

## Indigenous Knowledge Systems (IKS) and Food Security in South Africa: Is Land Reform a Prerequisite?

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**ABSTRACT** This is a historical investigation on the role of land reform in the application of indigenous knowledge systems (IKS) for food security in South Africa. The study used secondary sources to examine inequality in land access. The Basotho and Maolosi agriculture projects were used as case studies to show that given access to land local communities could practice their indigenous farming systems for sustainable food security. The use of IKS in agriculture was also exemplified in animal health practices. It was recommended that land reforms and IKS need to be taken seriously in policy development and implementation. Existing agricultural projects which are IKS-based should be supported to be best practices.

### INTRODUCTION

Indigenous knowledge systems (IKS) represent the most cherished heritage and values of any community; it is something that is richly embedded in the African culture. Akullo et al. (2007) noted that the development of IKS, including management of natural environment; has been a matter of survival to the people who generated these systems. Such systems are cumulative, representing generations of experience, careful observations and trial and error experiments. This is the case of many African communities, where for generations people have passed the IKS from generation to generation. As a way of promoting sustainable food security, people in their local communities have over time valued their indigenous agricultural practices (Warren and Rajasekaran 1993; Kolawole 2005; Maila 2007; A-Magid 2011). Nel (2005) elaborated on why indigenous knowledge is a system by attributing to its holistic nature. It relates to all aspects of life including the environment and to the plurality of its functions. Finally, similar to any discipline, AIKS embody ethical standards, standards of responsibility, transmission and a system of rules and practices.

Akullo et al. (2007) noted that IK is stored in people's memories and activities. It is expressed in stories, songs, folklore, proverbs, dances, myths, cultural values, beliefs, rituals, community laws, local languages and taxonomy, agricultural practices, plant species and animal breeds. It is the knowledge gathered over time

and continues to be modified as the time progresses (Atteh 1980). In the case of South Africa the transmission of IKS from one generation to the next has been hampered by, firstly the forced removal of Africans from their ancestral land and secondly the slow pace of post-apartheid government in addressing land reform. These factors have a serious implication on the generation and preservation of IKS in South African black communities.

IK is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments and intimate understanding of the environment especially in relationship to land in a given culture (Ngara 2013). Africans like the other indigenous people have generated agricultural systems over the years. Akullo et al. (2007) elaborated that local knowledge holders, such as agriculturalists, fishermen, local artisans, etc. are the custodians of IKS. Their knowledge on climate change, resource management, and ecosystems can contribute to the issue of food security in South Africa. For instance, local people understand the rainfall patterns and the type of crops that grow in a certain area and how to maintain the resources of a certain area (Lalonde 1991). It is on the basis of this argument that, everyone should be afforded equal access to the land in South Africa.

In other words, empowering the local people in terms of land ownership will ensure the sustainability of their indigenous food security systems. Commoditization of land and food produc-

tion has marginalized African indigenous knowledge and farming systems (Webb et al. 2016). Effects of commoditization have impacted on land and African food security whereby production is dictated by the demands of the market. In spite of the dominance of commercial farming, African indigenous farmers, especially women, have managed to preserve their indigenous farming systems but have been limited by access to land (Cross and Hornby 2002).

### METHODOLOGY

The paper used secondary sources to interrogate the role of land reform in the application of indigenous knowledge systems for food security in South Africa. The use of secondary sources involved accessing available and affordable information on the research problem. The literature sources included past research, websites, articles and books. The advantages included affordability and easier access than conducting primary research (Haralambos et al. 2013).

### OBSERVATIONS AND DISCUSSION

#### **The Impact of Colonisation and Apartheid on Land Distribution and Indigenous Food Production Systems**

Colonisation left a significant mark on the continent of Africa. In other words, its consequences or legacy continues to be felt in all African countries and South Africa is not an exception. South Africa, like the rest of the continent, endured the oppression under the minority rule of the Whites colonialist. The first thing that was taken by the white settlers was land. Land constitute a heritage of any particular community, this is no strange news. The richest families in the United Kingdom are the land barons. This section will look at the Land Acts under taken since 1910 up to the apartheid era and their impact on the agricultural activities undertaken.

The discovery of mineral and gold in the 1880s consequently led the demand of cheap labour to increase. After the land was taken under the Land Act missionaries and the colonial government tried to establish a class of African farmers in order to quell the uprising of the black masses (Ntsebeza and Hall 2007). The discovery of the minerals made the situation even intri-

cate and more complicated for the Blacks. The colonial government introduced the Glen Grey Act in 1884. This Act forbade Africans to buy and own land outside the seven percent (7%) of the land occupation. The same law abolished share cropping system and labour tenancies. The colonial government's policies made the practises of IKS in the African communities to be impossible and not to mention the agricultural activities. Firstly according to Saunders (1980: 20-23) between 1856 and 1857 thousands of Xhosa cattle were killed. This made the Xhosas to move to the urban areas because they no longer have the means to sustain themselves. In other words they were rendered destitute and weak to progress with their usual livelihood. In the Eastern Cape communal land tenure was practiced but soon after Cecil John Rhodes' Cape parliament passed the Glen Grey Act; the Act prohibited communal land tenure. This policy clearly stipulated that one man one plot and that was in favour of the white commercial farmers.

Furthermore, Ntsebeza and Hall (2007) noted that the white settlers in South Africa took approximately more than ninety percent (90%) of the land under the 1913 Natives Land Act. The black people were put in the reserves in the remaining marginalised portions of the land. This also points out to the fact that if there was some form of civilisation available it was put on the hold. Many rural people moved into urban areas and farms in search for work (Ntsebeza and Hall 2007). Ntsebeza and Hall (2007) observed that whenever the colonialist has the upper hand they introduced commodity farming. The commodity farming replaced the indigenous agricultural systems which were not geared for the market. Africans were not producing crops for market but Africans knew how to ensure survival of their people.

The white commercial farmers used the state subsidies and the availabilities of cheap labour. It transformed farming in South Africa into large scale commercial farming. This happened at the expense of the IKS and also led to the near death of the subsistence farming. The South African commercial farming is what it is right now, not because they are good farmers but because the colonial system disintegrated the subsistence farming in South Africa (Ntsebeza and Hall 2007). In light of this argument McCusker et al. (2015) concluded that land policy was by no means settled by the NLA, even with its drastic restric-

tions on African land purchase and squatting. This shows how delicate was the situation in which the Africans found themselves.

Apartheid is an Afrikaans word meaning apartness or separate development. In most cases the transition was effected by the indigenous people themselves. It resulted in most of the population being separated from their agriculture ties. In England this took place in the 16<sup>th</sup> century and between 1770 and 1848. Small farmers were removed from their land and it was enclosed by hedges and fences (Mingay 2014). This forced people to go into urban areas spearheading industrialisation. Daniels (1989) observed that it is only in South Africa where private ownership of land depended on colour. Land ownership was given to the whites, Asians and coloureds. Blacks in South Africa were denied land and were relegated to areas known as reserves or homelands on a land incapable of sustaining themselves.

Furthermore, Ziebertz and Schweitzer (2005) concurred with the argument above when they pointed out that South Africa was divided into two: the white man's land and the black man's land. Approximately seven percent was set aside for reserves or what they called mainland. This was implemented in areas such as Zululand, Transkei and Ciskei. The 1913 Land Act was followed by the 1936 Native Trust and Land Act. This act promised more land to the black people or Africans in general but however the new apartheid government had other plans. The 1950s Group Areas Act made things worse because it set people in groups according to race; by the end of 1970s, about 3.5 million black people had been displaced and forcibly removed from the land they were living (Daniels 1987). The homelands policy technically rendered millions of people homeless. In other words this policy made IKS to be technically impossible and the practise to be limited to a small scale.

Daniels (1987) noted that of the 122 million hectares of land in South Africa, approximately 81.2 percent are occupied by whites in white areas and 3.6 percent by legal blacks who have no legal right to land ownership in these areas. The Indians and coloureds occupy 2.4 percent in white areas and the remaining 12.8 percent is designated for black occupation and ownership in the homelands. Land occupation often means landownership for whites, Indians, and coloreds. Whites own 84.8 percent of the land in South

Africa, taking into account the 3.6 percent occupied by blacks in white areas to which they can never attain freehold title (Daniels 1987). The statistics provided above shows that black people were technically rendered unable to sustain themselves through agriculture. The white commercial farmers were provided with the raw materials through subsidies and the cheap manual labour they require in order to practise commercial farming.

This had a significant impact on the South African black community, who depended on land for a lot of activities. As noted in the pre-colonial era people would practice hunting and nevertheless people relied on land for their health care life. Land in Africa and elsewhere represent the heritage of each community. People placed great value on the land. Even though, South Africa thrived in commercial farming but in the black communities' food security continues to be dream, as shall be shown by the discussion below of the agricultural activities of the black communities during the apartheid era.

Daniels (1987) observed that about eighty-five percent (85%) of the land resource in South Africa in 1980 was devoted to agricultural purposes. The most meaningful and noticeable features of the distribution of agricultural land are the following. First, the racial allocation of agricultural land closely parallels the racial distribution of land in general, with eighty-five percent controlled by whites and the remaining percentage tribally distributed between blacks (Daniels 1987). The black people's agricultural systems could not exist in the small portion of land fifteen percent (15%). A small proportion of cultivated land under crops existed in the homelands, and some of it was devoted to cattle rising (Zimmerman 2000). In 1980 about one-fifth as much land was cultivated in the homelands compared to white areas where population pressures on the land are far less intense and most important economic activity was manufacturing industry as opposed to agriculture. Black people still wanted to do agriculture but however their farming methods were primitive in comparison to white areas.

The battle of resistance by the Zulu people against the Dutch was against the permanent occupation of the land by the foreigners. From the period 1700s – 1838 when the Zulu people were defeated, the Dutch trekkers encountered more formidable and more culturally advanced

contenders for the land (Daniels 1987). The Bantu on the eastern side of Africa and the Zulu who occupied what is now a South Africa province, Natal. Wars and conflicts continued unabated for a period of almost 100 years (Daniels 1987). White colonists were made aware in their conflict with the Bantu that there was no longer an endless supply of unoccupied land. The Dutch made efforts to try to avoid the conflict by establishing two new provinces Orange Free State and the Transvaal (Daniels 1987). But the new intrusion was met with resistance by the Zulu who sought to rid the land entirely of white settlers. However, the Zulu were soundly defeated in 1838 at the Battle of Blood River (Daniels 1989). The resistance of the colonists by the Zulu people shows how important land was for the African people.

May (1996) conducted one of the largest studies which give an insight on the agricultural activities conducted by the black communities in five districts in KwaZulu covering 1,100 households. The study by May found out that a quarter of the households (23.1%) had no arable land and the average amongst those with land was 1.4 hectares. May noted that fifty-four percent of the households had both livestock and land sufficient for agriculture. Farming in the homeland was composed of small scale farmers producing mainly food crops for direct consumption. The condition in which farming was done was relatively poor and underdeveloped in terms of the methods, materials and integration into formal markets (Daniels 1987). In light of this one can note that given the opportunity people would grow crops that would ensure sustainability for them. Lahiff (2000) noted that KwaZulu sugar belt is the only place where people would engage in small scale commercial farming. He notes that land was used differently in different climatic conditions, those which are dry and those which wet. This was due to different reasons; firstly they are some regional variations in practices and crop choices, largely influenced by the different in rainfall.

Lahiff (2000) noted that throughout the homelands the majority of the people cultivated land and produced cereals for consumption; Commercial farming was done in the case where the projects were funded by the state and large scale state. People cultivated land and grow cereals and generally maize is dominant, but with sorghum and millet. Lyne and Nieuwoudt (1991: 194)

estimated that cereals accounted for fifty-eight percent (58%) of the total area under crops followed by legumes (16.4%) and sugarcane (14.7%) with twelve percent (12%) of the land lying fallow. Various scholars found out that majority of the people used land to grow maize. About fifty-four percent (54%) of the people used their land which they acquire and about forty-five percent (45%) of the land was put under farming (Singini and Van Rooyen 1995). People also grow beans, madumbe, cowpeas, calabashes and sorghum were intercropped with maize.

### **The Impact of Post-apartheid Land Redistribution Policies on Indigenous Food Production Systems**

Ziebertz and Schweitz (2005) noted something of paramount importance in relation to the IKS. The two scholars' well-articulated one of the key ideas drafted by the African Nationalist Congress (ANC) Freedom Charter drawn up in 1955. The charter states that the land belonged to those who work on the land. The racially based Land Measures Act was removed resulting in the removal of 1913 and 1936 Land Acts in 1991 (Ziebertz and Schweitzer 2005). The South African government introduced a number of laws: The Restitution of Land Rights Act, 22 of 1994, which provides restitution land rights to those evicted from land by the racially based policies of the past; The Provision of Certain Land for Settlement Act, 126 of 1993, which provides for designation of land for settlement purposes and financial assistance to people acquiring land for settlement support; The Development Facilitation Act, 67 of 1995, which introduces measures to speed up land development, especially the provision of serviced land for low income housing; The Upgrading of Land Tenure Rights Act, 122 of 1993, which provides for the upgrading of various forms of tenure; The Land Administration Act, 2 of 1995, which makes for the assignment and delegation of powers to the appropriate authorities; The Land Reform (Labour Tenants) Act, 3 of 1996, provides for the purchase of land by labour tenants and the provision of subsidies to this end; The Interim Protection of Informal Land Rights Act, 31 of 1996, is a mechanism to protect people with insecure tenure from losing their rights to, and interest in, land pending long-term reform measures; The Communal



Property Associations Act, 28 of 1996, enables communities or Groups to acquire, hold and manage property under a written constitution. These were good laws to start with in order to provide better conducive environments which are necessary for the IKS to flourish.

South Africa has a population of approximately 51.7 million people (Statistics South Africa 2011). South Africa's commercial farmland is still under the ownership of 60,000 white commercial farmers which indicates current lack of black commercial farmers (Department of Rural Development and Land Affairs 2016). Land reform therefore has yet to facilitate the entry of significant numbers of indigenous citizens into the commercial farming sector (Beinert 1994).

Cases in different parts of the country indicated that given land access, local communities are able to practice their indigenous farming systems. For instance, Akejni (2009) provides two case studies of Basotho and Maolosi agriculture projects, the study showed that people in the communities given the opportunity of owning the land they can still practice IKS. The Basotho Letjhabile Trust members perceive their indigenous knowledge as part of their everyday life (Akejni 2009). The indigenous people there noted that there is a great bond between our agricultural practices and that of the ancestors, who practised agriculture as a life-style. The interviewed people stressed that they incorporate IKS in their agricultural activities. Most of the men involved in the Basotho Letjhabile project define their indigenous knowledge as knowledge acquired from their ancestors. It is imperative to note that the respondents were aware of the IKS since they acknowledge that this knowledge is used in their everyday life that is passed on to their kids, who perpetuate it from one generation to the next. Akejni (2009) found out that indigenous knowledge is practiced when conducting agricultural activities. Furthermore, this study also found out that the local remedies are used in dealing with many problems which arise in farming. For instance, when a chicken is sick, they will try any herb that he gets from the field, crush it and add water, and give it to the chicken to drink. If the chicken gets well from drinking this herb, he passes this knowledge to his kids, who would then pass it along generational lines. This practice indicates the production of indigenous knowledge through trial and error or falsification, similar to empirical science.

In other words farmers find IKS to be informative when conducting agricultural practices.

Akejni (2009) also noted that the main types of livestock involved in the Basotho Letjhabile project are cattle, sheep, pigs and chickens. Cattle and sheep are more numerous, 104 compared to pigs and chickens and are reared mostly for commercial purposes. Pigs and chickens are raised for subsistence within the community. The Basotho Letjhabile Trust chose the Vleis Merino sheep breed because they believed it produced more milk and wool than other sheep. The most important aspect to note in this regard is the fact that, even when people are involved in some form of commercial farming, they still would see the value of subsistence farming.

More so in the case of any cattle disease, indigenous knowledge is used in the identification of the disease. Indigenous people in the Basotho community are able to identify a sick animal. A sick animal is identified in the way their ears fall and the presence of foam around the mouth of the animal. Different symptoms exist for pigs and chickens. A sick pig is identified in the way it feeds and the noise it makes and sick pigs cry out louder than healthy pigs. This is priceless knowledge that exists within the community and people there are able to enjoy the utilisation of IKS as a way of ensuring success in their agricultural activities.

Lastly it is the issue of Rain Ritual in the Basotho Letjhabile Project. The notion of ritual as stated by Bell (1992) first emerged as a formal term of analysis in the nineteenth century to identify what was believed to be a universal category of human experience. A ritual is more or less a repeatable act which instead of a purely functional normal dimension gets a symbolic dimension, through formalisation, stylisation and situating in place and time. The knowledge holders in this community could perform rain ritual and bring rain to their area. That alone can show you the importance of IKS in ensuring agricultural production and also the food security.

In post-democratic South Africa, using the case study of the Basotho one could see that people engaged in agricultural activities. They took on commercial farming at a minimum level or small scale but ensured that subsistence farming flourish. In this case the researchers conclude that despite the fact that people went through the colonial era every community still fought for the survival of its citizens. In this

case this symbolises the existence of IKS in post-democratic South Africa. Following the values of IKS ensure that food security in different communities for instance the passing of the wisdom of rain making ritual. The fact that a person with a farm would grow crops for the sustenance of his or her family means a lot in trying to find solution for food security in Africa.

### CONCLUSION

The study provided a historical interrogation of the impact of colonisation, apartheid and the land question on indigenous systems in relation to food security in South Africa. The study attributes the lack of access to land as a limitation to the full utilisation of indigenous knowledge for sustainable food security. The Basotho and Maolosi agriculture projects were used as case studies to show that given access to land, local communities could use their indigenous farming systems for sustainable food security. The use of IKS in agriculture included the practice of rituals in animal health.

### RECOMMENDATIONS

In order for IKS to be effective in promoting sustainable food security in South Africa, the issue of land reform needs to be taken seriously. It was recommended that land reform and IKS needs to be taken seriously in policy development and implementation with particular focus on subsistence farmers, especially women who have limited access to land. Furthermore, there should be increased advocacy to promote knowledge and awareness on the importance of indigenous knowledge in agriculture. Existing agricultural projects which are IKS-based should be supported to be best practices.

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