



SHANGWE INDIGENOUS KNOWLEDGE SYSTEMS: AN ETHNOMETROLOGICAL AND ETHNOMUSICOLOGICAL EXPLICATION

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ABSTRACT

Scientifically, climate change is the present concern and metrologists are technologically advancing in studying weather patterns. Zimbabwe indigenes, particularly those living in the rural areas such as the Shangwe in Gokwe District, generally relied on the indigenous knowledge systems on rainmaking adopted from their forefathers. The transmission of knowledge on ritual music still is passed on from generation to generation. This interdisciplinary research is on how the Shangwe interpret the natural phenomena constituting the rainmaking process. The interaction approach presented in this article explored the ethnometrological symbols used by the Shangwe in interpreting rainfall patterns during the rainy season. It also mapped out how this ethnic group demonstrated its indigenous understanding on rain formation that offer them hope in their future welfare. Unstructured interviews conducted among six men and five women who were locally renowned as information bearers of rainmaking practices revealed that: a) A particular pride of lions, bats, and certain eagles, called matendera are ethnometrological instruments which they employed to construe climate change in summer. b) There are two rainmaking songs which portray their metaphysical understanding of the Hydrological-Cycle. c) The concept of the Hydrological-Cycle existed among the Shangwe from time immemorial.

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Keywords: Ethnometrological symbols, Indigenous knowledge systems, Bats, Lions, Matendera.

1. INTRODUCTION

Zimbabwean situation regarding rainfall spanning over a period of two decades and to date has been deplorable. Zimbabwe is among several countries deemed to be vulnerable to climate change due to a wide range of factors. For starters, most of the country is dependent on rain-fed subsistence agriculture and constantly experiences unfriendly weather patterns making it “highly vulnerable to vicissitude of weather patterns” (NCPCC, 1993). The country has been experiencing frequent droughts and the 1992 drought which was the worst in living memory, left 1.03 million cattle dead while cereal productivity was only 22% of the usual wells and perennial rivers dried up (Eldridge, 2002). Chiefs, who are the insignias of power in Gokwe, are seriously affected by rain failures, a situation that undermines their authority.

The *Zunde raMambo* or chief’s granary was cited as an important safety net during drought seasons. *Zunde raMambo* is a traditional concept meant to boost the chief’s grain reserves that will be used to help those in need, and to feed the chief’s guests (Mutasa, 2011).

The scope of the study conducted among the *Shangwe* people in Gokwe South and Gokwe North districts in Zimbabwe is twofold: a) First, it unpacks and examines how this ethnic group utilises its ethnometrological symbols to study climate change during summer as testified by their dependence on definite wild creatures. b) Second, it analyses three rainmaking songs to further demonstrate the community’s indigenous knowledge systems (IKS) on rain formation. Here IKS is defined as: an exclusive body of knowledge of a particular community dependent upon from generation to generation. Besides, ethnometrological symbols are interpreted as: a unique body of indigenous knowledge and symbols relative to a particular ethnic group which it locally uses to interpret climate change. Therefore, such knowledge is a form of intangible heritage.

2. METHODOLOGY

Participant observation advocates engaging in the field where one intends to collect data on music - cultures (Titon and Reck, 2009). As guided by Titon and Reck’s ideas, the researchers fully participated in the indigenes’ daily activities, including *mukwerera* ceremonial rites. Here we could be seen taking active roles in drumming, singing, and dancing during rainmaking performances. Besides, “fieldwork,” a face-to-face interactive approach, is also a model in field studies (Cooley and Barz, 2008). Coupled with our total involvement in *mukwerera* practices, the entire interviewing process became an intimate relationship such that the informants were at ease to answer questions regarding their indigenous knowledge systems on rainfall predictions and formation.

Indigenous rainfall forecasts were noted as important too, although they are at times treated as primitive and unreliable. These predictions were found particularly useful in the absence of ‘scientific’ rainfall forecasts, since the Meteorological Services Department was incapacitated due to lack of resources to replace obsolete equipment (Mutasa, 2011). In any case, 3% of smallholder farmers in the country actually use climate information provided by the department (FAO, 2004). This suggests that 97% of the farmers rely on indigenous rainfall predictions and experimental knowledge, or they just crop without paying much attention to rainfall patterns.

Farmers in rural Burkina Faso use environmental indicators such as flower and fruit production of local trees, and the behaviour of certain insects to predict the coming rainy season (Roncoli *et al.*, 2002). The beginning and ending of the rainy season are also estimated by assessments of shrub leaves and flowers, before and during the farming cycle. Also, the appearance and movements of certain birds and insects – especially beetles – are used as indicators. One informant explained that the appearance of the *shamuwa*, a white-bellied stork, was of particular interest as it was seen as the harbinger of the wet season (Swindell and Iliya, 2012).

According to the culture bearers, a certain pride of lions, bats, and eagles called *matendera* are established ethnometrological symbols utilised to interpret rainfall patterns in summer. Over and above that, *Shangwe* ethnometrological symbolism is enmeshed in three rainmaking songs chosen for the discussion to unfold later. These songs are sung by chiefs to demonstrate their desperation for rain. Surprisingly though, *Tonga* chiefs from the districts of Binga North, and Binga South also endeavour to travel on foot in order to ask for rain from *Nevana*, a *Shangwe* rain spirit. The spirit dwells in the dry land in Gokwe North District yet the two stated above districts are situated along a vast perennial river called Zambezi. As shown in Fig 1, the rain spirit resides in *Nevana* Village in Gokwe North District, a village that was named after the same spirit.

The *Shangwe* are among Zimbabwe's fourteen minority cultures whose language still exist orally. One of the two current documented literature on this particular ethnic group explored how land was distributed in the 1980s (Nyambara, 2001). The other one focused on the historical development of the terms '*madheruka*' and '*shangwe*' and their figurative interpretations (Nyambara, 2002). Most recent scholarship on the same culture examined how indigenous knowledge systems were employed in preserving natural resources in the Gokwe community (Ngara and Mangizvo, 2013).

Medical geographers, social geographers, and biogeographers who could positively contribute to the body of knowledge with regard to climate and human mortality, had "not been active participants in the resurgence of such climate impact studies" (Kalkstein and Davis, 1989). It was this inner drive that motivated them to carry out a study in the United States of America to determine the impact of weather on the mortality rate in forty-eight cities and they established that climatic change had negative effects on health therefore death rate increased. Our study was not designed to evaluate the effect of weather on human death rate. It was intention to examine indigenous frames utilised by the *Shangwe* in interpreting climate change during rainy seasons. Farmers are concerned with climate change since the factor impacts directly on yields and the quality of food crops. Consequently, the topic on the framework of climatic change keeps bothering agricultural scientists and agro-metrologists (Porter and Semenov, 2005). Similarly, the *Shangwe* worry if rainfall patterns decrease yet their worrying is based on their interpretation of definite animal symbolism. As will also be discussed later, symbolic song texts are reflectors of their insights on rain formation though they understand it from a mythic viewpoint.

A myth is defined as "a sacred history: it relates an event that took place in primordial time, a fabled time of the "beginnings" (Carloye, 1980). In addition, (Eliade, 1974) notes that: "The Caribs themselves have myths which attribute the origin of their breed to the union of a girl with a brother, who subsequently became the moon" (Taylor, 1945). In a few words: a myth is a fragment of reality, or whole truth that dates back to creation. Conferring the informants, *Shangwe* mythology

on animal belief is an old tradition but they still find its ethnometrological symbolism vital in their society. This belief is part of their religion.

“A religion is not thoroughly comprehended unless both its ritual and mythology are known” (Titiev, 1948). The implication is: there is a connection between certain myths and ceremonies. Even in the *Shangwe* community, there are active myths that reflect their relationship to *mukwerera* rainmaking ceremony; yet wild animals are a unique window through which they interpret climate change. Moreover, their symbolic songs texts are mirrors in which one may be able to view images of their insights on cloud formation. Here *Shangwe* music texts are embedded in symbols that should be unpacked in order to understand them. Music is an element of culture. Culture is viewed as a web of symbols (Geertz, 1983). We try to unpack *Shangwe* insights embedded in *Shangwe* animal symbolism and song texts.

3. THE DISCUSSION

3.1. Wild Animal Symbolisms, an Ethnometrological Perspective

According to the informants, there are two prides of lions in the Gokwe community. One pride does not have mane around the neck and the other pride has. The furred lions are locally referred to as *mhondoro*, implying rain lions. The *mhondoro* often roar in the month of October and that sound portends an encroachment of first rain. The roaring is a mirror that their rain spirit is about to supply rain. In addition, it is an aide memoire that the *Shangwe* should prepare to work land. If the roaring is periodically heard in the rainy season, it is a confirmation that there will be a bumper harvest. Also, the roaring is a souvenir to the *Shangwe* children that there are lions which portray rain memorandums. Consequently, the roaring is meant to instil the belief in children that there are particular rain lions. As a result, they begin to understand and appreciate the lion symbolism from youth. On the contrary, when the lions do not roar, that is an indication of not only a sign of no rain; it is an insignia of an angry rain spirit, and a pointer to looming famine. Informants told us that this indigenous body of knowledge was passed on from one generation to another. Perhaps this is one reason IKS is also interpreted as a unique knowledge (Mapara, 2009).

According to the interviews, the frequent roaring has a deeper symbolism. It signalises high possibilities of food, life, and social order. The sound is a replica of the close connection that exists between lions and the *Nevana* rain spirit. The roaring is the *Shangwe's* mechanism which they have been depending upon to study rainfall patterns throughout the rainy season. This tradition has been lived on from time immemorial. In other words: this is a clear testimony of man's reliance on sympathetic nature.

As said earlier on by the culture bearers, *matendera* and bats are other *Shangwe* ethnometrological symbols. *Matendera* are often heard at dawn or dusk. Once herd boys hear them at dawn, they conclude that it will be cloudy on the following day and there might be drizzle, *guti*. As a result, they take rain coats with them in preparation for the expected climate change.

On the contrary, bats, *zviremwa-remwa* are often seen after there has been heavy rain. In the local logic, they are believed to chase away the rain. Consequently, the farmers infer that it will not rain for quite some days each time they see bats. The *Shangwe's* dependence on animal symbolism in interpreting climate change is further reflected in one of the rainmaking songs with the texts: *Shumba yarira muDande. Ndohwanda papi?* Literally, this means: *The lion has roared inDande.*

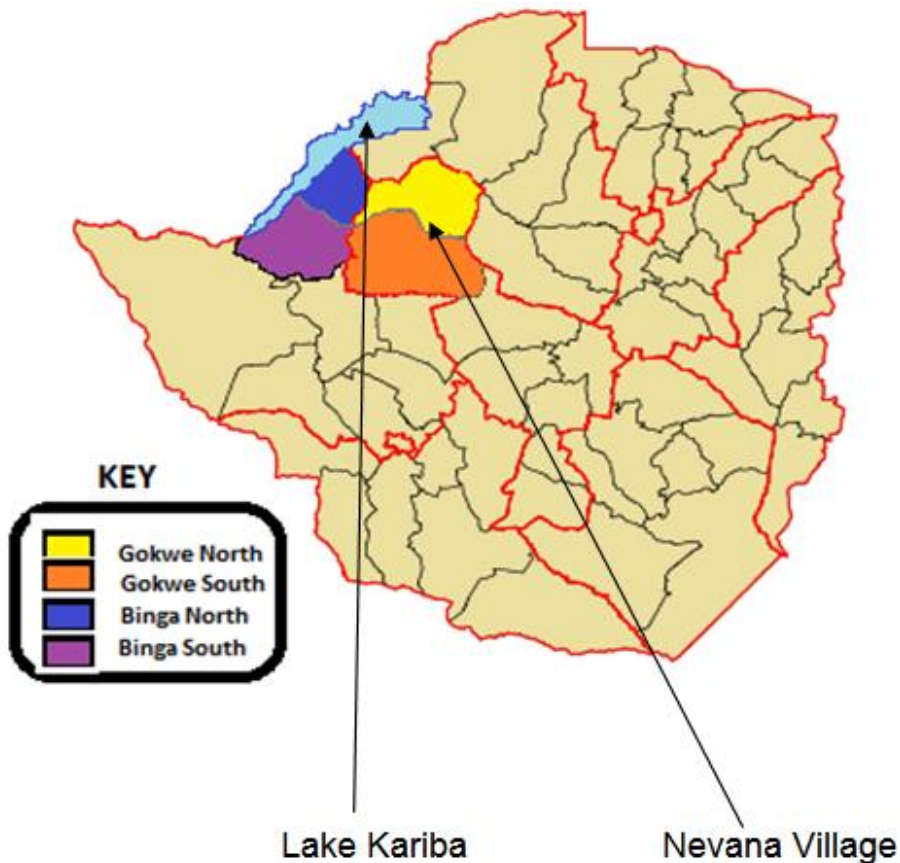
Where do I hide?Dande is a name of a forest where lions are often heard roar. The *Shangwe* rainmaking spirit, *Nevana*, who is believed to be close to God, *Mwari*, in their spiritual hierarchy of communication, is of the *Shumba* (lion) totem. According to their belief, this spirit sometimes conveys rain message through the *mhondoro*, lions. In other words: human dependence on animal instincts, though it might sound weird, has been one of the ethnometrolological instruments of studying and interpreting climate change from the past to date. Further, this implies that the body of knowledge is a heritage for this ethnic group.

3.2. The Hydrological-Cycle, an Ethnomusicological Viewpoint

As is shown on the map below, Binga North and Binga South districts are along the Zambezi River perennial. Thirteen *Tonga* chiefs annually travel all the way to the *Nevana* spirit medium who resides in Gokwe North District on foot to participate in *mukwerera* rainmaking ceremony. This is directly comparative to the *Shona* belief that a *n'anga* from far away has more power than a local one.

One of the two rain rite songs selected for discussion which is sung during the ritual is entitled: *Sinamenda wazungaila, walila menda*. *Sinamenda* is one the thirteen *Tonga* chiefs who come to *Nevana*. Literally the song texts mean that Chief *Sinamenda* is 'lamenting rain'.

Figure- 1.



The informants could not confirm the duration which the *Tonga* chiefs take to reach at *Nevana* Village. To quote one of our informants' responses to a question on the rationale of the *Tonga's* endurance of the long and tiring journey, he said: "*Zvinoshamisa. Ivo ndivo vanogara muna*"

Zambezi”¹. The informant’s answer centred on the perspective that the *Tonga* people live along the vast perennial Zambezi River in which Lake Kariba has been situated for almost fifty years now, yet they always sacrifice to come to *Nevana* who dwells in the dry Gokwe North District. The culture bearers answered in symbols. By then cross-examining the symbolism, the following deductions were made: i) Truly, Zambezi River and Lake Kariba are huge perennial reservoirs. ii) Scientifically, the water from Zambezi River and/or Lake Kariba has direct influence on the amount of rainfall which is received by the *Tonga* (see the location of Lake Kariba in Figure 1 above). iii) *Nevana* village is further than Zambezi River and Lake Kariba and yet the *Tonga* chiefs keep on seeking the rain in Gokwe which does not have even one ever flowing river. The question is: What then is the wisdom behind the coming of the *Tonga* chiefs? The *Shangwe*’s astonishment is implicitly an insignia of their ethnophilosophy. In their ethnometrological symbolism of rain formation, Zambezi River and/or Lake Kariba have high probabilities of water vapour rising up into the sky to form clouds. In their mind framework, these clouds will eventually fall as rain which metaphysically demonstrates their indigenous understanding of the Hydrological-Cycle. The *Shangwe*’s surprise is a clear manifestation of their ethnometrology on the positive effect of the water-vapour that rises from the Zambezi River into sky. It will eventually fall as rain on areas which are along the same river such as Binga North and Binga South districts.

Another rainmaking song has the texts: *Bvura tsihore, denga raoma, and yava furere* – literally meaning: *Showers from tiny clouds, the sky is clear, and there is mist*. Mist usually engulfs *Nyanhekwe* Hill in summer.

The indigenes interpret *furere* (mist) as a clear testimony that sooner or later, the rain will fall. Local logic literally interprets *furere* as rain in transition. *Furere* is also symbolically construed as an emblem of food, life, and social stability. Two inferences on the texts mentioned above are: evaporation and precipitation. The scientific progression of the four processes of the Hydrological-Cycle is: evaporation, condensation, saturation, and finally precipitation and each process influences the other directly and thus the reason it is referred to as a cycle, a term which is derived from the word circle.

An inquiry on when they started singing the song got the response that: “*Takura tichingoimba rwiyo urwu. Madzitateguru aingorumbawo*”². Basing on the narrative, an analogy is: the song has been sung by the *Shangwe* from time immemorial.

The *Shangwe*’s metaphysical understanding of cloud formation stretches back to a wooden plate and a stick which six *Nevana* mediums used in the *mukwerera* rainmaking ritual. The chronological order of the late *Nevana* priests is *Nyamadziwo, Gwiranegwizi Nyamadziwo, Mazise Gwiranegwizi, Chimbamba Mazise, Marariromba Chimbamba, and Tevasiira* Samson *Marariromba*, the latest medium who passed in 2004.

Each time dry weather prevailed, *Tevasiira* Samson *Marariromba* would get into the rain spirit’s ritual hut, *dumba* to collect a stick and a wooden plate which he then filled with water. The rain priest would place the apparatus on an open space where direct heat from the sun could easily reach it. Scientifically, the water which is continuously heated will eventually evaporate into the

¹ It’s surprising. They are ones who live along the Zambezi River.

² We grew up singing this song. It was ever there. Our forefathers used to sing it too.

atmosphere. These indigenous knowledge systems on cloud formation were and still are passed on generationally. Succinctly: since there are six mediums who handed over the indigenous knowledge on rainmaking, the researchers may conclude that the origin of the Hydrological-Cycle is entrenched mythology.

4. CONCLUSION

Certain animal species are locally used in the *Gokwe* community to study climate change in summer. Their presence and/or infrequent appearance send various signals to the entire society. Other wild animals are believed to be spirit mediums through which a specific spirit sometimes communicates rain messages to the community. Here the indigenes find comfort in understanding these symbols. Therefore, human dependence on sympathetic nature is again portrayed by rainmaking songs. In addition, the metaphysical concept on rain formation is well established in this particular culture. This vital body of knowledge is passed on generationally.

5. RECOMMENDATIONS

It generally seems that the Hydrological-Cycle is a term founded in the field of geography. In this study, rain formation was embedded in fragments of symbolic song texts and ethnometrology. This given, the suggestion is that ethnomusicologists who have interests in rain rites, should find out the informants' mind framework on rain formation. Further, studies have shown that most human beings use man made instruments in interpreting rainfall trends in summer. The study revealed the *Shangwes* depend on specific wild animals in studying climate change during the rainy season. It is against this idea that anthropologists may further investigate indigenous weather symbols used by other cultures to interpret climate change in the rainy season.

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