked on an ambitious programme of development, and significant investments were made in education and health services, alongside agricultural extension and rural infrastructure (Dzvimbo, Monga, and Mashizha 2017; Mashizha and Mapuva 2018). However, such efforts faltered in the latter part of the 1980s and into the 1990s, and many of the post-independence achievements have been reversed, with declining or effectively absent state support for many services, particularly in remote communal areas, coinciding with a collapse in economic growth. Small-scale farming, which is supposed to be efficient and productive and provide food security and employment in rural areas, is beset with problems (Kang'ethe and Serima 2014; Scoones et al. 2011). Most insights into rural livelihoods change are based on snapshots, yet livelihoods are always dynamic, involving transitions between different strategies. Over time, rural livelihoods have changed; now, some people are concentrating on earning an income from labour and off-farm jobs (Scoones et al. 2012; Scoones et al. 2018). Rural people are constructing their livelihoods in the absence of state services and in the middle of the country's economic meltdown (Chambati 2017; Moyo 2011). Social and kinship networks as well as access to and benefits derived from social and public services provided by the state, which make up and determine livelihoods, are hard to come by.

Sustainable Development Goals

The establishment of the SDGs, which are also known as Global Goals, is a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity (Pradhan et al. 2017; UNDP 2016). The 17 SDGs build on the successes of the MDGs, while including new areas for attention, such as climate change, economic inequality, innovation, sustainable consumption, peace, and justice (Stuart and Woodroffe 2016). They came into effect in January 2016 and they have a time frame of 15 years (2016–2030). SDGs seek to complete the unfinished business of the MDGs, and at the same time to respond to new challenges. The global goals work in the spirit of partnership and pragmatism to make the right choices now to improve life in a sustainable way for future generations. As indicated by Chiweshe (2017), the 17 goals outlined by the UN include the following:

- Goal 1: End poverty in all its forms everywhere.

- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- Goal 3: Ensure healthy lives and promote well-being for all at all ages.
- Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
- Goal 5: Achieve gender equality and empower all women and girls.
- Goal 6: Ensure availability and sustainable management of water and sanitation for all.
- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.
- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.
- Goal 10: Reduce inequality within and among countries.
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.
- Goal 12: Ensure sustainable consumption and production patterns.
- Goal 13: Take urgent action to combat climate change and its impact.
- Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
- Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
- Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
- Goal 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development.

Theoretical Framework

The current research is underpinned by the sustainable livelihoods framework (SLF) for rural development. The SLF was strongly promoted by the Department for International Development, and it was meant to avoid a situation where intervention is unguided, giving little positive impact or, at worst, being detrimental (Morse and McNamara 2013). The SLF is a tool that can help to understand the particular livelihoods pursued

by people in the Sanyati district. It is an analytical tool that deals with the dynamic dimensions of well-being and poverty. The distinguishing feature of the SLF is that it is a comprehensive framework that aims to identify challenges and management strategies to overcome the challenges relating to livelihoods (Gilling, Jones, and Duncan 2001; Norton and Foster 2001). The guiding principles of the framework are that they place people at the centre of development, recognise multiple influences on people, and identify relations between factors affecting the people's livelihoods. The framework also focuses on understanding and learning from changes and ensuring resilience in the face of shocks and stresses, on not being dependant on external support, and on having the ability to maintain long-term productivity of resources (Massoud et al. 2016). The framework helps to describe what women and men actually do to support households, and it aims to understand the different social, economic and political factors that restrict their abilities; hence its relevance to this study. Not only does the framework help in understanding the factors mentioned previously, it also helps to identify what households are doing to cope with risks and uncertainty. The SLF highlights that a livelihood comprises the capabilities, assets (including both material and social resources) and activities required to make a living. Livelihood becomes sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, and not undermine the natural resource base (Chambers and Conway 1992). Scoones (1998) indicated that the term sustainable livelihoods relates to a wide set of issues, which encompasses much of the broader debate about the relationship between poverty and environment. In that regard, the framework is of importance in this study as it underpins the understanding of poverty, famine and food insecurity.

The SLF works to create new ways of living that enable people to meet their varied and interwoven needs without compromising the ecosystems that support them and their community (Norton and Foster 2001). The framework is unique as it is rooted in a particular community. Mashizha, Monga, and Dzvimbo (2017) further articulate that the SLF adopts a holistic perspective in determining problems and opportunities for programme activities. A holistic perspective involves taking into account the context, resources, institutions and organisations, livelihoods strategies and livelihoods outcomes (Neely, Sutherland, and Johnson 2004). Critics of the SLF (Morse, McNamara, and Acholo 2009; Small 2007) suggest that the framework is not an integrated theory of development but has a microeconomic focus by design. Further, the sum total of the SLF interventions does not add up to a macroeconomic picture of transformation. Instead, the interventions boil down to creating access to markets, making available more credit, altering the input-output mix in agriculture, and changing the portfolio of activities in facilitating what could be described as microcosmic capital (Herrera 2006).

Methodology

This study used a qualitative research methodology and was guided by the principles of thematic content analysis. Based on a desktop study of the substantiation and circumstances of concerns surrounding dichotomies of food security and rural livelihoods, this article engages with thematic and content analysis. Furthermore, we did a thematic, content and textual analysis of relevant documents and articles on food security and rural livelihoods, relating them to articles on SDGs published in peer-reviewed scientific journals.

Description of the Sanyati District

The Sanyati district, located in the province of Mashonaland West, is one of the poorest districts in Zimbabwe. The district is faced with perennial food shortages (Mashizha et al. 2017) and relies on government food handouts, drought relief, donor food aid and assistance from friends and relatives from cities. Maize, cotton and other small grains are the main crops produced by peasant farmers, despite adverse conditions for maize production. The district has climatic conditions that are associated with those of Natural Region III (Manyeruke, Hamauswa, and Mhandara 2013). These conditions include: an average annual rainfall of 650 mm to 800 mm; a mean maximum temperature range of 23 to 27°C; a mean minimum temperature range of 11 to 15°C; and a mean annual temperature range of 18 to 22°C.

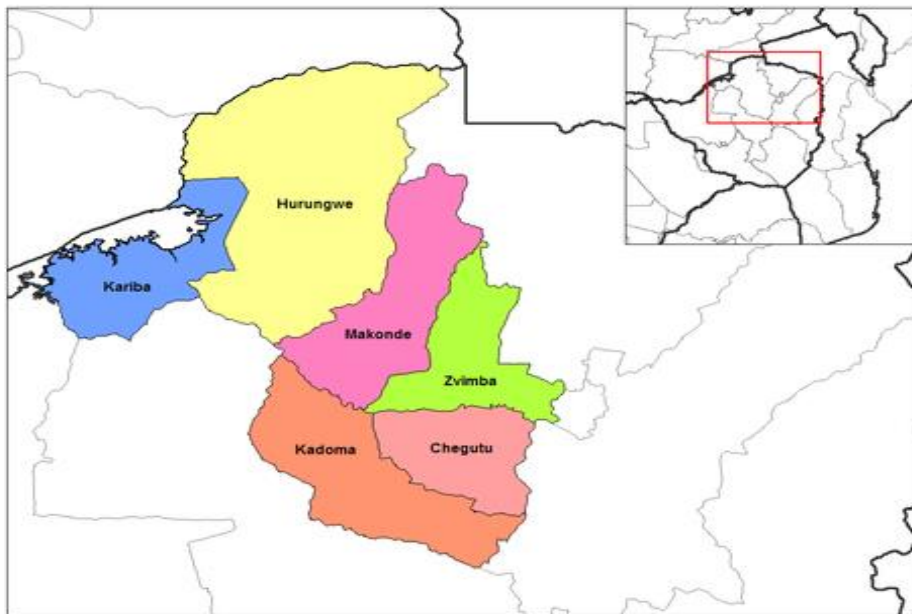


Figure 1: Map showing the Sanyati district, formerly known as the Kadoma district
Source: Dzvimbo, Monga, and Mashizha (2017)

In 2012, the total population of Sanyati was estimated at 112 897, consisting of 57 326 males and 55571 females (Zimbabwe National Statistics Agency (Zimstat) 2012).

Discussion

Command Agriculture and Food Security

Command agriculture is a rural development strategy adopted by the Government of Zimbabwe as one of several strategies in its broad land reform policy framework. The scheme was endorsed by the government during the 2015 to 2016 farming season, and it was meant to mobilise sustainable and affordable funding for the agricultural sector. The aim was to allow farmers to benefit from their agricultural inputs and to boost the production of strategic crops to restore sanity in the provision of adequate food and nutrition to the rural populace (Chisango 2018). The Government of Zimbabwe adopted and implemented command agriculture because of the devastating effects the drought of 2015 and 2016 had on farming. Interestingly, under the scheme, the government had to prescribe the types of crops to be produced by farmers, determine volumes to be produced, and the price at which the produce was to be sold (Chisango 2018; Pfukwa 2016). The repayment arrangement was in the form of part of the yield; precisely three tons from an average target yield of five tons per every hectare. In its initial stages of implementation, command agriculture impressively provided the needed inputs to farmers, ensuring a boost in food crop production and yields. At its inception, Zimbabwe's command farming was hailed for registering remarkable success, as yields realised in the first season surpassed the targeted yield of two million metric tons of cereal/maize, which was perceived as adequate to meet the country's annual food requirements (Chisango 2018). Remarkably, the scheme was a catalyst for food security and nutrition, and enhanced self-sufficiency among smallholder rural farming communities. However, the condition of the scheme that farmers had to surrender three tons per hectare to the Grain Marketing Board was a stumbling block to the success of command agriculture. Moreover, farmers needed to have the liberty to acquire agricultural inputs from suppliers of their own choice without strings attached, and to market their produce in liberalised open markets where super profits could be realised.

Food Security and Poverty

Food is a basic physiological need and central to the survival of a nation. The absence of sufficient food is generally viewed as the highest form of poverty. The World Bank (2017) defines poverty as chronic hunger, lack of food, being powerless, having fear of the future and living one day at a time. The problem of food shortage is not limited to Zimbabwe; it is a world-wide problem. The UNDP (2016) estimates that, out of the total global population of six billion, about one billion suffers from chronic hunger. In as far as food insecurity and poverty are concerned, the African continent is the hardest hit globally, specifically in countries such as Somalia, Ethiopia, Eritrea and Djibouti. This is quite alarming, and threatens the continent with social ills such as political unrest, economic stagnation, poor social welfare and environmental crises. From time to time,

the Southern African Development Community countries also experience severe national food shortages arising from drought-induced crop failures whose impacts are exacerbated by a combination of poor domestic policies and institutional failures. For example, Zambia and Malawi had a shortfall of 684 000 metric tons and 277 000 metric tons of maize respectively in 2014 (Oxfam 2012). It is essential to note that Zimbabwe is experiencing the largest food deficits, which left the country with a crippling 70 per cent shortfall on its annual food requirements in 2015 (Zimbabwe Vulnerability Assessment Committee 2015). In such circumstances, people in rural areas are at risk of famine-induced starvation. The authors argue that climate-smart agriculture (CSA) needs to be implemented both at local and national levels, and that failure to do so will result in an increase of people that are left vulnerable to food insecurity. CSA focuses on developing resilient food production systems that lead to food and income security under progressive climate change and variability. The Food and Agriculture Organization (2010) defines CSA as agriculture that sustainably increases productivity, enhances resilience, reduces greenhouse gas emissions, and enhances achievement of national food security and development goals. In that realm, this definition represents an attempt to set a global agenda for investments in agricultural research and innovation, joining the agriculture, development and climate change communities under a common brand. In general, CSA integrates traditional and innovative practices, technologies and services that are relevant for particular locations to adopt climate change and variability.

The Diversity of Rural Livelihoods in Zimbabwe

Food shortages in rural Sanyati have affected the people in all aspects, and have ruined their livelihoods. Hence, there has been a surge in development of infrastructural and economic initiatives. Further, it is important to note that the community is prone to a lot of diseases caused by malnutrition, a situation that is exacerbated by the drought being experienced. Diseases such as pellagra, kwashiorkor and marasmus are prevalent in the district, and the number of children dropping out of school is high (Dzvimbo, Monga, and Mashizha 2017). Furthermore, the shortage of food has also caused a lot of social ills such as crime and prostitution. Young people in the district are migrating to neighbouring countries, especially South Africa, resulting in shortages of manpower to till the land. The environment has also suffered as a result. The cutting down of trees for a living has caused environmental degradation. From the above analysis and narration, it can be seen that Sanyati has a perennial problem of food shortage and abject poverty that needs to be addressed as a matter of urgency. In that regard, alternative mitigatory strategies in order to broaden the livelihoods base for the rural poor need to be crafted by all stakeholders.

The Rationale behind the Sustainable Development Goals

Research has shown that although a number of scholars have looked at food-security-related issues in Zimbabwe, none of them have come up with alternative strategies for solving the food crisis in the Sanyati district. Macchi (2011), for example, looked at the role of rural off-farm employment in the context of agricultural development among

farm households in low-income countries. Dube and Phiri (2013) researched emerging agriculture markets and marketing challenges within newly resettled areas of Zimbabwe. Dzvimbo, Monga, and Mashizha (2017) reviewed the agrarian history of the Sanyati district. From the above it can be concluded that no one has explored alternative strategies to achieve household food security. The current study holds the potential to develop a sustainable model that will help improve household food security and eradicate absolute poverty in the Sanyati district. The strategy employed is to make use of the SDGs to expand knowledge on the workings of food security in general, and the manifestations of alternative rural livelihoods strategies in particular. What is essential is to create knowledge that is useful to decision-makers at various levels on how to develop alternative livelihoods strategies in line with the SDGs. Crafting policies on food security should focus on developing a ground-breaking methodology and model for understanding SDGs in line with food security and livelihoods management.

Conclusion and Recommendations

The study is important in that the findings will help policy-makers to offer a sustainable solution to the problem of food insecurity in Zimbabwe. The results will also help the rural poor to use alternative sustainable livelihoods mitigation strategies in their quest to improve food security and achieve SDG 2 (i.e. zero hunger).

The study makes a few recommendations. It is essential for policy-makers and donors to invest in small-scale infrastructure, such as improved irrigation systems or crop storage facilities, which can help farmers to increase production and better protect their harvests. Another option for improving farmer livelihoods is to increase access to credit and safety nets during lean periods and after catastrophic events, such as extreme weather conditions or disease and pest outbreaks. In these extreme situations, many farmers currently depend on informal support from families and friends, as formal safety nets are lacking. There is a critical need to establish formal safety nets and also strengthen informal safety networks to ensure that farmers can access support when they need it.

The study suggests that irrigation schemes can help farmers adapt to the changing climatic conditions; hence there is need for government support of irrigation schemes development in the area. The government needs to integrate the adaptation strategies into the country's development plan. Policy-makers should explore options to increase the access of the rural farmers to credit as well as to increase financial support to improve their access to inputs. Making subsidised inputs available in time can also increase household adaptive capacity and improve livelihoods. In addition, more innovative solutions are needed to facilitate access of farmers to information and knowledge in terms of services and needs. New services, such as mobile telephone update systems that are beginning to feature prominently and are becoming available even in remote areas of rural Zimbabwe, provide an important new, cheap and secure way of sharing much needed information on food security and sustainable coping

mechanisms. Adaptation policies need to emphasise the crucial role of providing information about CSA technologies that are available, and of creating financial resources to enable farmers to adopt various CSA technologies at local and national levels. In addition, there is a need to enhance efforts to introduce policy that reduces any constraints relating to the adoption of multiple CSA innovations in small-scale farming.

References

- Assubuji, P. 2016. "Zimbabwe: The Socio-Economic Challenges Are Huge." Accessed November 20, 2018. <https://www.boell.de/en/2016/07/21/zimbabwe-socio-economic-challenges-are-huge>.
- Chambati, W. 2017. *Changing Forms of Wage Labour in Zimbabwe's New Settlement Areas*. Harare: African Institute of Agrarian Studies.
- Chambers, R., and G. Conway. 1992. "Sustainable Livelihoods, Environment and Development: Putting Poor Rural People First." Institute of Development Studies Discussion Paper No. 240. Brighton: IDS.
- Chipika, J. T., and J. A. Malaba. 2011. *Economic Enablers Policy Brief*. Harare: Ruzivo Trust.
- Chirau, T. J., S. Nkambule, and G. Mupambwa. 2014. "Rural Livelihoods in Zimbabwe: Heterogeneity, Diversification and Vulnerability." *International Journal of Innovation and Applied Studies* 5 (1): 5–15.
- Chisango, F. F. T. 2018. "Exploring Challenges and Prospects of Zimbabwe's Command Farming in Unlocking the Country's Smallholder Agricultural Economy: A Case of Bindura District in Mashonaland Central Province." *International Journal of Agricultural Economics* 3 (4): 76–82. <https://doi.org/10.11648/j.ijae.20180304.13>.
- Chiweshe, M. K., and F. S. Mutondoro. 2017. "Political Corruption and the Post-2015 Agenda in Zimbabwe." *Journal of Public Administration and Development Alternatives* 2 (2): 34-46.
- Dube, T., and K. Phiri. 2013. "Rural Livelihoods under Stress: The Impact of Climate Change on Livelihoods in South Western Zimbabwe." *American International Journal of Contemporary Research* 3 (5): 11–25.
- Dzvimbo, M. A., M. Monga, and T. M. Mashizha. 2017. "The Link between Rural Institutions and Rural Development: Reflections on Smallholder Farmers and Donors in Zimbabwe." *IOSR Journal of Humanities and Social Science* 6:46–53. <https://doi.org/10.9790/0837-2206064653>.
- Flamini, V., L. Schumacher, and C.A. McDonald. 2009. "The Determinants of Bank Commercial Profitability in Sub-Saharan Africa." IMF Working Paper No. 09/15. Washington, DC: International Monetary Fund.

- Food and Agriculture Organization. 2010. *Climate-Smart Agriculture: Policies, Practice and Financing for Food Security, Adaptation and Mitigation*. Rome: United Nations.
- Gilling, J., S. Jones, and S. Duncan. 2001. "Sector Approaches, Sustainable Livelihoods and Rural Reduction." *Development Policy Review* 19 (3): 303-19. <https://doi.org/10.1111/1467-7679.00136>.
- Government of Zimbabwe. 2016. *Zimbabwe Millennium Development Goals (MDGs), 2000–2015*. Final Progress Report. Harare: Government Printers.
- Herrera, R. 2006. "The Neoliberal Rebirth of Development Economics." *Monthly Review* 58 (1): 38–50. https://doi.org/10.14452/MR-058-01-2006-05_4.
- Kang'ethe, S. M., and J. Serima. 2014. "Exploring Challenges and Opportunities Embedded in Small-Scale Farming in Zimbabwe." *Journal of Human Ecology* 46 (2): 177–85. <https://doi.org/10.1080/09709274.2014.11906718>.
- Kanyepi, T., and V. I. Tanyanyiwa. 2016. "Impacts of Climate Change on Rain-Fed Agriculture in Matope Ward, Mt Darwin District, Zimbabwe." *International Journal of Development and Sustainability* 5 (4): 187–98.
- Macchi, M. 2011. *Framework for Community-Based Climate Vulnerability and Capacity Assessment in Mountain Areas*. Kathmandu: International Centre for Integrated Mountain Development.
- Manyeruke, C., S. Hamauswa, and L. Mhandara. 2013. "The Effects of Climate Change and Variability on Food Security in Zimbabwe: A Socio-Economic and Political Analysis." *International Journal of Humanities and Social Science* 3 (6): 270–86.
- Mapuva, J., and P. Makaye. 2017. "Exploring Zimbabwe's Enduring Economic Challenges and Interventionist Strategies: Showcasing the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zimasset)." *Africanus Journal of Development Studies* 47 (1). <https://doi.org/10.25159/0304-615X/1249>.
- Mashizha, T. M., and J. Mapuva. 2018. "The Colonial Legislation, Current State of Rural Areas in Zimbabwe and Remedial Measures Taken to Promote Rural Development." *Journal of Asian and African Social Science and Humanities* 4 (3): 22–35.
- Mashizha, T. M., M. Monga, and M. A. Dzvimbo. 2017. "Improving Livelihoods of Resettled Farmers through Development of a Knowledge Base on Climate Change in Mhondoro, Ngezi District, Zimbabwe." *International Journal of Sustainable Development Research* 3 (2): 18–26. <https://doi.org/10.11648/j.ijdsr.20170302.12>.

- Mashizha, T. M., C. Ncube, M. A. Dzvimbo, and M. Monga. 2017. "Examining the Impact of Climate Change on Rural Livelihoods and Food Security: Evidence from Sanyati District in Mashonaland West, Zimbabwe." *Journal of Asian and African Social Science and Humanities* 3 (2): 56–68.
- Massoud, M. A., S. Issa, M. El-Fadel, and I. Jamali. 2016. "Sustainable Livelihood Approach towards Enhanced Management of Rural Resources." *International Journal of Sustainable Society* 8 (1): 54–72. <https://doi.org/10.1504/IJSSOC.2016.074947>.
- Matongerera, T. N., S. Sewell, R. T. Lottering, and T. Marambanyika. 2017. "The Relief Food Aid and Its Implications on Food Production and Consumption Patterns: A Case Study of Communal Farmers in Chigodora Community, Zimbabwe." *Review of Social Science* 2 (3): 24–38. <https://doi.org/10.18533/rss.v2i3.73>.
- Morse, S., and N. McNamara. 2013. *Sustainable Livelihood Approach*. Dordrecht: Springer. https://doi.org/10.1007/978-94-007-6268-8_2.
- Morse, Stephen, N. McNamara, and M. Acholo. 2009. "Sustainable Livelihood Approach: A Critical Analysis of Theory and Practice." Geographical Paper No. 189. Reading: University of Reading.
- Moyo, S. 2004. "The Land and Agrarian Question in Zimbabwe." Paper presented at the Conference on Agrarian Constraint and Poverty Reduction: Macroeconomic Lessons for Africa, Addis Ababa, December 17–18, 2004.
- Moyo, S. 2011. "Changing Agrarian Relations after Redistributive Land Reform in Zimbabwe." *Journal of Peasant Studies* 38 (5): 939–66. <https://doi.org/10.1080/03066150.2011.634971>.
- Mukoka, S. 2018. "An Econometric Assessment of the Impact of Inflation on Economic Growth: A Case Study of Zimbabwe Economy." *Economics* 7 (1):17–22. <https://doi.org/10.11648/j.eco.20180701.13>.
- Musekiwa, N., and D. Mandiyanike. 2017. "Urban Local Governments and Food Security: The Case of Zimbabwe." *Journal of Public Administration and Development Alternatives* 2 (1.1): 80–94.
- Mutangabende, S., and E. Shava. 2018. "Assessing Progress and Pitfalls of the Millennium Development Goals in Zimbabwe: A Critical Analysis." *Africa's Public Service Delivery and Performance Review* 4 (4): 573–605. <https://doi.org/10.4102/apsdpr.v4i4.141>.
- Norton, A., and M. Foster. 2001. *The Potential of Using Sustainable Livelihoods: Approaches in Poverty Reduction*. Strategy Papers, Working Paper No. 148. London: Centre for Aid and Public Expenditure, Overseas Development Institute.

- Neely, C., K. Sutherland, and J. Johnson. 2004. *Do Sustainable Livelihood Approaches Have a Positive Impact on the Rural Poor?* Accessed December 6, 2018. <http://www.fao.org/docrep/008/j5129e/j5129e00.htm>.
- Oxfam. 2012. *Extreme Weather, Extreme Prices: The Costs of Feeding a Warming World*. Accessed November 20, 2018. <https://www.oxfam.org/sites/www.oxfam.org/files/20120905-ib-extreme-weather-extreme-prices-en.pdf>.
- Pfukwa, G. 2016. *Command Agriculture Offers Fresh Challenges*. Accessed December 6, 2018. http://www.pindula.co.zw/command_agriculture.
- Pradhan, P., L. Costa, D. Rybski, W. Lucht, and J. P. Kropp. 2017. "A Systematic Study of Sustainable Development Goal (SDG) Interactions." *Earth's Future* 5 (11): 1169–79. <https://doi.org/10.1002/2017EF000632>.
- Raftopoulos, B. 2009. "The Crisis in Zimbabwe." In *Becoming Zimbabwe: A History from Pre-Colonial Period to 2008*, edited by B. Raftopoulos and A. Mlambo. Harare: Weaver Press.
- Scoones, I. 1998. "Sustainable Rural Livelihoods." Institute of Development Studies Working Paper No. 72. Brighton: IDS.
- Scoones, I., N. Marongwe, B. Mavedzenge, F. Murimbarimba, J. Mahenehene, and C. Sukume. 2011. "Zimbabwe's Land Reform: Challenging the Myths." *Journal of Peasant Studies* 38 (5): 967–93. <https://doi.org/10.1080/03066150.2011.622042>.
- Scoones, I., N. Marongwe, B. Mavedzenge, F. Murimbarimba, J. Mahenehene, and C. Sukume. 2012. "Livelihoods after Land Reform in Zimbabwe: Understanding Processes of Rural Differentiation." *Journal of Southern African Studies* 43 (3): 567–84. <https://doi.org/10.1080/03057070.2016.1187972>.
- Scoones, I., B. Mavedzenge, F. Murimbarimba, and C. Sukume. 2018. "Labour after Land Reform: The Precarious Livelihoods of Former Farmworkers in Zimbabwe." *Development and Change*. Advance online publication. <https://doi.org/10.1111/dech.12449>.
- Small, Lee-Ann. 2007. "The Sustainable Rural Livelihoods Approach: A Critical Review." *Canadian Journal of Development Studies* 28 (1): 27–38. <https://doi.org/10.1080/02255189.2007.9669186>.
- Stuart, E., and J. Woodroffe. 2016. "Leaving No One Behind: Can the Sustainable Development Goals Succeed Where the Millennium Development Goals Lacked?" *Gender and Development* 24 (1): 69–81. <https://doi.org/10.1080/13552074.2016.1142206>.
- UNDP (United Nations Development Programme). 2016. *Goal 2: End hunger*. Accessed June 8, 2016. <http://www.zw.undp.org/content/zimbabwe/en/home/post-2015/sdg-overview/goal2.html>.

World Bank. 2017. *Zimbabwe Economic Update: The State in the Economy*. Accessed August 22, 2018. <http://www.worldbank.org/en/country/zimbabwe/publication/zimbabwe-economic-update-the-state-in-the-economy>.

Zimbabwe Vulnerability Assessment Committee. 2015. *Rural Livelihoods Assessment Report*. May Report, 2015. Harare: Food and Nutrition Council.

Zimstat (Zimbabwe National Statistics Agency). 2012. *Census 2012*. Preliminary report. Accessed March 21, 2016. <http://www.zimstat.co.zw/dmdocuments/CensusPreliminary2012.pdf>.