

Subsistence Agriculture as the Basis of Rural Livelihoods in Msinga Local Municipality, Kwazulu-Natal, South Africa

Mfaniseni Wiseman Mbatha and Mfundo Mandla Masuku*

Department of Development Studies, University of Zululand, South Africa

School of Development Studies, University of Mpumalanga, South Africa

Orcid.org/0000-0003-3743-0779

KEYWORDS Arable Land. Farming. Households. Rural Areas. Sustainable Livelihood Approach

ABSTRACT Subsistence agriculture is recognised as a livelihood contributing to food security for households in rural communities. The sustainable livelihood approach is employed in this study, based on its strength and optimistic orientation to grant rural people an opportunity to improve their environment, economic standing, and social development. Data were collected from 180 households using a questionnaire analysed with the SPSS software. The subsistence agriculture sector still lacks adequate governmental support for effective operations to enhance rural livelihoods. Assisting subsistence farmers should improve productivity. The study recommends that the local municipalities should establish a marketplace that would be used as a sales point for community members and local emerging farmers to ensure an effective distribution of agricultural products. This would play a significant role in solidifying the return of the rural economy by increasing farm productivity and complementing market opportunities.

INTRODUCTION

In most developing countries, including South Africa, the majority of the population lives in rural areas and relies on agriculture as their livelihood strategy. In rural areas, subsistence agriculture is perceived to contribute to food security and the generation of income (if there is surplus) for farm households and society (Maziya et al. 2017). Subsistence agriculture in South Africa is mostly associated with the practice of both crop and livestock production. Crop and livestock farming are the crucial sub-sectors that contribute to enhance the livelihoods of the rural underprivileged (Cheteni and Mokhele 2019). Rural households are exposed to many challenges, such as climate change and institutional support, in their attempts to sustain their livelihoods. This study analysed livelihoods in rural areas based on subsistence agriculture, focusing on a rural setting of Msinga area in South Africa.

In this paper, subsistence agriculture is described as the farming method that is frequently practised by most households in rural areas with the intention to produce food primarily for personal consumption. In the South African rural setting, the central focus of subsistence agriculture is primarily on crop and livestock production (Tibesigwa and Visser 2015). Livestock farming

is an important sub-sector greatly contributing to the livelihoods of the rural underprivileged (Masuku et al. 2017a).

This paper reports on subsistence agriculture as a vehicle to enhance rural livelihoods in rural areas in the South African context. The people from rural Msinga solely depend on subsistence agriculture and land as their means of survival. The literature reveals that subsistence farming is predominated by the Black population on communal land with limited access and ownership to arable land (Quan and Liu 2002). Inadequate institutional support, growing population and climate change remains a barrier to the subsistence agricultural sector, which plays a valuable role in improving their livelihoods (Baiphethi and Jacobs 2009; Chikazunga and Paradza 2012; Metelerkamp et al. 2019).

The South African rural areas are dominated by dry land and pose a critical risk to those depending on rainfed crop production for their farming (Fukuda-Parr and Taylor 2015). This situation has forced some emerging farmers to employ indigenous knowledge systems as coping mechanisms because they have limited access to knowledge of modern farming technologies in order to mitigate the effects of floods and droughts caused by unpredictable climate conditions (Masuku et al. 2017b; Lukhele-Olorunju and Gwandure 2018).

Address for correspondence:

*E-mail: Mandla.Masuku@ump.ac.za

This paper is underpinned by the Sustainable Livelihood Approach (SLA) to critically analyse issues within the scope of subsistence farming and its influence on rural livelihoods. The study employed a quantitative approach because of the complexity of the phenomenon being studied. The paper revealed the significance of prioritising subsistence agriculture towards ensuring the effectiveness and sustainability of rural livelihoods. In this context, subsistence agriculture is an aid to improve rural livelihoods.

Objectives of the Study

The purpose of this study was to report on subsistence agriculture as a vehicle to enhance rural livelihoods in Msinga Local Municipality, South African. The study aimed at using the SLA as an underpinning theoretical framework to analyse issues experienced in subsistence farming and its implications on rural livelihoods.

Theoretical Framework

This paper used the SLA as a significant philosophy explaining the power, assets and activities required by rural people to improve and sustain their livelihoods through subsis-

tence agriculture as depicted in Figure 1. The paper argues that the dominant thinking of economists was urban employment and industry-based employment. Part of the debate was to replace the concept “employment” with the word “livelihood”, because livelihood signifies and encompasses the far more complex, diverse realities of poor people than employment does. Furthermore, there are various ways in which rural livelihoods can be analysed. Although it differs in degree, and from situation to situation, rural livelihoods are often analysed using different criteria, such as sufficiency, access, time and security, to name a few. It should be noted that the context in which rural livelihoods exist is not static, but subject to fluctuation, since it is situation specific. The fundamental principles of the SLA explain government interventions, processes and availability of assets, vulnerability context and its influence to achieve livelihood outcomes (Krantz 2001; Alberts et al. 2019).

The SLA is understood as the basis whereby people in rural areas have the ability to access at least a small aggregate of the human, physical, financial, social and natural capital as a means to achieve livelihood outcomes (Mbatha 2019).

Evidence suggests that social injustices perpetuate vulnerability in rural communities (Krantz 2001; Ferguson 2012) and they are systematical-

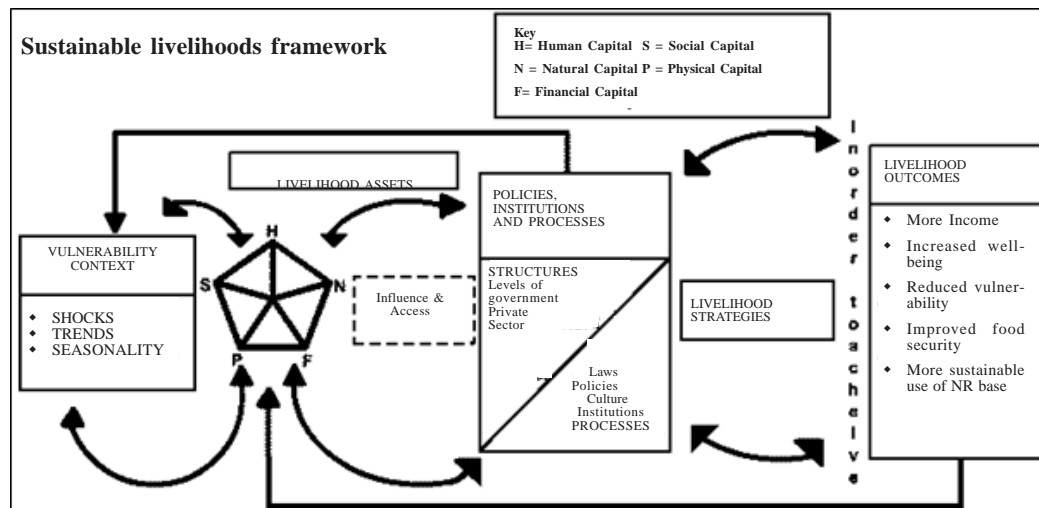


Fig. 1. Sustainable livelihoods framework
Source: Authors

ly excluded from accessing productive resources, such as land and other essential services from the government. In the South African context, subsistence farmers in rural areas still experience insufficient agricultural resources, which serve as barriers to increasing their output. Land is a basic human right and natural capital meant for improving rural livelihoods, most notably for subsistence farming. However, the land question in South Africa has remained an unanswered issue and the government has failed to identify pro-poor approaches to implement land reform programmes, to the benefit of inclusive development (Makete et al. 2017; Ndlovu 2017; Rusere et al. 2019). Therefore, SLA advocates equal access to assets, whilst guaranteeing sustainability and effective institutions for resource management and exploitation (Mbatha 2019).

Some scholars express concerns that access to resources for subsistence farmers is drastically shrinking because of institutional arrangements. This means that rural farmers remain disadvantaged because of urban-biased policies informing institutional arrangements and this has led to the unequal distribution of resources (Scoones 1998; Njagi 2005; Masuku 2018). However, the fundamental principles of SLA advocate

institutional support for political progress and social relations to create an enabling environment for the poor, at both household and community levels, and to have equal access to productive resources, irrespective of their socio-economic backgrounds (Carney 2003).

This could be achieved through participatory processes by maximising rural people’s choices and opportunities for livelihood strategies to reduce vulnerability and food insecurity (Kollmair and Gamper 2002). This can provide subsistence farmers with opportunities for self-determination and the flexibility to adapt to any shocks or trends, irrespective of any season. Therefore, the effectiveness of the subsistence agricultural sector can be measured by improved food security and income generation (Farrington et al. 2017).

MATERIAL AND METHODS

The study adopted a quantitative research approach to analyse the contribution of subsistence agriculture towards the basis of rural livelihoods in Msinga Local Municipality, KwaZulu-Natal (Fig. 2).

Msinga is one of the areas where the majority of the Black rural populace are concentrated,

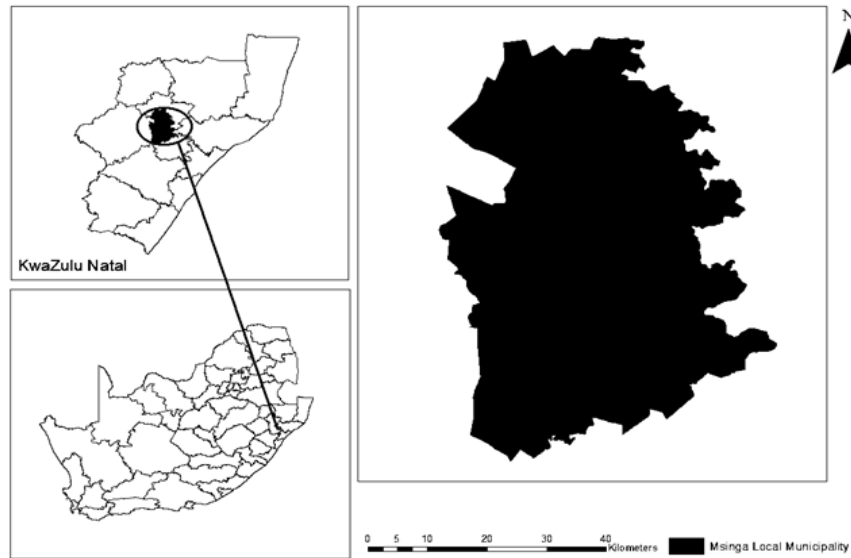


Fig. 2. Msinga Local Municipality
Source: Authors

and subsistence agriculture is the major source of livelihood. However, the area still experiences low productivity in agricultural activities, making it difficult for the people to be self-sufficient. The study employed a simple random sampling method. A questionnaire was distributed to 180 respondents from the households of Msinga in the Qamu, Mabaso and Mthembu Traditional Authorities. The requirements for participation were that the selected respondents had to be involved in subsistence farming, and knowledgeable about the general farming activities and their dynamics.

The study adopted the Raosoft sample size calculator. From the total of 37,723 households (Msinga Local Municipality IDP 2017), researchers accepted five percent as the margin of error that could be tolerated, whilst ninety percent was the confidence level required as the uncertainty to be tolerated, and 21.09 percent was the response distribution for each question to be able to provide the expected results from respondents. Therefore, the recommended sample size of this study was 180 participants. The respondents consisted of a single member from each sampled household. The sampling of this specific number of respondents aimed at getting the adequate desired data. This further granted researchers an ability to detect information that was false in nature. The sampling method in this context was based on the assumption that households within Msinga Local Municipality had a better understanding and experiences on the nature of rural agriculture.

The Statistical Package for the Social Sciences (SPSS) Version 25 was used to analyse the data. The English version of the research instrument was translated into isiZulu, the official language of the community where the study was conducted. Respondents could complete the questionnaire in either English or isiZulu. This ensured that respondents understood the

questionnaire. An isiZulu language expert was consulted for translation. The translated version was returned back by isiZulu language expert and checked against the original version.

RESULTS AND DISCUSSION

Information on Socio-demographic and Subsistence Agriculture

The results report the analysis and interpretation of the socio-demographic and subsistence agricultural data and its influence on rural livelihoods. The findings indicated that most households (76%) engaged in subsistence agriculture as a means of livelihood, which includes the provision of food at the household level. This suggests that subsistence agriculture is the most significant strategy to rescue people from poverty-related concerns and improve their livelihoods (Krantz 2001). In South Africa, almost 2.3 million households, of 56.72 million, are involved in the agricultural sector for personal consumption and the commercialisation of their products (STATS SA 2017).

The findings indicate that female farmers dominate the subsistence agricultural sector in Msinga, particularly crop farming (55%). The primary reason was the migration of male residents to urban areas for job opportunities (Table 1). The migration of males has, therefore, left females in rural areas with more responsibilities to ensure household food security. This has led to females to have greater impact on improving rural household food security in contrast to males. The literature attests that in developing countries, including South Africa, subsistence farming is dominated by Black females as producers of food for their households (Maratha and Badodiya 2018).

Concerning age, the results indicate that most of the population involved in subsistence

Table 1: Distribution of participation, by gender, and age (years) in subsistence agriculture

		<i>Gender</i>		<i>Participation in agricultural projects</i>		<i>Age distribution</i>		
		<i>Male</i>	<i>Female</i>	<i>Yes</i>	<i>No</i>	<i>21-35</i>	<i>36-49</i>	<i>50-65</i>
<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>					
81	45	99	55	76%	24%	28%	42%	30%

agriculture are between the ages of 36 to 49 years. This age category is dominating subsistence agriculture because some of them are discouraged work-seekers from the industrial sector while others are not economically active. As a result, these people depend on subsistence agriculture as a means to address the issue of food insecurity with an intention to sustain lives. Additional studies expressed great concern that the youth are not enthusiastic about making their living through agricultural activities (Tadele and Gella 2012).

Information on Socio-Economic Characteristics and Subsistence Agriculture

This study used both the amount of income and source of income to determine the socio-economic vulnerabilities at the household level. The household amount of income plays an important role in determining how the agricultural sector contributes at the household level.

The data presented in Table 2 indicates that most households were the recipients of old age pension grants, which they supplement with subsistence farming to meet basic household needs. Therefore, based on the data presented in Table 2 social grant households in the study area could be categorised as poor and reliant on grants for their livelihoods. Social grant support reaches a third of South Africans, and more than half of households benefit from at least one grant in provinces, including KwaZulu-Natal. Some authors assert that social grants play an integral role in improving rural livelihoods and empowering households to avoid food destitution (Aliber et al. 2010; Brand South Africa 2014).

The findings of the study affirm that insignificant socio-demographic factors such as gen-

der imbalances, low education level and unemployment have a negative influence in supporting rural livelihoods, although subsistence farming in rural areas remains significant in terms of addressing rural household food insecurity, despite many challenges that are experienced in this sector.

Availability of Support for Subsistence Farmers

The findings indicate that households receive diverse types and levels of support related to agricultural activities from government institutions. Some households (43%) were beneficiaries of a programme called “one home, one garden” to promote subsistence farming. Seed scoops (this is a term used to define prepared seed packets, which are distributed by the Department of Agriculture to subsistence farmers within the study area and South Africa generally) were distributed to those households who needed agricultural input because of their poor socio-economic status. From the SLA perspective, public institutions must provide support and resources to people trapped in poverty. The findings indicate inadequate interventions from government to rescue rural households from vulnerability through the provision of support to improve subsistence farming.

The findings of this study share the opinion with Aliber and Hall (2012) who reported that subsistence agriculture is crucial in ensuring rural livelihoods, the sector still lacks support from government institutions. Since South Africa is affected by severe drought, irrigation systems are the most important consideration to improve agricultural production. As presented

Table 2: Household socio-economic characteristics: source of income

		<i>% within household's amount of income in ZAR per month</i>					
		<i>Household source of income</i>				<i>Other</i>	<i>Total</i>
		<i>Old age pension grant</i>	<i>Child grant</i>	<i>Farming to sell</i>	<i>No income</i>		
Household's income in ZAR (m)	500-1400	65.0%	10.0%	23.0%	2.0%	0%	100.0%
	1500-5000	3.0%	57.6%	37.9%	0%	1.5%	100.0%
	6000-9000	7.2%	7.1%	7.1%	0%	78.7%	100.0%
Total	37.8%	37.8%	27.2%	27.2%	1.1%	6.7%	100.0%

in Table 3, only about seven percent of households have access to irrigation systems. The results demonstrate that the South African government needs to increase their support regarding the provision of agricultural services, particularly in rural areas. This suggests that inadequate service delivery has a negative influence on the individual and communities' ability to enhance their livelihoods. Section 152 of the Constitution of South Africa states that the local government (municipalities) must sustainably ensure service provision, and they must ensure social and economic development for local communities.

Table 3: Availability of support for subsistence farmers

<i>Availability of support for subsistence farmers</i>			
<i>Seed scoops</i>	<i>Ploughing equipment</i>	<i>Irrigation systems</i>	<i>Nothing</i>
43.2%	17.4%	7.1%	32.3%

Availability of Arable Land for Agricultural Purposes

Access and ownership of land for agricultural practice is a fundamental human right for all people, although it is still problematic for the Black majority in South Africa. The South African government initiated an amendment to Section 25(5) of the Constitution of the Republic of South Africa of 1996, which intended to address the inequalities inherited from the apartheid regime, which excluded the Black majority from the access and ownership of agrarian land (Republic of South Africa 1996). The land is not only an essential livelihood asset but also obligatory for the enjoyment of several fundamental human rights. These entitlements include the right to life, the right to food, the right to housing, the right to property, and the right to development.

The data presented in Table 4 shows that many households (58.9%) had access to arable land, although the land was estimated to be less than 0.6 hectares, and this serves as the farming barrier to enhanced and sustainable livelihoods through agricultural activities. This suggests that the small size of arable land affects agricultural production, and hence reduced household sup-

port. It is, therefore, crucial to develop an intervention, which could improve farmland size to enhance the productivity of rural agriculture and subsistence farming towards ensuring the sustainability of rural livelihoods and dealing with household food insecurity.

Table 4: Size of arable land available for agricultural practice

<i>Size of arable land</i>			
<i>> 0.5 (ha)</i>	<i>0.6 to 1 (ha)</i>	<i>2 to 6 (ha)</i>	<i>7 (ha)+</i>
58.9	38.3	2.2%	0.6%

The agricultural sector is recognised as crucial in the South African economy and in ensuring the sustainability of rural livelihoods. It requires significant attention in order to fast track the necessary transformation that seeks to redistribute land to the disadvantaged (Mubecua et al. 2020). It can be noted, however, that the access and ownership of arable land does not guarantee economic viability in rural areas. The intervention from the government is also required to help rural farmers with the provision of necessary resources.

Types of Farming in Msinga

The results from Msinga demonstrate that more households are involved in mixed farming as compared to those engaging separately in either crop or livestock farming. These comprise of livestock and crop farming, as shown in Table 5. Some of the rural households in communal areas still depend on livestock farming to enhance their livelihoods. Drought has had a major negative impact on agriculture. This is resulting in livestock dying at an alarming rate, which severely affected rural livelihoods.

In Msinga, livestock farming is often dominated by male farmers, while female farmers are more involved in crop farming (Hlomendlini and Makgolane 2017).

Table 5: Types of farming in Msinga

<i>Types of farming</i>		
<i>Livestock farming</i>	<i>Crop farming</i>	<i>Both farming</i>
18%	29%	52%

Most households in Msinga have access to arable land, which is less than 0.5 hectares. From the perspective of subsistence agriculture in Msinga areas, it has been identified that crop farming is associated with home and community gardens as a means to promote access to healthy and indigenous food. Subsistence agriculture, particularly crop farming, in rural areas is perceived as the major aspect of income, even though it provides a low purchasing power for food and low livelihoods sustenance. Some rural households (52%), as shown in Table 5 in the survey, practised both crop and livestock farming as a survival strategy to meet their basic needs. From the SLA perspective, livelihood strategies can be successfully applied if households employ various types of assets to improve their livelihoods (Mthembu 2008).

CONCLUSION

The study confirms a discrepancy in the livelihoods of rural homes based on their socio-demographic characteristics such as source of income and gender, which affect general rural livelihoods. The report confirms that even though households participate in subsistence agriculture, they are still vulnerable, despite state interventions, including social grants. The subsistence agricultural sector continues to experience inadequate resources to ensure effective operation to enhance rural livelihoods. A lack of clarity remains, concerning the ownership of and access to arable land. The lack of youth participation and ageing crisis is surfacing within the study area. The findings further reveal that the subsistence agriculture is experiencing an out-migration of male to urban areas for the purpose of finding job opportunities. This has resulted in female farmers dominating in subsistence agriculture. The lack of gender-informed policies, however, creates instability in the agricultural sector regarding developing sustainable long-term capacity for marginalised groups (including females). Through farming, the underprivileged are provided with an opportunity to improve their standard of living.

RECOMMENDATIONS

Developing an effective support system for subsistence farmers by local government institutions is needed and this would ensure the long-

term sustainability of the subsistence agricultural sector. The government and other relevant stakeholders should prioritise and conduct advocacy programmes, such as awareness campaigns and dialogue, to promote the active participation of households in rural areas in subsistence farming. The study proposes the provision of training in entrepreneurial skills to empower subsistence farmers and to encourage the adoption of modern farming practices. This may include technological methods that would assist increasing rural agricultural production. The study also suggests that the government improves land access and ownership, determine methods of financing rural emerging farmers and expanding the public institution's commitment to rural agriculture.

REFERENCES

- Alberts J, Rheeder J, Gelderblom W, Shephard G, Burger H 2019. Rural subsistence maize farming in South Africa: Risk assessment and intervention models for reduction of exposure to Fumonisin Mycotoxins. *Toxins*, 11(6): 1-20.
- Aliber M, Baiphethi M, De Satgé R, Denison J, Hart T, Jacobs P, van Averbek W, Alcock R, Antwi M, Belete A, Cousins B 2010. Strategies to Support South African Smallholders as a Contribution to Government's Second Economy Strategy. Institute for Poverty, Land and Agrarian Studies: PLAAS. From <http://repository.uwc.ac.za/xmlui/bitstream/handle/10566/4486/rr_41_strategies_support_smallholders_contribution_government%E2%80%99s_economy_strategy_2010.pdf?sequence=1> (Retrieved on 23 May 2021).
- Aliber M, Hall R 2012. Support for smallholder farmers in South Africa: Challenges of scale and strategy. *Development Southern Africa*, 29(4): 548-562.
- Baiphethi M, Jacobs P 2009. The contribution of subsistence farming to food security in South Africa. *Agrekon*, 48(4): 459-482.
- Brand South Africa 2014. Social grants reach almost one-third of South Africans. From <<https://www.Brandsouthafrica.com/South-Africa-Fast-Facts/Social-Facts/Grants-190614>> (Retrieved on 17 July 2021).
- Carney D 2003. *Sustainable Livelihoods Approaches: Progress and Possibilities for Change*. London: Department for International Development.
- Cheteni P, Mokhele X 2019. Small-scale livestock farmers' participation in markets: Evidence from the land reform beneficiaries in the central Karoo, Western Cape, South Africa. *South African Journal of Agricultural Extension*, 47(1): 118-136.
- Chikazunga D, Paradza G 2012. Can Smallholder Farmers Find a Home in South Africa's Food-System? Lessons from Limpopo Province. Institute for Poverty, Land and Agrarian Studies (PLAAS). From <<http://www.plaas.org.za/blog/can-smallholder-farm>>

- ers-find-home-south-africa%E2%80%99s-food-system-lessons-limpopo-province> (Retrieved on 19 July 2021).
- Farrington J, Ramasut T, Walker J 2017. Sustainable Livelihoods Approach in Urban Areas: General Lessons, with Illustrations from Indian Cases. *Working Paper* 162. London: Overseas Development Institute.
- Ferguson J 2012. Generating Sustainable Livelihoods: The Role of Cooperatives. *Canadian Cooperative Association, Paper Presented at the Harnessing the Cooperative Advantage to Build a Better World*, Ottawa, 4-6 September 2012.
- Fukuda-Parr S, Taylor V 2015. *Food Security in South Africa: Human Rights and Entitlements Perspectives*. South Africa: Juta and Company (Pty) Ltd.
- Hlomendlini H, Makgolane P 2017. Land Expropriation Without Compensation: Possible Impact on the South African Agricultural Economy. *AGRI South Africa*. From <https://agrigauteng.com/index_html_files/2017%20July%20Possible%20impact%20of%20land%20expropriation%20on%20the%20agric%20sector%2027%20July.pdf> (Retrieved on 29 May 2021).
- Kollmair M, Gamper S 2002. The Sustainable Livelihood Approach. *Input Paper for the Integrated Training Course of NCCR North-South*, University of Zurich, 9-20 September 2002.
- Krantz L 2001. The Sustainable Livelihood Approach to Poverty Reduction. Division for Policy and Socio-economic Analysis. SIDA. From <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.469.7818&rep=rep1&type=pdf>> (Retrieved on 10 July 2021).
- Lukhele-Olorunju P, Gwandure C 2018. Women and indigenous knowledge systems in rural subsistence farming: the case of climate change in Africa. *Africa Insight*, 47(4): 1-13.
- Makete G, Aiyegoro O, Thantsha M 2017. Isolation, identification and screening of potential probiotic bacteria in milk from South African Saanen goats. *Probiotics and Antimicrobial Proteins*, 9(3): 246-254.
- Maratha P, Badodiya S 2018. Analysis on role of farm women in decision making process at Bonli Block of Sawai Madhopur District in Rajasthan. *International Journal Pure Applied Bioscience*, 6(2): 178-181.
- Masuku M 2018. *Analysis of Institutional Gaps that Contribute to the Situation of Food Insecurity in uThungulu, Northern KwaZulu-Natal*. Doctoral Dissertation. South Africa: University of Zululand.
- Masuku M, Selepe M, Ngcobo N 2017a. Small scale agriculture in enhancing household food security in rural areas. *Journal of Human Ecology*, 58(3): 153-161.
- Masuku M, Selepe M, Ngcobo N 2017b. The socio-economic status as a factor affecting food (In) security in rural areas, uThungulu District Municipality, KwaZulu-Natal, South Africa. *Journal of Human Ecology*, 58(1-2): 57-66.
- Maziya M, Mudhara M, Chitja J 2017. What factors determine household food security among smallholder farmers? Insights from Msinga, KwaZulu-Natal, South Africa. *Agrekon*, 56(1): 40-52.
- Mbatha M 2019. *The Sustainability of Agricultural Projects in Enhancing Rural Economic Development in Msinga Local Municipality*. Masters Dissertation. South Africa: University of Zululand.
- Metelerkamp L, Drimie S, Biggs R 2019. We're ready, the system's not—youth perspectives on agricultural careers in South Africa. *Agrekon*, 1-26.
- Msinga Local Municipality IDP 2017. *KZ2 44 Msinga Municipality's 4th Generation Integrated Development Plan 2017/2022*. South Africa: Government Printers.
- Mthembu N 2008. *Perceptions of Barriers to Market Participation Among Three Farmer Groups in Rural KwaZulu-Natal*. Doctoral Dissertation. South Africa: University of Kwa-Zulu Natal.
- Mubecua MA, Mbatha MW, Mpanza SE, Tembe SK 2020. Conflict and corruption: Land expropriation without compensation in South Africa. *African Journal of Peace and Conflict Studies (formerly Ubuntu: Journal of Conflict and Social Transformation)*, 9(2): 61-76.
- Ndlovu M 2017. Op-Ed: Rural Transformation as a Solution to Poverty in South Africa. *Daily Maverick*. South Africa. From <<https://www.dailymaverick.co.za/article/2017-08-28-op-ed-rural-transformation-as-a-solution-to-poverty-in-south-africa/>> (Retrieved on 17 June 2021).
- Njagi N 2005. *The Sustainable Livelihood Approach: A Vulnerability Context Analysis of Ngwatle's! Kung Group Basarwa, Botswana*. Master's Dissertation. South Africa: University of KwaZulu-Natal.
- Quan Y, Liu Z 2002. An Analysis of Current Problems in China's Agriculture Development: Agriculture, Rural Areas and Farmers. Annual conference of Canadian Agricultural Economics Society, Calgary, Canada, June. From <<https://ageconsearch.umn.edu/record/11838/>> (Retrieved on 6 July 2021).
- Republic of South Africa 1996. *Constitution of the Republic of South Africa, 1996, No 108 of 1996*. Pretoria: Government Printers.
- Rusere F, Mkuhlani S, Crespo O, Dicks L 2019. Developing pathways to improve smallholder agricultural productivity through ecological intensification technologies in semi-arid Limpopo, South Africa. *African Journal of Science, Technology, Innovation and Development*, 11(5): 543-553.
- Scoones I 1998. Sustainable Rural Livelihoods: A Framework for Analysis. *IDS Working Paper 72*. From <<https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/3390/Wp72.pdf?sequence=1>> (Retrieved on 29 May 2021).
- STATS SA General Household Survey 2017. Government Printers. South Africa. From <<http://www.statssa.gov.za/publications/P0318/P03182017.pdf>> (Retrieved on 23 June 2021).
- Tadele G, Gella A 2012. 'A last resort and often not an option at All': Farming and young people in Ethiopia. *IDS Bulletin*, 43(6): 33-43.
- Tibesigwa B, Visser M 2015. Small-scale Subsistence Farming, Food Security, Climate Change and Adaptation in South Africa: Male-Female Headed Households and Urban-Rural Nexus. *Economic Research Southern Africa*, Cape Town. From <http://www.econrsa.org/system/files/publications/working_papers/working_paper_527.pdf> (Retrieved on 22 July 2021).

Paper received for publication in July, 2021
Paper accepted for publication in October, 2021