

Full Length Research Paper

Linking culture and water technology in Zimbabwe: Reflections on Ndaou experiences and implications for climate change

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Renaissance studies continue to grow in post-colonial Africa. This study explores the Ndaou culture in a bid to assess its vitality and relevance to contemporary society's water technology in Zimbabwe. The thesis of the study posits that the Ndaou people have indigenous knowledge systems (IKS) that can be tapped in the implementation of water resource management. Some Ndaou beliefs and practices on water resources can be used as environmental management tools in order to do justice to climate change. These, if blended with western technologies, can be effective intervention strategies to mitigate the challenges posed by climate change. The study adopted a qualitative research design in a case study approach. Purposive sampling was used to select community elders and traditional practitioners who are associated with the in-depth knowledge on traditional beliefs and practices. The data collection techniques included interviews, participant observations and documentary analysis. The study observed that the particular Ndaou cultural beliefs and practices that are not only relevant but consistent with water technological changes and these must be strengthened as part of a people's heritage.

Key words: Climate change, climate justice, culture, indigenous knowledge systems, Ndaou people, renaissance studies, water technology.

INTRODUCTION

The article provides a discussion on the linkages between African indigenous culture and water technology *vis a vis* their deployment in the mitigation of the challenges associated with climate change. The call to climate justice continues to be lauded in view of the environmental disaster wrecking humanity today. The indigenous culture has long been endangered largely on account of colonialism and globalisation. In fact, colonisation has plundered the African practice and belief system so much that, a Nigerian novelist, Chinua Achebe (1960) has posited that things within the colonised societies have fallen apart and the "centre can no longer hold." But one thing that has shown enormous resilience

to influence the way people behave is indigenous culture. Some insights drawn from African studies have demonstrated the renaissance of indigenous cultures that had been erroneously dismissed, for example, as 'fetish', 'native', 'pagan' and 'animism' (Idowu, 1973:103). Scholars who have grappled with African studies observed that the indigenous communities in Africa were quite conscious of the significance of environmental protection and management even before the advent of colonisation. From a Renaissance studies perspective, the article discusses some ways the Ndaou people, as part of the Shona people in South eastern Zimbabwe, engaged to manage their water bodies and other natural

resources in the context of their cultural milieu. This corpus of indigenous knowledge is vital because it reinforces how a people's heritage can be harnessed to protect the environment today.

The Ndaou people have had a long history and constitute a small linguistic group located in South-eastern Zimbabwe. Scholarship has been conspicuously silent about the Ndaou ethnic group for too long and there are few ethnographic studies carried out among these people as compared to the rest other Shona-speaking people like the Karanga, Zezuru, Manyika and Korekore. The Ndaou culture has remained remarkably intact without due influence of western culture and technologies (Marashe and Maposa, 2010). When tapped in the water management policies the study shows that it can address or redress water management crises. As perceived from post-colonial standpoint, the neglect of the indigenous Ndaou cultural beliefs and practices is a cause for concern. African governments neglect indigenous knowledge systems to the peril of communities. For instance, a local Zimbabwean newspaper reported of a Minister for Water Resources and Management who told a Senate Committee on Gender and Development that some *njuzu* (mermaids) were preventing government efforts from installing water pumps at the Gwehava Dam Project in Gokwe (The Standard, 2010). When Shona traditional leaders were consulted and engaged by government the project was successfully completed. This is a clear demonstration of the vitality of culture which can be relevant if engaged today.

From the onset, it must be stated that the direction of the present study follows the insightful observations made by the recent study of Maposa and Mhaka (2013). Maposa and Mhaka (2013) raised important insights on how the contemporary challenge of climate change could be mitigated using indigenous ways drawn from the indigenous culture. Nevertheless, these two scholars presented to the public academia a mere generalised scenario drawn from the Shona people. The justification of the present study is that it is anchored on a specific ethnic Shona group, the Ndaou people. Thus, this research represents a unique case study which is meant to exemplify how indigenous culture can be engaged to mitigate the challenge posed by climate change in the Zimbabwean context. To appreciate the foregoing insight, this study endeavours to highlight first, the significance of the Renaissance studies and indigenous knowledge system (IKS) in post-colonial Africa and second, explain the thesis of the study through an exemplification of two natural water bodies drawn from a particular Ndaou village of Manzvire in Chipinge south.

Thrust of African studies

The term 'Renaissance' is not strictly new in academia.

Its deepest roots are to be found in the soil of the ancient languages of Africa (Ramosé, 2002:600). The term has a long usage in western scholarship, especially as associated with European humanism which led to the spate of Enlightenment. In its original European meaning, Renaissance is derived from French to mean 'rebirth' of something long forgotten. In that context, it meant the rebirth of the humanities, arts and the romance languages of antiquity which were suddenly given a new lease of vitality in people's lives. This study is borrowing the forgoing insight in order to explain how and why contemporary writers on African studies are at pains to resuscitate and enliven some elements of the indigenous heritage and culture (Mbiti, 1990). To some extent while the Renaissance project is not a mere romanticisation of the past, it, indeed is a programme that grows out of a dialogue between the indigenous culture and modernity (Shorter, 1977:1). Ramosé (2002) cites Seme and argues that there is need for regeneration of Africa, an Africa that cannot be and is not identical to Europe.

The underlying assumption for the emergence of Renaissance studies is that indigenous culture is a 'living tradition', despite the fact that it has undergone drastic metamorphosis (Clive and Peggy, 1997:94). This scenario is largely on account of the impact of the yesteryear colonial era and contemporary globalisation. Several elements of culture: rites, practices, beliefs and institutions have disappeared or are disappearing with rapidity. Whilst this observation is valid, it is the case that indigenous culture has 'evaporated'. As the study intends to reveal, indigenous culture continues to exercise beneficial influence on the Ndaou people. This is the backdrop of the perceived Renaissance studies on Africa. The vision of the Renaissance studies is to encourage and facilitate the possible incarnation of indigenous culture and therein endorse its integral authenticity in shaping the quality of African existentiality in a dynamic world today (Shorter, 1977:3). This particular study broadly fits in the framework of the perceived Renaissance studies. It tries to evaluate the significance of indigenous culture *vis a vis* the Ndaou strategies in mitigating the contemporary climate change. Thus, the study is timely as it endeavours to test and apply the basic principles or visions of the Renaissance studies project in post-colonial Zimbabwe. It must be noted that the Renaissance studies in Africa are envisioned in the context of Indigenous Knowledge Systems (IKS). It is prudent to highlight a working framework of what IKS entails for the study.

Indigenous knowledge systems

Indigenous Knowledge Systems (IKS) as elements of the Renaissance project abound in African Studies today. Risiro et al. (2013:19) define indigenous knowledge

systems as 'a body of knowledge, or bodies of knowledge of the indigenous people of particular geographical areas that they have survived on for a very long time.' The IKS is constitutive of 'local knowledge that is unique to a given culture or society (<http://www.sedac.ciesin.columbia.edu>). IKS is durable knowledge which has failed to die despite the racial and colonial onslaught that it has suffered at the hands of western imperialism and arrogance (Mapara, 2009). IKS constitutes forms of knowledge that have originated locally and naturally (Altieri, 1995:114). In addition, Altieri (1995:114) further avers that IKS is part and parcel of a body of traditional knowledge which has been viewed, as ethno-science. This is why, to some extent, Dora-Hoppers, as cited in Rusinga and Maposa (2010) has insightfully defined IKS as 'knowledge that is characterised by its embeddedness in the cultural web and history of a people including their civilisation and which forms the backbone of the social, economic, scientific and technological identity of such people.' The study notes that IKS are still relevant in the water management in Zimbabwe. Almquist et al as cited in Maposa and Mhaka (2013) posit thus:

Environmental degradation and the loss of biodiversity in Africa results from a variety of factors, including, and most importantly, the lack of recognition, understanding, and use of Africa's indigenous knowledge, technology, and practices...

The foregoing claim is relevant for the study because it demonstrates that for any water management interventions to be effective there is need to incorporate the indigenous culture. Involving the indigenous aspects of culture will assist the locals to accept and embrace the water technological innovations with no scepticism. Evidently, this is why Maposa and Mhaka (2013:25) have pointed that:

...the inclusion of aspects of Shona culture in the management of water and other natural resources will help the perception of the local Shona that any programme which engages IKS would be more acceptable and people may cooperate so readily. This helps in avoiding the usually hated 'top-down' or paternalistic approach to policy making and implementation in rural development.

It is out of this spirit that the paper argues that if IKS can be revived and strengthened water management policies can be easily implemented in local communities in the rural areas. In addition the paper is of the opinion that the indigenous water management can be fused with modern techniques for meaningful and effective implementation of the water and other natural resources in view of the debilitating impact posed by climate change. It is prudent to proffer an explanation of the nature of climate change.

Understanding climate change

Climate change is a recent existential problem internationally. The study examines the role and significance of Ndau culture *vis a vis* water and other natural resource management within the background of the challenges being posed by climate change in Zimbabwe. Climate change is 'the average atmospheric conditions of an area over a considerable time. The various elements of climate are rainfall, temperature, humidity, air pressure, winds, clouds and sunshine' (Leong, 1983). Climate change is also defined by Kersi and Ross (2005) as '... a large-scale change in one or more basic climate components such as temperature or precipitation.' This phenomenon of climate change is caused by a number of factors, chief among them being the activities of man. As some scholars have observed climate change has not spared water bodies such as rivers, wells, dams and springs. The study argues that the Ndau indigenous cultural beliefs, practices and knowledge systems, if engaged responsibly, can be the panacea for the climatic problems that are associated with climate change.

In indigenous Ndau society, water bodies are believed to be inhabited by spiritual forces and as such are revered. In the Ndau society, water bodies are part of *zviera* (sacred places). This reverence ensures that water bodies are no playgrounds for profane activities. Taringa (2006) has argued that the ecological attitude of indigenous African religion is more based on fear or respect of *vadzimu* (ancestral spirits) than on respect for nature itself. Taringa (2006) goes further that, indigenous African religion is not intrinsically ecological-friendly but the seemingly nurturing attitude towards environment is due to the fear to anger the ancestral spirits who are believed to be the custodians of the environment. Though Taringa (2006) shares this view, it must be noted that he does acknowledge that behind the physical environment lies some supernatural powers that govern how humanity should deal with flora and fauna. The Shona people view climate change through a religious prism. It is through this religious prism that some interventions or strategies to mitigate climate change can be achieved with relative success. Accordingly, the study posits that there is an urgent need to engage indigenous cultural beliefs and practices to salvage humanity from the dangers of climate change. It is important to tap the indigenous knowledge systems to tackle climate change. IKS can then complement the western scientific approaches in the 'fight' against climate change within the framework of post-colonial studies in Zimbabwe.

METHODOLOGY AND DELINEATION OF THE STUDY

The study used the phenomenological approach which was anchored in the fieldwork among the Ndau people in

Chipinge south. Cox says, as cited in Muyambo and Maposa (2013) the phenomenological method is helpful because, through its principles of *epoche* and *eidetic intuition*, it enabled the researchers to respect and investigate people's particular institutions, social behaviour and aspects of religion like 'insiders'. This is echoed by Pike, cited in McCutcheon (1999:17) when he talks of the 'emic' viewpoint which results from the inside of the system. The fieldwork was carried out among the Ndaus of Chipinge district in South-eastern Zimbabwe. Apart from the phenomenological approach the researchers also used the participant-observation approach especially when the Ndaus were engaged in their water and natural resource rituals and ceremonies which were heavily characterised by taboos and prohibitions. Gold as cited in Rubin and Babbie (1993:365) states that a participant- as-observer participates fully with the group under study but makes it clear that he or she is undertaking research. There is need to vouchsafe a word of caution. Rubin and Babbie aver that there are dangers in this role. People being studied may shift much of their attention to the research project rather than focusing on the natural social process and the process being observed may no longer be typical. On the other hand, the researcher may come to identify too much with the interests and viewpoints of the participants (Rubin and Babbie, 1993:365).

A sample of fifty (50) respondents was considered for interviews. Bless and Smith (1985:21) say that 'interviews are a direct method of obtaining data through face-to-face' in order to get access to what is inside a person's head. The respondents were drawn from a population of the elderly and the local leadership who had a first hand experience of how the natives take care of their natural resources from time immemorial and this population was taken to be representative of the kind of the Ndaus people. The research also benefitted from secondary sources such as published books and articles in referred journals written by specialist scholars on culture, heritage studies and African history.

The Ndaus religious worldview

Mbiti (1969:1) concedes that Africans are notoriously religious. This means that religion permeates into the essence of their daily lives. The Ndaus are no exception in this regard. It is this religiosity that influences how the Ndaus view the environment. The Ndaus believe that there is Supreme Being somewhere up but he does not concern them very much. This Supreme Being is a creator but is *Deus remotus*, far removed from the activities of the people. Gelfand (1962:172) argues that this "Creator is regarded as omnipotent as having made all that is animate or inanimate on this earth, but he is far away and greatly removed from reality and so the

Mashona do not pray to Him." Bourdillon (1987:277) is of the view that this Supreme Being whom he refers to as a 'high god' is "too remote and his interests are too broad for him to concern himself with private individuals and their problems." As Mbiti (1970:15) has indicated this does not mean that this high god has no interest (*Deus otiosus*) in people but that his concern is not for the individual but the tribe as whole. Individual concerns are for the junior spirits. Of much concern to the Ndaus are the ancestors (*vadzimu*). These are the 'living-dead' (Mbiti, 1990), the 'living timeless' (Banana, 1991). The Ndaus people continue to believe that the 'living dead' continue to be watchful over the existential day-to-day affairs of their kith and kins (Muyambo and Maposa, 2013: 589). These ancestors are the custodians of the natural resources, fauna and flora. Any wrong done to the ancestors is met with a multifarious of punishments which include, *inter-alia*, drought and advent of pests.

For most indigenous Africans, land "is not merely an economic asset, but has a value which is intimately linked with the tribe, its chief, and the spirits of their ancestors" (Butcher, 1980:31). The land has owners and for Butcher (1980) the real owners of the land are the spirits of the deceased tribal rulers and particularly the ancestors of the chieftom. The territorial spirits are the owners of the land (Schoffeleers, 1979). Closely related to these are nature spirits which are associated with natural phenomena such as trees, mountains, pools, rivers and springs (Mbiti, 1969, Parrinder, 1981). The study, therefore, argues that any natural resource management should take into cognisance the deep indigenous perceptions about nature. The Ndaus people need to feel that their religio-cultural milieu is respected by whoever is bringing about water and other natural resource technological changes.

Guardians of the natural resources

Schoffeleers (1979) is one of the old generation of scholars of Shona ethnology who comprehensively wrote on the role of *vadzimu* in the protection of humanity by emphasising the efficacy of the indigenous spiritual realm. This scholar claimed that *vadzimu* must be unmistakably perceived as "guardians of the land". This land constitutes both the flora and fauna in its entirety. Since the Ndaus believe that natural resources such as land, water, trees, mountains and rivers are owned by the supernatural world, any works to be done upon such natural resources are supposed to be 'informed' to those powers. Ejizu (2013) argues that ancestors are generally held to be the custodians of the land on which their children live. Failure to consult nature spirits when dealing with the natural resources is bound to result in unprecedented challenges. If there is need to drill, for instance, a borehole within a given community, traditional

leaders of the community are consulted. Certain rituals are performed before the drilling lest people get injured, equipment fails or water may not be got. The researchers observed, at a mission school in Chipinge, such nature of rituals being performed. The school had hired a borehole drilling company to drill it a borehole. The local chief and his indigenous entourage were called in and they performed some rituals. Accordingly water was got but in the process the drillers were said to have profaned the place by bringing prostitutes at the place at night. Offence, argues E. Ikenga-Metuh (1987:149) in these matters is ultimately an offence against the forefathers who in that capacity act as police of the families and communities. Their drilling equipment was stuck underground and could not be removed anymore. The drillers had to abandon the hole and start on another one. The nature spirits were angered by the drillers' behaviour. Evidently, this demonstrates that the traditional beliefs and practices must be respected.

Maposa and Mhaka (2013:27) insightfully argued that 'the undertaking of major water projects such as building of dams and the sinking of boreholes must respect traditional beliefs of the Shona.' They further assert that '... no such major project is allowed to take place without the full knowledge and approval of the traditional chief.' Chikozho and Latham (2005) referred to an incident which took place in 1994 in Dande where mysterious events (two car accidents and disappearance of an engineer) took place when there was an attempt to work on an irrigation scheme (Dande Irrigation Scheme) near a pool. This example clearly demonstrates that water and other natural resources are not only resources but resources that are deeply rooted in the concrete situatedness and culturedness of the indigenes. Any technological innovations on the natural resources must imbibe the cultural beliefs and practices of the indigenes.

The sacredness of water sources

Generally speaking, from cultural perspective, water sources or bodies are sacred and should not be trivialised. The Ndaу link the water bodies with the concept of *kuyera* (sacredness) and the people should approach them with a sense of awe and unquestioned homage. Taringa (2006:210) argues that "water bodies /wetlands are sacred because they are the abode of animals associated with spirits." From the field work done among the Ndaу people, the study came out with the following three observations:

1. Water bodies are highly revered.
2. Water bodies are ritualised places.
3. Water bodies are governed by taboos.

It is prudent that we demonstrate the vitality and efficacy

of these tripartite elements on two natural water bodies studied among the Ndaу people of Manzvire village in Chipinge south. These natural water bodies are identified below, thus:

Kubiri

Kubiri is a natural well (*chisime/chinyuka*) situated under the chieftainship of Musikavanhu. There are a number of stories told about this well. One of the stories is that at times a very big snake is found around it. This snake does not harm anyone since it is also sacred and is believed to 'protect' the well from being 'profaned'. The well is said to have dried in 1992 when mischievous individuals fetched water using a metal tin and cup. It is after the local traditional leaders intervened that the well was restored. Rituals were performed after consulting diviners who indicated that nature spirits were angered by the use of metal utensils. Water gourds (*tsani/mukombe*), wooden or clay containers (*hari*) are supposed to be always used when fetching water. The reason is that wells of this nature are guarded by *njuzu* (mermaids). Taringa (2006) says the Shona believe that animals keep these waters on behalf of *vari pasi* (underworld). Rusiro et al. (2013:30) admit that metal objects and blackened clay pots are prohibited from near the well of this nature. Any offender may be drowned or the angered mermaids may make the water muddy. It is such stories that maintain the sacredness of the wells in traditional societies. The moment such taboos and prohibitions are adhered to safe and clean water is conserved. The study posits that for any meaningful water technological innovations to take place indigenous water conservation knowledge systems has to be engaged to militate against climate change.

The traditional wells are believed to be habitant of aquatic life. Frogs are some of the aquatic animals that use wells as habitant. The Ndaу often tell a story where a woman mistakenly collected a frog into her water container. When she discovered that she killed the frog. The well is said to have dried up. The well was restored after the necessary rituals were conducted by the local traditional leaders. The woman was heavily punished as a deterrent measure against would-be offenders. In addition women on their menstrual cycles were prohibited to be near such wells. Maposa and Mhaka (2013:28) state that "...the women in their menstrual cycles or those who have just given birth are not allowed anywhere near some sacred water sources," because they are associated with impurity and are likely to pollute the water source and offend the spiritual guardians of the water sources. It suffices to point out that the Ndaу cultural beliefs and practices play a significant role in natural resource conservation and if harnessed in modern technological innovations the y can be vital in combating

climate change and water pollution.

Chisurudza

Once again this pool is found among the Ndaou of Manzvire village. This pool is said to be sacred as well. There are taboos and prohibitions that abound on this pool. In a bid to preserve the pool from vandalism by both humans and animals during the 1992 drought the pool was fenced. Consequently the pool dried up and one of the elderly said:

Vantu vakakwakwatidzira chidziya ichi ngematanda zvisingatenderwi ngechintu chedu. Chidziya chakaoma, mvura yakapera (People fenced this pool using poles against tradition and it dried up).

Admittedly, the pool has dried up. The elder said efforts to resuscitate it were under way but he was very pessimistic for he said the guardians of the pool should have left long ago. He said:

Haapeno kuti varidzi vepano vachada ere. Pava nenguwa yakareba izvi zvaitika. Pamwe vakatotama kare (I do not know whether the guardians are still willing. Time has elapsed since this happened. Perhaps they have left for good).

The Ndaou people observe several taboos that have to do with water management and are related to *njuzu*. They regard water and water resources with high esteem. Most of the clans among the Ndaou are those which have the pool (*dziva*) as their totem. Musikavanhu chieftainship is of this totem. Maposa and Mhaka (2013:28) argue that the popular traditional Shona song, *Mhondoro dzinomwa muna Save* (Territorial or chiefly spirits drink from the Save River) demonstrates that the Shona people value the water sources as the foundation of life.

The Ndaou also have stories of some wells which caused problems when the locals, with the influence of modern water technologies, tried modern methods of conserving these wells. Once these innovations were done without involving the traditional leadership, the wells either dried up or mysterious events happen at the water sources. Local people of Barauta village under chief Mapungwana at Mt. Selinda told the researchers of the perennial spring whose source is in the Chirinda forest that, when people tried to cement it so that no debris falls in the flowing water the spring, nearly dried. It was saved from drying up by the traditional leaders who timeously intervened and corrected the anomaly by carrying out the requisite rituals. The spring was later cemented but only after the traditional practitioners were consulted and their advice incorporated in the innovations.

The Ndaou people are incurably religious. They believe

that water as a natural resource needs proper care. Accordingly the taboos and prohibitions that govern water sources must be respected and strengthened as has been demonstrated in the paper. It is one major reason why the Ndaou people tenaciously cling to the water taboos and prohibitions that have withstood the violations and mischievous profaning of the water sources by the missionaries. The resilient nature of Ndaou culture has ecologically benefited local communities.

SUMMARY AND RECOMMENDATIONS

The indigenous Ndaou people have a high regard for nature and the environment. The study revealed that the Ndaou people, to a large extent, are ecologically conscious that any harm done to the environment has disastrous consequences on humanity. The Forestry Commission in the Eastern Highlands has benefitted from this consciousness. The Commission has co-existed with the indigenes' religious awareness of their environment. It has co-operated in a number of ways and the Ndaou do not find the Commission an affront to their environment let alone their water sources. There is a symbiotic relationship between the Forestry Commission and the Ndaou community from Chipinge. Several forestry activities abound and the local ensure religiously an enabling environment for the Commission. The locals value their flora and fauna as a gift from the above and underneath. Chirinda forest in Mt. Selinda, for example, has withstood deforestation for it is inherent within the Ndaou that the forest is not ordinary but sacred in a number of ways. We have also noted that Environment Management Agency (EMA) has experienced unprecedented success in advocacy issues especially in local communities. This is so because the local communities value their environment as enunciated by notions such as *marambotemwa* (forests where tree cutting is forbidden). In fact, the study observed that the local people engage indigenous religion to preserve their environment.

The paper submitted that climate change and climate justice can be managed if policy-makers as decision-makers in Zimbabwe learn a leaf from the indigenous knowledge systems which is still abound in contemporary Shona society. The study bemoans the lack of co-operation between modern natural resource management and the traditional mechanisms of managing nature. The study concludes by evoking the recent cultural insights advanced by Maposa and Mhaka (2013:28) when they posit, thus: 'chiefs and their traditional institutions must play key roles in the management of water and water sources in order to mitigate the dangers of climate change and thereby attaining sustainable development in contemporary Zimbabwe'. This recommendation is vital for three principal reasons:

1. More Renaissance studies are encouraged and must

be carried out in various localities of this nature in order to deal with the challenges of climate change more squarely. Such studies fit broadly within the centre-periphery theory which is heavily influencing the direction of African studies today.

2. Contemporary theologians and religionists must embrace the issue of climate change and ecology as key themes in their disciplines.

3. Lastly, we need more ethnographical studies to come to the fore of African studies in the quest for the Renaissance project to succeed in view of the dangers of globalisation today. The great Nigerian novelist, Chinua Achebe (1959) was insightful when he declared that 'Until lions (in Africa) have their own historians, tales of the hunt shall always glorify the hunter.'

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