INDIGENOUS KNOWLEDGE SYSTEMS IN NEMBUDZIYA: RESILIENCE OR DEMISE?

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Abstract

Indigenous Knowledge Systems (IKS) have been considered backward and primitive in most sectors particularly those to do with modern development. The knowledge remains disputed and contested. While some scholars acknowledge its existence and usefulness, some have contested it as minor, raw, not easy to generalise, private and not applicable for large scale development interventions. As a result, this body of knowledge is threatened by extinction since only a few local people in rural areas remain its custodians. Its inclusion in the school curriculum has been on a low level in Zimbabwe and Africa. However, some institutions of higher learning have recognised its significance and efforts and milestones are being made in research. This article is asserting and confirming the validity of African IKS as an essential body of knowledge which still needs promotion, development and recognition as traditional knowledge which has helped in the conservation of forests, prevented soil degradation and promoted development and resilience of ecosystems. Some of the possible threats and challenges which may lead to the demise of this critical body of knowledge have also been explored.

Keywords

Indigenous Knowledge Systems, sustainable development, resilience, demise

Introduction and Background

Indigenous Knowledge Systems (IKS), Traditional Knowledge (TK), Local Knowledge (LK) or Indigenous Ways of Knowing (IWK) are some of the different terms used by different writers to refer to the same body of knowledge. This body of knowledge can also be called Indigenous

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Technical Knowledge (ITK), ethno-science, people's science or rural knowledge (Altieri 1995).

Indigenous Knowledge Systems is a way of survival for a particular group of people in a certain cultural setting. This article describes it as tacit knowledge which is inherent to the local people, thus it cannot be separated from people's culture. By virtue of being a way of life, it cannot be alienated from essential survival techniques in security, food production and food security, flora and fauna classification and conservation strategies, water management, environmental conservation strategies, climate predictions and many more. In its broadest sense, IKS was found by sustainable development researchers to encompass techniques related to pastoralism, agriculture, agroforestry, the gathering of wild food, soil classifications systems, conflict resolution strategies and many more essential survival strategies (Dombrowski, 2014; Ngara & Mangizvo, 2013; Mapara, 2009). This knowledge has been swept aside and denigrated by colonialists as superstitious, denying it a chance to be full-fledged through practice and public recognition (Mapara, 2009; Leach & Means, 1994; Nyati, 2001).

Ngara and Mangizvo (2013) opine that the meaningful recognition, uptake and improvement of IKS has been retarded by the general negativity in perception of the body of knowledge, which if continued, may lead to its possible demise, thus the world will continue to lose a valuable contribution to economic growth and sustainable development. The practitioners, educators and custodians of IKS remain the elderly people in the rural communities. The death of one key elder, particularly women, presents a serious threat, which may result in the extinction of their collective wisdom, thus posing a constraint for the long term survival of the community's indigenous knowledge system which is needed for the next generation. Lalonde (1991) posits that women are key stakeholders in IKS since their day to day active roles as food providers for the family, child minders, healthcare, cleaning and energy providers among others, require direct contact with the environment. It is possible that if IKS and its custodians are involved and included in policy making and implementation of development programs like land allocation, soil conservation and food production; such efforts can yield better, sustainable results.

Nembudziya is found in Gokwe North district in the Midlands Province of Zimbabwe. Nembudziya growth point, which attained growth point status in 2001, is 121 kilometers and 215 kilometres from Kadoma and Harare, respectively. The average population is around 41 632 (www.getamap.net/nembudziya). Traditionally, the area comprising of nine

wards, is under the Headmanship of Nembudziya under Chief Chireya, while Gokwe North Rural District Council is the government organ administering the area. The area, which is largely rural, comprises of people of mixed origin and ethnicity due to the forced migrations caused by the colonial regime as well as other voluntary migrations caused by pull factors like the successful cotton growing period from the 1970s to the 1990s. Gokwe district had suffered marginalisation during the colonial era like all other rural districts in Zimbabwe, but the situation in this particular district was worsened by the fact that it was a tsetse fly manifested area, thus malaria and sleeping sickness were rife, and for a very long time very few people settled there until the forced migrations in 1958 and the introduction of attractive cash crops (Nyambara, 2001; Maravanyika, 2012; James, 2002a).The findings and opinions proffered in this article will help to confirm and add to knowledge on a micro scale, elaborating the temporal and spatial differences in appreciating IKS.

Objectives

The study was conducted to:
1. Explore the Indigenous Knowledge Systems practised in Nembudziya.
2. Assess the contribution of IKS in food security and environmental management in Nembudziya.
3. Identify the challenges encountered in ensuring resilience of the body of knowledge, and
4. Identify ways of curbing any potential demise of this vital body of knowledge**.**

Hypothesis

This inquiry was based on the premise that Indigenous Knowledge Systems are threatened by extinction and they are on the verge of complete disappearance. The assumption here is that due to westernization and globalisation, IKS may not have any chances of survival as communities prefer modern survival strategies. This article therefore set out to investigate the validity of this claim on the potential demise of traditional knowledge.

The main research questions were:
1. Which Indigenous Knowledge Systems are functional in the Nembudziya area?
2. How does IKS contribute to environmental management and food security in Nembudziya?
3. What challenges are being encountered in continued use of traditional ways of life?

What suggestions can be made to overcome the challenges?
4. What recommendations can be made for further resilience of IKS?

Literature Review

IKS has been defined by Behera and Nath (2005) as a set of knowledge systems that embrace cultural, social, traditional, scientific, legal, philosophical and governance systems of a particular community. The system includes skills and knowledge used to guide their way of life (Odora-Hoppers, 2002; Behera and Nath, 2005; Maluleka et al., 2006). Additionally, Odora-Hoppers (2002) proffers that IKS are inclusive of climatic knowledge, management techniques, technology in agriculture, forestry, fishing and other resource exploitation skills.

More scholars give different definitions of this body of knowledge and the general consensus is that it is a way of life for a particular community. Risiro et al. (2013) and Warren (1991) concur with other scholars when they aver that indigenous knowledge is the local knowledge that is unique to a given culture or society, which becomes the local basis for decision making in health, agriculture, food production, education and environmental management. It refers to what indigenous people know and do, as well as what they have done and known for generations, practices that have evolved through trial and error and proved flexible enough to cope with change (Kalawonde, 2001; Stone, 2007).

From the definitions given, Indigenous Knowledge Systems seem to have some common special characteristics. Ngara and Mangizvo (2013) maintain that IKS has a characteristic of belonging to the indigenous people, who they defined as culturally distinct ethnic groups who are the oldest inhabitants of an area or a region, who have lived in that cultural set up for generations. They add that indigenous people are a contested group just as indigenous knowledge. In the opinion of Dondolo (2005), the knowledge is shared by people of the same ethnic group and of the same language, and therefore becomes exclusive to specific localities. Some of the knowledge can be unique to specific individuals of the community such as traditional leaders, herbalists and expert food gatherers.

Other characteristics of IKS include the fact that it is holistic and inclusive because it embraces complex relationships that exist between the physical, human and spiritual worlds. People are viewed as equal to nature. This body of knowledge which is created through years of careful observation and experience between humans and nature has been seen to be dynamic in the same way cultural, economic and ecological environments are, thus it is not stagnant (Mackenzie, 2014; Reid et al., 2006; Snevely and

Corsigilia, 2000; Gadzirai et al., 2006; Du Toit, 2005; Kolawole, 2004). Due to globalisation, borders have become porous and no system can remain intact. Indigenous Knowledge Systems have altered over the years as they are continually produced and reproduced by internal creativity and through contact with external systems, thus they are contemporary. They have evolved with the times. Du Toit (2005) and Kalawole (2004) argue that despite the alterations and transformations undergone over the years, IKS remain stable systems of knowledge and their original worth and meaning are maintained to the new paradigm. The values, the know-how and the technologies are resilient and persistent, being carried over for generations.

A number of authors emphasise the relevance and significance of IKS in food security and environmental management today. Sithole (2014) singles out the *nhimbe* practice (a work beer party), in which community members invite others to join hands in working together in development initiatives, particularly agricultural activities like weeding, planting or harvesting. This concept, the author argues, draws from social capital, underpinned by community cultural values like inter-households bonds, reciprocity, trust, solidarity, respect and peace. In addition, Stathers et al. (2000), Mararike (2001), Maphosa (2014) and Siamanga (2017) concur on the importance of the traditional *Zunde Ramambo/Isipahla Senkosi* (Chief's granary) concept in which the chief mobilises resources and labour from his subjects which are pooled towards one communal piece of land. Community members take turns to work in the field from planting to harvesting and the produce is stored communally at the chief's residence. The food acts as a social safety net for the benefit of the community in times of drought. Vulnerable families like the sick, the orphans and elderly also benefit from the same food storage. Community activities like rainmaking ceremonies, chief's courts and visitors also draw food from the *Zunde Ramambo* granary. In these cases, Indigenous Knowledge Systems promote and sustain food security.

Some scholars like (Eyong et al., 2004; Largil, 1999; Tatira, 2000; Chemhuru & Masaka, 2010; Duri and Mapara, 2007; Ngara and Mangizvo, 2013; Eyong, 2007) have also delved into the critical role played by IKS in environmental management practices. Flora and fauna have been conserved through community values, beliefs and taboos. In revered areas like local shrines and burial grounds, it is taboo to cut down trees or kill animals. Most of the traditional beliefs respected by the people made them own and become custodians of their own environment. The people would conserve their environment since no one would want to go against what they are taught at the traditional courts through storytelling, drama, song and dance. Going against the taboos would anger the spirits, bringing bad

luck on the whole community like failing rain, sickness, blindness or wandering in the forests. As a result a lot of fruit trees such as *muzhanje*, *mushumha* and many more have survived. Other endangered and rare species like the pangolin and the python have also survived extinction through these traditional beliefs and taboos, giving a wide range of biodiversity, a good hydrological cycle, food security and other benefits associated with a healthy environment.

According to Khan et al. (2008), studies have shown the usefulness of IKS worldwide. In central and eastern India, several plants and animals have been conserved in the sacred groves. Nomads for example, have practised nomadic herding to allow regeneration of vegetation, in the same way shifting cultivation is being practised in the Amazon basin and by the Karen of Thailand in South East Asia (Burger 1990). The World Bank Report (1998-99) elaborates that Indigenous Knowledge Systems have been used to solve environmental problems such as treatment of cattle ticks by the Fulani tribe and production of a better bean variety in Columbia and Rwanda. Mwaura (2008) elaborates by noting that IKS empowers local communities to take front roles in activities aimed at disaster risk reduction such as mixed cropping which sustains soils and leads to yield of various crops, ensuring availability of alternative crops in case one fails due to moisture stress or pests attacks.

Due to its relevance and significance, IKS has been receiving a lot of attention since the 1990s and there has been calls for increased utilisation of the knowledge of the local people in any development intervention programs, since its tried and tested as well as used in the context of survival and everyday existence (IIoka 2016, Kallard 2000 and Davies 1994). In Zimbabwe, communities still practise IKS although a lot needs to be done. Areas under Chief Samambwa, Chief Makoni, Chief Chivero, Matobo district, Zaka district, Bikita district and Chikomba district are some examples where the Zunde Ramambo/Isipahla Senkosi programme is being implemented (Mararike, 2001; Maphosa, 2012; Stathers et al., 2000; Mawanza, 2014). The Zimbabwean Government has also taken some initiates to combine traditional knowledge and modern methods of environmental conservation by ratifying international and regional conventions on environmental management. The Convention of International Trade in Endangered Species (CITES) was implemented through the establishment of Communal Areas Management Programme for Indigenous Resources (CAMPFIRE). In 1995, Zimbabwe adopted the Convention on Biological Diversity and in 1998, ratified the convention to combat desertification. The Montreal Protocol on pollution and climate change as well as Agenda 21 has been adopted in order to conserve the environment. A lot of institutions of higher learning like Midlands State

University, University of Zimbabwe and Great Zimbabwe University have been partnered to teach on indigenous knowledge systems and modern methods of environmental conservation. A lot of institutions like Environmental Management Agency (EMA), national parks and botanical gardens all aim to conserve the environment in partnership with the indigenous people (World Development Report 1998-99; UNEP, Global Environment Outlook, 2000; Chenje et al., 1998). It is a well-known fact that all these programmes will never succeed without consulting the indigenous people to contribute and participate at the planning and implementation stages, thus more needs to be done to give IKS its role and place as a significant body of knowledge in food security and environmental management.

However, different scholars concur on the existence of challenges facing IKS in the past and present. Eyong et al. (2004) argue that IKS has suffered for decades from strategies of disinformation from western colonial education and religion. Nyati (2001) elaborates that indigenous people ended up believing that their ways of knowing was inferior, pagan and evil, primitive and superstitious as believed by the new religions. Mawanza (2014) avers that hindrances in the successful implementation and resilience of Indigenous Knowledge Systems include different religious beliefs, lack of integration among community members, greediness of traditional leaders, negligence, poverty, poor documentation and negative perception. Kalawole (2004) elaborates by noting that IKS is stored and transmitted in traditional and cultural practices, beliefs, taboos, myths and legends, folklore, cultural dances and traditional equipment. These modes of transmission have been criticized as insufficient and unreliable, thus vulnerable to loss when custodians die or due to external pressures.

In addition, IIoka (2016), Dei (2000), and Kgomotso (2012) assert that the young people are not willing to learn, perceiving IKS as knowledge of the poor. This poses challenges of resilience and intergenerational continuity of the valuable body of knowledge. Sithole (2007)) notes lack of funds, technological problems and lack of specific frameworks from Government aimed at harnessing this body of knowledge as some of the major hurdles in averting the demise of IKS. Maphosa (2014) alluded to the politicisation of the Isipahla Senkosi (Chief's granary) programme, climate change, shortage of inputs and draught power as the main barriers to the positive output of the programme, leading to food insecurity. Another challenge as proffered by IIoka (2016) is globalisation, causing the breakdown of traditional communication channels, socio-economic imbalances, lifestyle changes and too much exposure for the young people, which reduces contact with the elder people, thus the elders eventually die without passing on the knowledge to the young generation.

Methodology

Interviews, participant observation and focus group discussions were utilised during the data collection period in this study. Stratified sampling was used to select the respondents, based on age-sex characteristics of the population, in a bid to explore the existence of any gaps in knowledge that may exist across age groups and genders. Respondents were selected from six villages. Ten (10) young people (age group 20-40 years) from each village were interviewed and ten (10) elders (age group 50 years +) including village heads were also interviewed on the study topic, making a total of one hundred and twenty (120) interviewees. An average equal representation on sex was maintained across all age groups and villages. The interviews provided the researcher an opportunity to cover a wide range of issues concerning the inquiry and to get information from some elderly respondents who could neither read nor write, as well as making interpretations from some nonverbal cues.

A visit was made to Headman Nembudziya's homestead on a Thursday when community courts are held. At the end of the day's proceedings, the researcher was provided with an opportunity to talk to the people in focus group discussions. Two groups (one group comprising ages 20-40, and the other comprising ages 50 +) with an average of 12-15 people in each group were used. The majority of the participants were male since they are the main attendants to the chief's dare (traditional court), which is normally the norm except in cases of rape, divorce and domestic violence. The young people were more open to discussion than the senior community members, but both discussions yielded very good results on the use and contribution of indigenous knowledge systems in Nembudziya to food security and environmental conservation.

Observation was chosen for this inquiry so that the reliability of responses from the informants through interviews can be tested and consolidated. As emphasised by Kawulich (2005), observation assists the researcher in watching behaviors and interactions, reservations and attitudes, details which cannot be captured by questionnaires or through telephone interviews. During the data gathering period in this inquiry, the researcher joined four (4) villages in April and May 2017 and participated in harvesting maize in the Zunde Ramambo/Isipahla Senkosi field, which is controlled and run by Chief Nembudziya and the leaders in the area. There were sixty (60) people altogether working in the field on that particular occasion, making it easy to ask questions regarding that particular activity and other Indigenous Knowledge Systems from both young and elderly members of the Nembudziya community.

Findings and Discussion

Indigenous Knowledge Systems (IKS) still exist in Nembudziya, and continue to be used because of its relevance to the survival and coping strategies of the people in the area. Alongside modern methods of food production and environmental conservation strategies, IKS resisted extinction and managed to survive to date, which is a sign of resilience.

1. Zunde Ramambo/Isipahla Senkosi

On one of the visits to Headman Nembudziya's homestead, the researcher met many people, who immediately received instructions from the Headman's secretary to go straight to the fields and do the work as planned and agreed.

The Headman then explained to the researcher that the people were going to harvest maize from the Zunde Ramambo/Isipahla Senkosi fields. He confirmed the existence of one big communal field (15 hectares). The Headman and his team of leaders in the traditional structures controlled the activities. Each village sent representatives in turns to do the work ranging from planting, weeding, cultivating to harvesting. The villagers take turns to work in the field and normally fifty to sixty (50-60) people are called in at a time to minimise congestion. Maize, as the staple food in the area, is the main crop grown, not any other cash crop. The community expected to harvest twenty tons of maize, which could have been more had it not been the challenge of fertilizers and late planting caused by unavailability of seed (concurs with Maphosa, 2014). The Headman had this to say:

> Zunde raMambo works well for us because that's the food we give our people in times of famine. Even in years of bumper harvest, we have child headed households due to the effects of HIV/AIDS. Even the widows, disabled and the elderly also benefit from the scheme.

Although some village heads would come to the Headman to excuse themselves from work because of a funeral or some other excuses, most of the people coming to work in the Headman's field were not complaining. They responsibly performed their duties of the day.

Asked to comment on why they think it is important to be part of this community activity one participant said "what brings us here is the fact that life is not predictable. One day it may be your own children orphaned and in need of food assistance from the Zunde raMambo scheme". This draws from ubuntuism and bound by community cultural values (Sithole 2014), in which one thinks of the future and problems of their own

children, as well as empathizing with children from the whole community. A household problem becomes a community problem and it is shared and solved communally. Such bonds of solidarity in rural communities, as opposed to individualism in urban areas, makes Indigenous Knowledge Systems unique, thus it should always be promoted for peace and community development.

Young people, ranging from twenty to forty years (20-40 age groups) also participated(although their numbers remained low) in this essential community activity and the Headman explained that it was a way of ensuring continuity and passing on the Zunde Ramambo/Isipahla Senkosi concept to the next generations. However, youngsters of school going age are rarely found because they always cite challenges of being engaged in school activities like reading and homework, thus the numbers of the youths involved in these traditional activities remain low. This concurs with the concerns raised by, Dei 2000, Iloka 2016 and Kgomotso 2012, that the young people generally have a negative perception about IKS and are not willing to learn. The Headman consults the village heads on information on the status of each household, which is then used to draw lists of needy people who can get a share of the same maize on a distributive plan. The way Headman Nembudziya operates is quite in line with section 9 and 12 of the Traditional Leaders Act (Chapter 29:17) concerning the complimentary roles of the Headman and village heads. The village heads have more information concerning the status of households since they are responsible for overseeing families and households. This multi-stakeholder approach increases transparency, efficiency and effectiveness of the distributive plan. Even in years of good harvests, there still remain vulnerable people like the elderly, the widows, the child-headed homes, the sick, the mentally challenged and the disabled who will always need food assistance from the community leaders, thus the traditional Zunde Ramambo/Isipahla Senkosi system remain the traditional social safety net for the needy, complementing the conventional Social Welfare Department's efforts, as aired by (Mackenzie, 2014; Mararike, 2001; Siamanga, 2017).

2. Outstanding Tree Species

It is taboo to cut down some special types of trees in Nembudziya. Muuyu, Mukamba and Mubvumira are special trees which should never be cut down. When the current holder of Nembudziya chieftainship[1] was consulted on why these trees should not be cut down, he indicated that the trees are sacred and the people's Spirit mediums dwell and rest in them. One of the village heads[2] confirmed the same belief when he said the headman has extended the practice of conservation and all big trees no matter what type cannot be cut down. One of the village heads reported

that people are no longer allowed to cut down any big trees, especially the fruit trees. Only dead trees and some branches can be pruned and used for firewood. If anyone cuts down those trees, they have to pay a heavy fine to the headman.

All the elders interviewed were aware of the importance of these tree species. However, about half of the youths interviewed could not even identify or name the tree species which are critical in the area. This was more common in the young people of school going age, particularly those who reside within the growth point who no longer participate in activities like cattle herding and fruit harvesting on a day to day basis. One of the young male respondents had this to say, "Naming indigenous trees does not give me money. We want income generating activities. It is the elderly residing in the villages who know that. We {the young people} are moving with the times". One of the young female respondents interviewed indicated that the boys knew better about tree species because they go for cattle herding. In addition, he said that nowadays electricity is widely used instead of firewood, for cooking so there is no need for girls to know the tree types. However, some female Advanced Level students studying Geography at Nyamuroro High school aired different views as they emphasised the need for everyone to know the names and uses of all indigenous trees in order to pass the information to the next generation.

The people of Nembudziya expressed their own understanding of the importance of environmental conservation. When all the big trees and the fruit trees believed to be taboo are spared, they are being prevented from extinction, helping in reducing soil degradation, thus promoting a healthy environment for an uninterrupted hydrological cycle, which promotes food security. Myths and taboos associated with using fruit trees are very important. For example if you use any fruit tree for firewood, the smoke is believed to cause blindness. As a result fruit trees like *mutsubvu, mushumha, muhute* and many more have survived in the Nembudziya community for a long time, promoting nutritional value and food security as aired by Duri and Mapara (2007) and Ngara and Mangizvo (2013). However, the reluctance of the young generation to learn Indigenous Knowledge System continues to recur in Nembudziya. Since the youth are the future of the community let alone the whole nation in terms of sustainable development, this signifies the dire need for an integrated approach in finding solutions to try and curb the demise of IKS.

3. Sacred Forests and Shrines

There are special forests and shrines which should not be visited by anyone whose duties are not required there. In these forests, no tree should be cut down; no heavy perfumes should be worn, even for those who have been

granted permission. Headman Nembudziya had this to say about the sacred place "In our community, our chiefs and headmen are buried at Matarara/Madzimbabwe". This is a revered place and many people do not know about that place). Currently, there are graves of about seven (7) chiefs in the area who could not be named specifically. No one goes into these forests. There are a variety of tree species and they grow without much human interference. There are no guards. The forests are self-protected because of the beliefs and importance attached to them. One of the elders in the area had this to say about the same place "If anyone goes there without permission or for no good reason, they will get lost and spend countless nights wandering in the forests and failing to locate their way home".

This finding has to do with taboos and sacredness, which is part and parcel of, and cannot be separated, from Indigenous Knowledge Systems and development (Largil, 1999; Tatira, 2000; Duri and Mapara, 2007). The people in Nembudziya still respect their traditional beliefs and it is working very well in forest and biological diversity conservation. There are special tree species essential for medicinal purposes which need long periods of uninterrupted growth to mature, thus such shrines like Matarara/Madzimbahwe in Nembudziya become the ideal places for such species. It is therefore essential to note at this point that alienating any community from their language, taboos, beliefs, norms and values is like destroying that community, thus development interventions should always encompass indigenous people and everything that makes them up. However, the challenge is that only a few special people like the chiefs, the elders and some herbalists (who visit the revered place with permission from the chief) know the place. The knowledge of the essential herbs for medicinal purposes is not readily available to everyone, thus posing challenges of intergenerational continuity in cases where elders die before passing on the knowledge, confirming the worries of Iloka (2016) and Largil (1999) .There is need therefore to find ways to ensure availability of knowledge to many people across ages.

4. Sacred animals

The lion, python, pangolin, monkey and baboon are not supposed to be killed. The Headman as the key informant emphasised that besides it being cruelty to kill an animal which one cannot even eat, it will anger the spirits, leading to drought. The Headman said, "Killing these sacred animals leads to drought. No rainfall will be received in the area. In addition to that, it is cruelty to kill an animal which you do not eat. We do not tolerate cruelty in this region". One of the village heads said also added: the python, the lion and the pangolin are the chief's animals. No one should kill them".

Committing such a crime will be like bringing bad luck upon one's self and on the whole community. Such offenders therefore always face harsh penalties from Headman Nembudziya. As expressed by Chemhuru and Masoka (2010), these taboos and penalties have positive effects in faunal conservation and they have helped to protect animals from extinction. This is also in line with some of the objectives of the Convention of International Trade in Endangered Species (CITES), thus it remains a noble idea to encourage Nembudziya people and other communities to continue upholding their traditional beliefs and taboos for the benefit of such national programmes like CITES and CAMPFIRE (Chenje, Sola & Paleczny 1998, Global Environmental Outlook 2000).

5. The Environment as Early Warning Signs

The environment is closely monitored for any abnormalities or indicators of bad years ahead in terms of rainfall occurrence. When Mugan'acha tree does not bear fruit in spring, it is a bad sign and it shows that there will be little or no rain in the forthcoming planting season. In addition, when the position of the moon changes and its slightly away from the central position, it is also an indication of a bad rain season ahead. This will help the family and community leaders to plan in advance for purposes of food security. One of the village heads in the area had this to say during the interviews: "We closely monitor our environment, especially animal behavior and fruit trees. If certain trees do not give fruit when expected, we plan for a bad year by sourcing maize from other communities or sparingly using our harvest from the previous season".

These views were also expressed by Mwaura (2008) who emphasised the critical role played by IKS in season's prediction and establishment of coping mechanisms for survival. Such essential information is communicated to every member of the community through the traditional meetings at the Headman's court. This is where alternatives or ways of sourcing maize from other districts are discussed well in advance before their families face starvation. This is a very good way of disaster preparedness at local community levels. Resources are pooled together and common transport is arranged for such tasks, showing unity and solidarity in traditional communities as opposed to individualism found in urban areas. (Gaillard and Mercer, 2012; UNISDR, 2005). Other practical activities for Disaster Risk Reduction in Nembudziya include drying of vegetables, green mealies, groundnuts and biltong by women during the period of abundance so that they can be used during periods of scarcity, ensuring adequate nutritional sources for their families.

6. Rain-making Spirit

The Nembudziya community believes in the existence of a special rainmaking spirit called Nevana. Each year, special people are selected to travel to Goredema (a place in Gokwe District) to consult the spirit medium on the availability of rain during the on-coming planting season. The key informant in this research, Headman Nembudziya had this say: " In this community we respect the rainmaking spirit called Nevana. The trip is usually undertaken in the month of August, before the onset of the rainy season to ask for rains". These consultations help the traditional leaders to plan, thus they will inform their constituency on the situation. When the spirit medium is not happy about the way the people conducted themselves, some fines have to be paid so that the season ahead is clear. The offences which may anger the spirits range from (having sexual intercourse with a relative), working in the field on days set aside as resting days , killing of special animal, or cutting down sacred trees and so on. The penalties for such offences include payment of a goat, a cow and so on depending on the gravity of the matter. When all things are set right, it is believed that the messengers to the Nevana shrine will "bring the rain". Headman Nembudziya said, "If all is correctly done, it will start raining before the messengers leave the shrine but they never get wet. We believe it is to cover their footprints and a sign that the offering has been accepted".

The relevance of the spirit medium here shows the interconnectedness of the people and their environment as uttered by DuToit (2005), Gadzirayi, utandwa, Chihiya and Chikosha (2006), Snivelly and Cotsigilia (2000) and Reid Berkes, Wilbanks and Capistrano (2006). The people are viewed as being equal to nature. The traditional people clearly exhibit their own understanding of importance of a healthy and peaceful environment. Prior to colonisation, the people have been grounded in their culture, taboos, totems and respect for the ancestral spirits, the same beliefs which were later labeled as evil, pagan, primitive and superstitious by the colonialists (Delvin and Zettel, 1999); Nyati, 2001). For any development intervention strategy to succeed there is need to give people a chance to marry their cultural values with modern methods of survival. If IKS is ignored, then the people from the concerned communities will find it difficult to learn or accept the new developments.

Ignoring the norms and values of a people is the same as ignoring the people themselves. When a group of people have been considered as important to the fact that some growth intervention has been planned for them, then their traditional ways of knowing should always come in. This can be done through consultations and involvement from the planning stage of any development project. This is in line with sustainable development objectives. The development interventions will not remain

foreign, since the people will own the projects, leading to successful monitoring and evaluation through community based management. It therefore becomes inevitable for development researchers to engage into a quest for the taboos, myths, beliefs and values which make the people. One cannot discuss development or food security without appreciating the environment in which these activities have to be undertaken. More so, one cannot mention the importance of the environment without appreciating the people living in that particular setup, and the people come up with their languages, beliefs and customs. As revealed by the intricate relationship between the people of Nembudziya and their environment, the relevance of their myths and taboos in ensuring a healthy environment and food security.

7. Conflict Resolution

Indigenous Communities have well-structured systems to maintain peace and tranquility in their areas. Nembudziya Headman and his team of advisors resolve differences of the members. It is encouraged that each case be treated with the special attention it deserves. The idea is to try and resolve differences at family level, village level and lastly, at community level through the Headman.

Headman Nembudziya said: "A community without peace cannot develop so parties are brought to the traditional court for conflict resolution. The conflict resolution process usually starts at the village head's court, and cases may be escalated when a resolution has not been reached".

One of the elderly male members of the community had this to say "Traditionally conflict resolution starts within the family unit. The roles of the uncles, aunties and other senior members of the family is to resolve disputes but nowadays women just rush to the police without even giving the family members a chance to discuss".

One middle aged respondent said, "In most cases the woman is always to blame even when she is not the offender as the patriarchal leaders always support each other within the family so sometimes it is better to go straight to the Police". This view was almost a consensus amongst the young and middle aged women who were interviewed.

When cases are being resolved at the Headman's court (Kudare kwamambo), some offenders may be cautioned and dismissed after having been counseled, some offenders have to pay fines which range from goats, cash or replacing someone's property in cases of minor thefts. Headman Nembudziya said:

> ...traditionally an offender has to pay to avoid intergenerational misfortunes within the clan. Conflicts take away people's production time leading to food shortages in families, so our aim is to promote peace so that food security and sustainable development can be achieved.

This is a way of recognizing the relevance of all the traditional structures in the area and also increasing the people available to promote peace in the community as averred by Ndhlovu and Svodziwa (2017) on the role of the Traditional Leaders Act (Chapter 15 subsection 282:128) in the new constitution of Zimbabwe. The cases within their jurisdiction range from adultery, land demarcation disputes, Gender Based Violence, cases of witchcraft, divorce cases and other minor cases.

As posited by Tafese (2016), IKS conflict resolution draws from social capital, exhibiting the capability of social norms and customs to hold a group together. Conflict resolution has a healing function, as well as minimizing the destructive features of conflicts in society. Through the wisdom and experience of the elders, IKS has managed to promote a peaceful environment conducive to economic growth and sustainable development, clearly showing the relevance of African IKS.

Conclusions

This article safely concludes that African Indigenous Knowledge Systems are actively being practised in Nembudziya. IKS is a vital body of knowledge which can be used to promote economic growth in a country. Given a chance, African IKS has a great potential to promote participation from communities in any development project, leading to improved economic growth in developing countries.

In the case of Nembudziya area, great strides have been made to maintain the IKS despite changes and challenges of westernisation. The *Zunde Ramambo/Isipahla Senkosi* (chief's granary) concept shows that some African traditional ways of survival still exist with the same objectives in African history-a safety net, brotherhood, sisterhood and family hood. No one has ever starved when the neighbor has extra food, a social safety net more effective and pragmatic than the modern Social Welfare or donor assistance which is erratic, unreliable and unsustainable. The traditional communities are always together through good and bad times-through thick and thin. This Concurs with Chirimuuta and Mapolisa (2011) who emphasise that given a chance, Indigenous Knowledge Systems can solve all food security challenges in Africa. They believe Africa's food insecurity has been caused by the fact that the people have not been given a chance to

grow food on a large scale using their own ways of knowing in combination with the new improved ways.

However, this article also reveals some challenges threatening the survival of the vital body of knowledge. Colonialism has denigrated the knowledge for decades through education and religion. Urbanisation, westernisation, globalisation, climate change, migration and population increases have all threatened the survival of iIKS, and research is needed on the best method to harness the traditional knowledge and practise it in harmony with modern methods and technologies. Some of the young people consulted by the researcher clearly indicated that IKS is a domain of the elders and they only ask for that information when it is necessary, that is when it's a question of life and death. Some of the young people agree to the availability of such knowledge and practices thus confirming that it is their life, their culture and it gives them some identity. It also makes them who they are today since they were raised through it and by it, but they preferred to know more about it when they are older. The elders remain the key informants and custodians of Indigenous Knowledge Systems and the young people are comfortable with that.

The elders appreciate that culture is dynamic and the young people have other preferences and priorities of their own generation but it is essential that traditional knowledge is practised, maintained and passed on to the next generation as a way of giving the Shona people an identity, and ensuring that the knowledge passed on to them by their ancestors is not driven into extinction. The young are therefore the hope for ensuring continued survival of the knowledge bodies and efforts should be made by the current elders to transmit the knowledge to the young generation at all costs. Although there are challenges which may lead to the demise of IKS, there is still hope that if multi-stakeholder approaches and community based management is practised, the vital body of knowledge may be improved for the benefit of future generations.

Recommendations

1. Modern musicians and film directors can be encouraged to encompass IIKS in their themes and messages since the young prefer to listen to the modern songs, thus increasing the number of young people assimilating the concepts and importance of indigenous knowledge Systems in life. This can be done through creating a fund for the young musicians and Film Directors to enable them to research and record music on the traditional knowledge.
2. The school curriculum can include indigenous knowledge Systems at all levels so that all young people, be they of rural or urban backgrounds will be exposed to the relevance of the traditional

knowledge bodies. If some traditional stories are just included in books at primary level, then it is likely to be discarded at a later stage in life as primary school stuff, but if courses are structured at University level, they will be taken seriously by the current generations.

3. Researchers using Nembudziya as a case study can create copies in English and Shona and make them available to the chiefs, Headman and village heads so that they can make use of the recommendations and findings of researches since it is not every rural person who can access articles online.
4. Headman Nembudziya can arrange for television and radio interviews as a way of spreading the usefulness and relevance of traditional knowledge. Radios and television shows may help increase the interest of people if they are presented in a way which is improved and motivating, with messages on traditional knowledge systems relevant for all ages.
5. The Government can assist The Zunde Ramambo/Isipahla Senkosi scheme in Nembudziya by providing inputs like seed and fertilizers. Since the objectives of the programme are targeting the rural disadvantaged, it is vital to offer this assistance and ensure success and continuity of the good programme.

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