Indigenous knowledge systems: Confirming a legacy of civilisation and culture on the African continent

Enna Sukutai Gudhlanga and Godwin Makaudze
Indigenous knowledge systems: Confirming a legacy of civilisation and culture on the African continent

1Enna Sukutai Gudhlanga and 2Godwin Makaudze

1Lecturer and National Programme Leader, Department of Languages and Media Studies, Zimbabwe Open University (ZOU), P.O. Box MP1119, Mt Pleasant, Harare, Zimbabwe. E-mails: gudhlangaes@gmail.com; gudhlangaes@yahoo.com. Tel: +263-772382376 or +263-735932001.
2Lecturer, Department of African Languages and Literature, Great Zimbabwe University, P.O. Box 1235, Masvingo, Zimbabwe. E-mails: makaudzegodie@gmail.com; gmakaudze@yahoo.co.uk. Tel: +263-773519330

Accepted 11th July, 2012

Africa has been described by Eurocentric scholars as a dark continent, and the African people’s indigenous knowledge systems as barbaric and savagery. Hence Europe acting on God’s behalf had to come and deliver Africa from this one whole night of savagery and barbarism (Achebe, 1975). The purpose of this paper is to refute the western notion of describing Africa as invisible, marginalised, powerless and without innovation. It endeavours to show that Africa was the cradle of civilisation and culture. The African indigenous knowledge systems, beliefs and practices amply demonstrate an advancement of the African people’s ecological conservation methods, agricultural and scientific methods, sculptures, basketry, pottery and medical practice. It is therefore necessary to seriously consider indigenous knowledge systems as sources of culture and civilisation.

Keywords: indigenous knowledge systems, legacy, civilisation, culture, African continent

INTRODUCTION

Since her contact with Europe, Africa has been described as a dark continent. The African indigenous values, beliefs and practices that did not conform to European norms were considered offensive and abhorrent (Goduka, 2000). Hence European colonisation was viewed as a way of “civilising uncivilised savage Africans” in line with the “white man’s burden” of European enlightenment of redeeming the globe from barbaric self-destruction (Kunnie, 2005). Amadi (1981) describes the colonial invaders of this period as follows:

It suffices to say that the newcomers perceived themselves as the advance guard of the unilateral “march to progress,” intended to change Africa economically, ideologically, physically, and in all other ways considered necessary in the name and higher mission of progress. Such changes were to be introduced by educating the African, converting the African, administering the African, enlightening and civilizing the African, and maintaining law and order. These activities based on the theory that Africa was a tabula rasa, and that African were incompetent, illiterate and primitive, led to the creation of western institutions for the entrenchment of those values which were intended to convert Africans into white men in black faces, and the native peoples of North America into red skinned white men.

Amadi’s observation is still relevant in today’s neo-colonial Africa, where most people want to believe that civilisation and technology came with Europe and most of us sheepishly seek to mimic and embrace the western deification of new wave technology (Kunnie, 2005).

It is the purpose of our discussion to show that Africa did not learn about civilisation and technology from Europe but she was the mother of civilisation and culture. The general belief that the Greek philosophers were the first scientists is not true because it discredits Africa of her well-documented achievements which predate the epoch of the first Greek philosophers. Mathematics originated in Egypt, the field of geometry emerged at a time when the Pharaohs of ancient Egypt needed to measure the floodwaters of the Nile washing its banks. Also the papyrus of ancient Egypt reveals much of the
amazing achievements in algebra (Kunnie, 2000). The hieroglyphs form of writing was invented in Egypt and also the plough was used by the Egyptians in the days of the Pharaohs and was certainly not in use elsewhere north of the desert (Groove, 1974 cited in Kunnie, 2005). Obenga (1994) argues that Thales the Greek founder of natural philosophy studied in Egypt. To this he says: Thales brought back from Egypt numerous cosmological, philosophical, mathematical, astronomical knowledge. The influence of Egypt on Greece with the intermediacy of Thales, is consequently real since Thales had no other masters but Egyptian ones.

The above examples amply demonstrate that Africa was the birth of civilisation and discrediting her of her great achievements would be doing her gross injustice (Diop, 1991).

Indigenous knowledge systems (IKS)
Africa had its own Indigenous Knowledge Systems (hereinafter IKS), these include social values, beliefs and practices that informed the African's various institutions. A close analysis of the African worldview reveals that the continent had advanced medical practice, agricultural systems, judiciary structures and strong social structures that were concerned with the collective well-being of humanity. Matowanyika (1995) cited in Kunnie (2000) defines indigenous systems as: Localized African systems developed over long periods and whose patterns are based upon local knowledge systems expressed in local languages... would generally be in balance with the local environment or would have sort such balance... The accumulated knowledge, science, technology, and environmental understanding in non-western rural societies.

This amply demonstrates that the African IKS are holistic; they show a constant link between the natural world of the living and the spiritual world manifested through rituals that are performed whenever deemed necessary. Whatever Africans endeavour to do, it is informed by their social philosophy which is divinely inspired and is pregnant with spiritual meaning and significance. The IKS show that Africans were neither barbaric or savagery but did their things in a rational manner. It is necessary to consider IKS in today’s societal development as Kunnie (2005) rightly states, “it is necessary to tape into such indigenous sources for the formulation and utilization of technologies that would assist in meeting the material needs of the African rural people today”.

Traditional agricultural methods and indigenous knowledge systems
Long before their contact with Europe Africans practiced various methods of agriculture. In the sloppy areas of the Eastern highlands of Zimbabwe, a system of intense and permanent cultivation on the steep hills, using terraces protected by storm drains planting on the ridges was practiced. This prevented soil erosion and preserved soil moisture. Terracing was also practiced in the Kainan Hills of East Africa in the late 18th century (Chiwandamira and Mbengo, 1999). Very few modern farming methods can rival the capacity of these terraces in healing worked land and conserving soil moisture and fertility.

Sedentary agriculture was also practiced in most parts of rural Zimbabwe before colonisation. The indigenous people of Zimbabwe grew crops and also kept domestic animals like cattle, sheep, goats and chickens. They used the waste they collected from the kraals and chicken runs as manure in their fields to further enrich their soils. These people relied on organic manure which does not interfere with the natural ecosystem. They also grew crops that would thrive well in the respective climates, for example drought resistant crops like mhunga (barley), mapfunde (sorghum) and rukweza (millet) were grown in the Sabi Valley area where rainfall is below 500mm per year. They also did not farm all year round, from April to September, popularly known as chirimo in Shona there was no activity in the fields. This gave the land the opportunity to regenerate and gain fertility.

Mixed cropping and intercropping were also practiced in traditional African societies. Monoculture is a recent invention that came with Europe. Mixed cropping ensured abundance of food and maximum utilisation of land, thus traditional societies practiced intensified and diversified farming. Matowanyika (1995) quoted by Kunnie (2000) has this to say about mixed cropping: The way that extremely different food crops are grown together on the same plot of land [maize, plantain, taro, groundnuts, and so on] strike western agronomists as something deeply primitive and archaic. However, on closer examination... one notes that the soil is under permanent cover, thus reducing sun exposure and heating of the surface soil, the variety of different root systems probably ensures a better utilization of soil volume; the succession of plant growth cycles means that the cover is provided during heavy [and most erosive] rains, when the large leaves (of the crops) protect the soil; utilization of solar energy is probably higher; the risk of parasites infestations is reduced.

Matowanyika (1995) rightly concludes that this indigenous knowledge system demonstrates management of micro-climates, responsible energy utilisation and effective pest control. Kunnie (2000) who has also researched on IKS in Zimbabwe and Southern Africa rightly concludes that farming methods like shifting cultivation, 75 varieties of rice cultivation in Sierra Leone and the nomadic and sedentary pastoralism in East Africa are examples of ecologically sensitive farming methods that preserved the precious resources of mother nature.

Also the traditional Shona society had its own ways of studying the environment to predict future bumper
harvests or droughts. If there was an abundance of wild fruits it meant that there was going to be drought that year. If the wild fruits were scarce it meant that there was going to be a bumper harvest. Thus mother nature had her own ways of overcoming the challenges that befell people. The traditional society also set aside a certain prescribed day, chisi, on which they did not work the fields. This was a sacred day and people honoured the mhondoro, territorial spirits by not working on this day. Chiefs led their people in the mukwerera ritual in which they asked for adequate rain from the spiritual world.

**Food security and indigenous knowledge systems**

The traditional African society also ensured that its people had enough food through the zunde ramambo concept, isphala senkosi in Ndebele or the chief’s granary. What this entails was that apart from his personal farming land the chief also had a separate communal field where people would work communally and the chief was the overall manager. Every household would contribute towards the seed and the community would take turns on some certain designated days of the week to come and plough, sow, weed and even harvest the produce. Upon harvesting the produce would be put into the chief’s granary. The chief would use this food to feed travelers who would pass by through his village and sleep at his place. Instead of straining his resources to feed the travelers the chief would turn to zunde ramambo. Also fed from this granary were orphans, old people, the handicapped and even aliens. In times of drought and war the chief would also give his people some food rations from the granary. This amply demonstrates that the Shona traditional society was self sufficient and catered for disadvantaged groups. There were no old people’s homes and orphanages because the social structure of the Shona catered for everyone. There was no need for the handicapped and children to beg and roam the streets. The zunde rambo concept was also prevalent among other ethnic groups of Africa. Its main concern was the collective well-being of humanity. Kunnie (2000) rightly says about IKS, “these serve to preserve the well-being of women, children, and the youth, in particular and ensure that nobody goes hungry, unlike in the European capitalist systems where people starve because they do no have money to buy food and no social support networks to support them”.

Apart from the zunde ramambo every household had its own granary where it would store its produce. To protect the harvested produce from weevils they sprinkled cow dung ashes on grains like maize, sorghum and millet. This demonstrates that they had their own organic pesticides which were not toxic. The current pesticides used in Zimbabwe have restrictions like waiting for two months before eating the grain that has target chinidamatura dust. Also produce like sweet potatoes and nyimo (round nuts) could be stored for future consumption after harvesting. These were put in a hole that was dug underground and covered with soil. These could last for six months, from April to September. They had to be consumed before the onslaught of the rain season. Thus the Shona in particular and Africans in general had their own methods of storing food for future use.

The Shona also had various food processing methods, they made peanut butter from groundnuts, butter from milk and mealie-meal from a number of cereals. They also supplemented their diet by eating meat from domestic and wild animals. This shows that the Shona knew about balanced diet long before the coming of the first missionaries.

**Natural resources management and indigenous knowledge systems**

The management of natural resources centre on traditional myths, beliefs and practices. The people of Southern Africa have a rich heritage of managing and living with the environment. Prior to the appearance of farming communities in Southern Africa, the region was occupied by the San who were hunter-gatherers and did not cause any significant change to the environment. Although the appearance of farming communities caused some change to the environment it is not as bad as Euro-centric scholars would like us to believe. In the traditional Shona society the institution of mitupo (totems) deterred people from killing and eating their totemic animals. This is because there was a bond between a certain group of people who make up a kinship unit and the species of wild animal or part of its body or a geographical feature. There was an imposition of food taboos and people were not supposed to eat their totemic animal. For example, the Ndlovus would not kill an elephant, the Sokos a baboon or a monkey and the Mhumbas rhinoceros. In that way wild animals were preserved, they were not killed as much as in societies where there were no totems. Also hunting was not a sport where people just kill for the sake of entertainment but animals were killed when it was necessary for the provision of food.

Some animals were are protected species in the indigenous Shona culture. It is taboo to kill a python or a pangolin. People who come across such animals are encouraged to take them to the chief. These are rare species that face extinction and the traditional society had a way of protecting such animals. Tatira (2000) cites a number of taboos that teach children about protecting wildlife:

- Ukauraya dataya mvura haizonayi (if you kill a frog there will be drought)
- Ukauraya matsunyatsunya mombe dzinoita maronda paminyatso (if you kill a praying mantis cows will crack their teats)
- Ukauraya kiti inopfuka (if you kill a cat its spirit will torment you)
In Shona culture in particular and in most African cultures in general it is taboo to cut down trees and to burn grass. In Shona culture trees are protected, for example the **mutara** tree cannot be used as firewood in The Nyanyadzi-Birchenough Bridge area. Other tree species are not used for the construction of huts. It is also taboo to unwantonly gather unripe wild fruits because this angers the **mhondo**, the territorial spirit of the land. This amply demonstrates that traditional societies were aware of traditional conservation methods before the coming of the white man.

**Traditional medicines and indigenous knowledge systems**

Africa boasts of a long history of medical practice. According to Bantu tradition herbs have been used for a variety of ailments, to prevent illness or to promote good health. This extensive use of medicine is also evident in Zimbabwe. Gelfand (1985) and Chavhunduka (1994) have done some extensive research on African traditional medicine and have made the following observations:

*About 234 of the plants said to be of medical value in Zimbabwe were also used for the treatment of medical complaints in Central, East and West Africa, 60 of these were employed in other countries in other countries to treat the same sort of complaints as in Zimbabwe.*

This demonstrates that the use of herbs was widely accepted. These herbs could cure any disease including chronic ones. **Mubvararopa** and **mutongo** trees were used to restore fertility. Most herbs could be taken with porridge. Treatment could also be through inhalation in some illnesses. The medicine is put in water and brought to boil. A blanket is placed over the head of the patient and is told to inhale. Asthma is generally treated in this way. Some traditional healers recommend the **mutongo** medicine used for the treatment of asthma could be smoked like cigarettes. So the concept of inhalation in the treatment of asthma predates modern medicine. **Musimboti** herb which was used by the Bantu for the treatment of various ailments has recently been proven to be an immune booster in HIV positive people, also treats arthritis, TB, skin irritations and drastic weight loss (Madera, 2006). The **moringa** tree’s barks and leaves have also proved to be of medicinal value. Researchers claim that the **moringa** tree leaves, “contain 7 times the vitamin C found in oranges, twice the protein in milk and four times the vitamin A found in carrots. It also contains thrice the potassium in bananas and four times the calcium found in milk” (Gono, 2006). These traditional medicines are quite useful since modern science is also confirming their efficacy.

Zimbabwe and other African countries also have an extensive history of midwives or what Kunnie calls Traditional Birth Attendants (TBAs). These deliver babies in most rural communities and about 92.9% of these practice medicine (Kunnie, 2000). In their sixth month of pregnancy, expectant women consult TBAs who prescribe herbs, **miti yemasuwo** which are designed to widen the expectant women’s passage for the forthcoming delivery. After taking these herbs women do not normally have complications when delivering babies. The issue of stitches and caesarean sections are minimised. Apart from delivering the baby the midwife also bathed the baby with herbs and anointed it with monkey nut oil. The herbs strengthened the baby and prevented it from falling ill.

Midwives, popularly known as **vanambuya** in Shona society also dealt with **nhova**, **chipande**, **chepamusoro** (depressed fontanel). They gave the babies herbs which would enable them to drink more water and milk and hence would not suffer from dehydration. Even if the fontanel was depressed **vanambuya** could treat that using herbs. They also made sure that the mother was well after delivery, they gave her herbs to strengthen her body. They also advised her on certain nutritious foods to take for lactation. Midwives were gynaecologists, pediatrician, counsellors and dieticians and no modern medicine can rival their expertise. Chavhunduka (1978) aptly summarises the role of the midwife when he says," They play complete and specialised roles that constitute a foundational element of the health of society, providing nutritional counselling, and are involved in pre-natal and post natal stages of motherhood so that both mothers and children are healthy".

Also of importance in traditional medicine is the traditional healer or the **n’anga** (traditional medical practitioner). There are two different types, those who throw bones and those who are spirit possessed. Apart from prescribing medicines, traditional medical practitioners also diagnos the cause of the illness and try to find solutions to the problem. This explains why African patients even when they are treated by western medicines they are likely to consult a **n’anga** or a prophet for those in African independent churches or seek divine intervention of the holy spirit. This is because the Shona believe that their well being depends on their relationships with spirit guardians. Whenever there is a problem a **n’anga** in touch with spiritual powers is consulted in order to resolve the problem (Bourdillon, 1987). Even Christians seek the divine intervention of the Holy Spirit for they also know that they are not fighting against flesh and blood but against the spiritual forces of the universe (Ephesians 5).

Herbs were not only used for the treatment of human beings alone but domestic animals as well. The aloe **teu**, **gavakava** was crushed and put in drinking water as medicine for any chicken ailments other than fleas. For fleas lantana tree leaves were put in the fowl run and the fleas would just flee from the scent of the tree. The same tree is also used as a mosquito repellent in most rural areas of Zimbabwe today. The herb **batanai** was also used to mend broken bones in cattle, goats, sheep and dogs. **China’i** was dissolved in water and the mixture
could be used for the treatment of diarrhoea and tonsillitis in both cattle and goats. This amply demonstrates that the Shona were veterinary scientists whose expertise cannot be rivaled by modern science.

**Traditional judiciary system and indigenous knowledge systems**

Traditional Shona society has ample evidence of a properly set up judiciary system. When disputes arose within the Shona community, there were various levels at which people could attempt to resolve them corresponding with the hierarchy of the courts (Bourdillon, 1978). Most chiefs set aside one or two days per week on which they presided over their courts. Proceedings were opened by a token submitted by each party in the dispute. Also a token was required as an admission of guilt by the offender; this was supposed to be given to the wronged party. A material sign of reconciliation between the disputants was also required. It has to be noted that in traditional Shona courts the aim was not to win a case but to reconcile the disputing parties and this was not helped by a charade of witnesses who had no interest in the original dispute. This amply demonstrates that traditional Shona courts operated on certain legal frameworks before the invention of Roman-Dutch law.

**Traditional social values and indigenous knowledge systems**

The Shona and other traditional societies had high moral social values that were inculcated into the young through the use of proverbs, taboos, songs, dance, folktales and riddles among others. The challenges that we face today of theft, child abuse, parents abuse, women abuse were all forbidden in traditional oral art forms. Fafunwa (1974) quoted by Goduka (2000) outlines what he terms the ‘seven cardinal’ goals of traditional African education:

- Development of the child’s latent physical skills,
- Development of character,
- Inculcation of respect for elders and those in position of power,
- Development of intellectual skills,
- Acquisition of specific vocational training and a healthy attitude towards honest labour,
- Development of a sense of belonging and to participate actively in the community understanding,
- Appreciation and promotion of cultural heritage of the community at large.

This type of education’s end product was an individual who was acceptable in society and who endeavoured to conform to societal values and not to become social misfits.

**Traditional art and indigenous knowledge systems**

Traditional Shona society also boasts of technical skills like sculpture, painting, pottery, basketry, weaving and beading. These are peculiar to Africa alone. These have come to be admired by the western world to an extent that interior deco magazines show that “no home is sufficiently adored without collections of African objects like animal skins, stools, sculpture and beads among others (Kamba, 2000 cited in Kunnie, 2005). This explains why western visitors who come to holiday in Africa go back home laden with collectibles which according to Kamba (2000) the list now includes vhuka-vhuka (African viagra).

**Toward the use of indigenous knowledge systems in Zimbabwe**

The preceding discussion has amply demonstrated that African beliefs and practices were not barbaric or savagery. We should tape into IKS in order to develop progressively. To this Kunnie (2000) rightly says: *Only indigenous knowledge systems will enable indigenous Zimbabweans and indeed all Africans throughout the continent to survive productively in the future, primarily because systems are spiritually grounded and collectively defined. European systems of knowledge and science are motivated by predatory greed and materialistic consumptions. They are individualistically inclined and antagonistic towards mother nature and all spirituality.*

Hence it is necessary to tape into these IKS which are spiritually grounded and have a holistic approach to life’s everyday challenges.

The government should intervene by putting laws that enact Zimbabweans to use IKS in the medical field. It is very sad to note that the *musimboti* herbal drink which has been proven by modern research to boost the immune system increase CD4 count levels in HIV positive people was taken off from the shelves in 2004 because there was no law that promoted the sale of the herb. The Sunday News of 25-06-06 rightly sums up why *musimboti* was banned, “the herbal medicine which was in liquid form was banned in 2004 following an impasse with government emanating from absence of law that regulates the use of alternative and complimentary medicines”. However, the impasse has been resolved through the recent establishment of The Traditional Medicines Council which saw The Ministry of Health and Child Welfare grant Musimboti Enterprises, a Bulawayo based company, a permit to manufacture, distribute and sell the product. In no time the herbal drink was available in supermarkets and pharmacies. It is our call for government to enact laws that promote the use of traditional medicines.

Also further research should be done in these traditional medicines, some parts of the medicinal trees could be harmful, and for example the famous *moringa* tree’s roots are toxic. Speaking at The International Conference on Appropriate Technology in Bulawayo on 13 July 2006,
Dr. Radha Kulkani, the then Acting Provincial Medical Director for Matabeleland North said, “Although the moringa leaves and pods could be safely used for various purposes, the roots are toxic and could harm patients. Hence people should be discouraged from using the roots”. She also added that the leaves have very high nutritional value. The tender leaves contain protein and other nutrients such as vitamins” (Gono, 2006). This amply demonstrates the need for further research in most of the traditional medicines so that people could establish the toxic and non-toxic parts of the herbal remedies. The Departments of Biochemistry in the country’s universities and polytechnics should endeavour to put more funds towards research in traditional medicines. Also the Faculty of Medicine at the University of Zimbabwe should consider establishing a Department of Traditional Medicine. This would enable our trained doctors and pharmacists to learn about traditional medicines. Also an Encyclopedia of Traditional Medicine could be compiled, one which lists the different types of herbs and what they cure. This would enable anyone who studies medicine or pharmacy to be competent in both western and traditional medicines.

Also in the area of traditional crafts, Africa’s products are being taken overseas at give away prices. Tourists come and buy curios from here cheaply and would later sell them back home at very exorbitant prices. Africa remains poor but the sweat and products of her land enriches other continents. The worst of walls as Kamba (2000 cited in Kunnie, 2000) rightly states are “in the area of music and other life performing arts, where new technologies such as digital compression, virtual imagery and other multi-media products totally undermine the rights of artists”. These problems could be resolved if there are laws put in place that would encourage meaningful trade between Africa and other continents. The local people should benefit from their own resources.

CONCLUSION
This paper has amply demonstrated that Africa was not a dark continent before the coming of the white man but was the cradle of civilization. The Africans had their own sound agricultural systems, medical practice, natural resource management and art before the coming of the Europeans. To say that Europe brought civilisation to Africa will be doing gross injustice to the continent. If current African states would tape into the African Indigenous Knowledge Systems this would go a long way in improving the continent for the better.

Acknowledgements
The first draft of this paper was presented at The Zimbabwe International Book Fair Association Indaba Conference held in Harare from 1-4 August 2006.

REFERENCES