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A DESCRIPTION OF SMALL-SCALE FARMERS' INDIGENOUS HOUSEHOLD LIVELIHOOD STRATEGIES IN DIKGALE COMMUNITY IN LIMPOPO PROVINCE, SOUTH AFRICA

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Abstract

The current research examines the degree to which indigenous crop and livestock production are still practiced and relied upon as sources of household income in a rural community in South Africa's Limpopo Province. The study is motivated by observations that indigenous knowledge contributes to rural economies by ensuring household food security and generating income. A total of 61 small-scale farmers, purposely sampled were interviewed through semi-structured interviews. The study findings show that indigenous subsistence crops and livestock production continue to be the primary sources of food and income in the studied community. In subsistence crop production, maize and groundnuts are the most often produced crops in the home-gardens. The fresh fruits are consumed with surplus maize exchanged for maize meal at the local milling company. Like maize, groundnuts are consumed fresh while surplus is sold in the local market. Additionally, the farmers raise cattle as a source of revenue, with the stock being sold for cash to supplement family income. Fewer farmers keep livestock, particularly cattle as a result of scarcity of stock feed and water to raise and maintain the stock. This mode of subsistence has withstood the influence of Western knowledge systems and the adverse effects of climate change.

Keywords: Rural Community, Indigenous Knowledge, Livelihood Strategy, Small-Scale Farmers, Livelihood Outcome, Sustainable Livelihood

1. Introduction

Livelihood strategies comprise the range and combination of activities and choices that people undertake in order to achieve their livelihood goals. In other words, they refer to farmers' coping and adaptive strategies (Department for International Development [DFID], 2004). Subsistence agriculture and pastoralism are major indigenous household livelihood strategies in the rural communities. The livelihoods of rural households in developing regions continue to be dependent on farm economic activities, and this observation arose from a variety of initiatives to understand sustainability of these livelihood strategies (Muhammad *et al*. 2017). Until now, the main observation is that small-scale farmers continue to earn a living through some kind of primary self-managed on-farm production (Yussif *et al*. 2019).

It is consequently critical to analyze small-scale farmers' indigenous livelihood strategies, which continue to be applied sustainably even at a time when livelihood strategies are varied to

maximize local livelihood approaches. This self-maintained livelihood is mostly accomplished through small-scale indigenous farming and livestock production, which are the sources of rural household economies (Dharmawan and Manig, 2000). Unituslabs (2012) concedes that about two-thirds of the world's poor people reside in the rural areas of low-income countries, mainly depending on subsistence farming and cattle-raising for their livelihood (Mishi *et al*. 2020). South Africa's National Development Plan (NDP) 2030 has assigned small-holder agriculture to drive rural development to enhance the livelihoods of at least 370,000 people, mostly in the former homelands (Republic of South Africa, 2013). The primary reason was that South Africa continues to struggle with chronically high levels of severe poverty (Statistics South Africa, 2021), forcing rural residents to rely on traditional on-farm practices for survival (Mishi *et al*. 2020).

Rural livelihoods, particularly in Africa, have been dominated by subsistence production (Ndlangamandla, 2014). This type of production is often described as a household capital and still acts as a catalyst for households' future income, which is critical for survival. Livelihood strategies are often location-specific, since the options or possibilities for communities to engage in survival behaviors vary by region (Department of Agriculture, Forestry, and Fisheries [DAFF], 2012; Berkes, 2015). Rural livelihoods are sometimes linked with impoverished livelihoods, which obscures the complexity of integrated livelihood options used by disadvantaged rural families (DFID, 2004). Against this backdrop, the current research explores the degree to which indigenous crop and livestock production are still practiced and relied upon in a rural community in South Africa's Limpopo Province. The analysis of these indigenous livelihood strategies may result in their improvement through the application of innovative practices as part of the movement to adopt affordable indigenous livelihood strategies in order to ensure sustainable livelihoods in an era of increased unemployment and poverty, exacerbated by the negative effects of climate change on rural livelihood strategies. A further recommendation is recognition of traditional livelihoods practices, and continuation of these practices with more support from the State for policy advocacy and sustainable development.

The manuscript is presented as follows: Section 1 (Introduction). Presents analyses of literature on the importance of indigenous subsistence production to satisfy local communities' food security and livelihood needs. With respect to Section 2 (Methodology), the paper gives the study context. It discusses the study area, ethnography and the study design adopted to conduct the research. Section 3 (Results and discussion) presents subsistence crop and livestock production as the main livelihood sources among participants, and also provides literature to support the study findings. The last Section (4) concludes and proposes adoption of a policy to promote the use of indigenous livelihood sources.

2. Methods

2.1. Study location

The Dikgale settlement, which is part of the Capricorn District Municipality, was selected as the study location. The location lies in South Africa's Limpopo Province, around 40 kilometers from Polokwane City, the province's capital, and 15 kilometers from Limpopo University. The *Pedi Kone* of Dikgale are the main cultural group in the area. The site is located in South Africa's Limpopo Province, about 40 kilometers from the province's capital, Polokwane, and 15 kilometers from Limpopo University. The Pedi Kone of Dikgale are the area's dominant cultural group. Other groups in the region include the *Kgaga-Kone, Batlokwa, Kolobe, Hananwa, Babirwa, Nareng, Tlou, Pai, Phalaborwa, and Hlaloga* (Chikosi *et al.* 2019). Sepedi is the primary language spoken by the majority of people in the Dikgale community. While the majority of children learn English in elementary school, Sepedi is still spoken at home. The residents of this community have resided in the region for several generations, exhibiting a long history of cultural ties to the surrounding natural environment that transcends generations. They are caught between maintaining traditional habits and conserving their district's language heritage, and have succumbed to cultural affinities (Republic of South Africa, 2020).

The area is situated on the Highveld Plateau, which is bounded on the south and east by the Strydpoort Mountains and on the east and north by the Wolkberge Mountains. In this region, the soils are more closely connected to the parent rock, granite. The landscape's top, rear, and

shoulder slopes feature a coarser sandy loam to sandy texture. Soils suffer from nutrient shortage. Natural fertility is greatest at the lowest parts of the terrain. The climate in the Dikgale region ranges from semi-arid to desert, with an annual rainfall of around 505 millimeters. Summer temperatures vary between 16 and 27 degrees Celsius, while winter temperatures range between 4.3 and 19.8 degrees Celsius. October through April is the summer wet season, followed by a dry winter (Polokwane Local Municipality Integrated Development Plan [IDP] 2020-2021). Limpopo Province in which Dikgale community is located, it is home to around 5.2 million people out of a total population of 48.5 million people in South Africa, while Dikgale is home to around 90,000 residents in 23 villages, according to Statistics South Africa (2021). The majority of citizens attend the Moria Zionist Church, which incorporates Christian and traditional traditions, although some attend Lutheran or Anglican churches. The adult population is heavily populated by migrant workers, some of whom work in the surrounding retail malls, while others work as field laborers on local farms or as domestic servants in other cities. The neighborhood has an extraordinarily high unemployment rate (Statistics South Africa, 2021).

2.2. Study design

The researchers conducted the investigation using a non-probability sampling approach. This strategy was used to recruit community members who were involved in subsistence crop and livestock farming. The farmers were identified during a community meeting held in the chief's royal kraal. Sixty-one small-scale farmers from the Dikgale community were identified and have all developed interest to participate in the study. They were 42 male and 19 female farmers who respond to questions regarding the indigenous strategies from which they derive their livelihood. This is a type of sampling in which the units to be observed are selected on the basis of the researcher's judgement about which ones will be the most useful or representative (Babbie, 2020). The farmers provided responses from their own personal experience of indigenous livelihood patterns. Semi-structured interviews and observations were employed as appropriate methods. Face-to-face interviews were conducted with participants utilizing an interview guide produced in the English language. The questions have been translated into the indigenous language (Sepedi). Analysis of the data was mostly descriptive, using qualitative research approaches. Before collecting data from all participants, informed permission was obtained. Participants were told that their information would be kept secret and that the research would not be physically intrusive. Participants were promised that all information gathered would be kept strictly secret and would be used only for the purposes of the research. Additionally, participants were informed of their ability to withdraw from the research at any moment. These ethical considerations were approved by the Turfloop Research Ethics Committee prior to the study process.

3. Results and discussion

3.1. Socio-economic characteristics of small-scale farmers

Crop production was practiced by 95% of participants and livestock by 15% of the farmers. The farmers varied in age from 57 to 70 years. The majority (69%) of farmers were men living in the households with between three and eleven members. In terms of income, the primary source was government social welfare subsidies, notably old-age and child support grants. Thirty-two farmers earned a monthly payment from the labor market ranging between R2,000 and R6,000. Monthly payment transfers from household members who work in the cities and do not reside with the family permanently varied between R5,000 and R20,000.

3.2. Small-scale farmers' indigenous household livelihood strategies

3.2.1. Indigenous crop production

Focusing currently on the household production systems the average size of land used for farming is 1 hectare, managed by household labor. The fields are around 300 meters from the settlement site. Farm inputs are incurred via tractor hiring, which costs around R1,500 per hectare. Farmers

and household members are solely responsible for weeding and agricultural maintenance. Maize and groundnuts are the most important agricultural commodities in Dikgale in terms of output and contribution to the local economy. Maize and groundnuts are grown primarily for domestic use and are not a main source of revenue. Farmers said that their farms produce an average of five to ten 20 kilogram bags of corn each year. The majority of the home-garden produce is eaten fresh, with an estimated excess of around two kg of maize. Surplus maize is ground at a local milling plant to make maize meal, which is used to make the community's main diet, hard porridge. Surplus maize that is not immediately traded for maize meal is placed at the milling firm, where farmers have personal accounts with the milling company, which are identified by their names and the quantity of corn deposited. Surplus groundnuts are sold for R50 per 2 kg in informal local marketplaces.

The research revealed a reduction in subsistence agriculture productivity. Farmers indicated that the majority of ploughed areas stayed fallow for around five to eleven years owing to low crop output caused by irregular precipitation and increasing temperatures. Forty farmers attributed the failure of subsistence farming to the fact that farming is increasingly being left to the elderly, mostly women, since males and youth have comparative advantages in wage labor in the cities. The farmers' age range of 57 to 70 years corroborated this conclusion. This might be interpreted to mean that the elderly and retirees devote more time to subsistence farming in order to augment family income.

Nkoana (2014) argues in favor of farmers maintaining their traditional livelihood strategy of maize and groundnut farming, that agriculture is the primary source of livelihood for the majority of rural families in South Africa, since it provides either directly or indirectly for rural households. Maharjan (2014) supports the use of the crops as food and revenue sources, stating that the practice gives nutritional supplements to families and creates additional monetary income that may help farmers improve their livelihoods. According to Nkoana (2014), if well-adapted to climatic stressors, on-farm output may serve as the primary source of income for certain people. Zantsi and Bester (2019) concede that indigenous crop production is generally time-consuming but generates a small share of household income, for example, 44% of livelihood time is devoted to agriculture but generates only 2% of income. This finding corroborates a remarkable observation about the continued production of indigenous crops despite its lower contribution to household income among rural communities (Barber, 1996; Oduniyi and Tekana, 2021). According to Van Zyl *et al.* (2000) and Perret *et al*. (2005), rural populations remain reliant on cash flows provided by subsistence crop cultivation, notwithstanding its low productivity. Scoones (1998) concurs that rural populations get the majority of their income from agriculture, either via intensification (increased production per unit area through capital investment or increased labor inputs) or by bringing more area under cultivation. According to Alimi *et al.* (2001), rural families make their living as small-scale farmers via subsistence agriculture. Agriculture, therefore, has remained the backbone of rural family economics, particularly among indigenous people.

3.2.2. Livestock production

The small-scale farmers are agriculturalists, and pastoralists by choice. Their livestock is secondary in terms of meeting their economic requirements. They are largely regarded for their social and religious significance. Cattle are the most frequently raised livestock in the modern era. The least produced animals include goats, sheep, and fouls. The farmers' primary justification was that cattle are grown in the community for a variety of purposes. For example, they provide milk and meat and serve as the primary channel for resolving disputes and, most importantly, for the trade of marital items. Cattle exchange establishes the network of familial connections that connect members of lineal groupings as well as relationships with other groups. They are, nevertheless, regarded in high regard, and each man's herd is a source of considerable pride. They are the greatest possible kind of sacrifice and the most effective way to ensure success with ancestor spirits and to live in peace with the supernatural realm. This ensures health, wealth, and contentment.

Their skins are used to construct clothing, mainly for women, and shields; the horns utilized as receptacles; tails form switches or the tuft hair was fashioned into bangles; and their

tail-skins are used to tie axes and assegai shafts. In building, dung is used as a soil stabilizer by spreading it in ornamental patterns on walls and floors to act as a protective layer. Cattle are also taught and employed as draught animals after the invention of the plough and ox-wagon. Additionally, cattle were utilized as the primary legal money in the statement of offenses, and the majority of tribal court penalties require payment in cattle or their monetary equivalent. Cattle holdings are diminishing at the moment due to a lack of grazing land, feed availability, drought, and animal illness. Livestock losses, which are often connected with climate change and environmental instability, have been shown to impair both livestock output and the livelihoods of families who rely on livestock production. Continued cow breeding in the face of negative consequences of increasing temperatures drastically limits the number of animals that families may retain. Each household raises between three and fifteen head of cattle.

Farmers acknowledged that they presently raise and manage cattle to obtain a livelihood. Farmers maintain animals and utilize them to create revenue and productivity. Individuals in rural communities often raise cattle and utilize them to produce productivity and money. This finding indicates that households with a big herd of cattle are more likely to be food secure than those with a small herd. This might be because a home with more cattle produces more milk for direct use, and the owner is perhaps more secure in terms of food. Additionally, farmers with a big herd have a greater possibility of generating a higher profit from livestock production. A herd of cattle costs between R8,000 and R12,000, depending on the condition of the herd. This allows them to buy food during times of scarcity and invest in agricultural inputs that boost food production, so assuring household food security. Cattle's primary functions as draft animals and producers of manure also contribute significantly to food security.

Livestock is a significant source of revenue for rural people (Muhammad *et al*. 2017; Nafiza and Lu, 2017). The economic value ascribed to cattle by farmers is consistent with Oduniyi and Tekana's (2019) conclusion that livestock production is critical to agricultural economies because it plays a variety of functions in the livelihoods of livestock keepers' households. Additionally, livestock serves as a mainstay for the majority of households and communities by providing basic requirements and the ability to generate revenue by selling surplus animal output in marketplaces (Dzanku, 2015). Indigenous peoples' livelihoods are inextricably linked to cattle as a component of their culture. In the households of rural community members who are jobless, livestock husbandry provides for almost half of household income (FAO, 1998). It is a widespread means of subsistence in rural areas (Oduniyi and Tekana, 2019), and the primary source of income for the majority of rural families in Sub-Saharan Africa (Dzanku, 2015). For example, in Africa, 70% of rural families' income comes from agricultural operations (Davis *et al.* 2010).

4. Conclusion

The sample was restricted to community members practicing subsistence crop and livestock production. The purpose of this research was to provide an overview of indigenous livelihood strategies used by small-scale farmers in a rural community with the objective of determining the degree to which indigenous livelihood strategies contribute to household income and food security. The majority of farmers continue to grow maize and groundnuts in their backyards, with fewer producing on the fields under adverse weather circumstances. Production is mostly for domestic use, with extra groundnuts sold in local markets and maize deposited with a local mining firm to be crushed into maize meal. Additionally, farmers rear cattle as a source of revenue, with cattle being sold for cash to augment family income. The primary livelihood outcomes in this research are household food security and income. Simultaneous crop and livestock production is a significant indigenous livelihood strategy that has largely withstood the impact of foreign livelihood plans. The study recommends that the government gives agricultural extension assistance to small-scale farmers in order to help them strengthen their indigenous livelihood strategies and ensure their sustainability. On-farm production has the potential to benefit disadvantaged people by supplementing their nutritional needs and perhaps creating extra monetary revenue to assist them improve their livelihoods.

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