



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE

Indigenous knowledge transfer, the means towards safe guarding our cultural heritage-Practices and Challenges: The Case of Zimbabwe

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Manuscript Info

Manuscript History:

Received: 11 June 2013
Final Accepted: 22 June 2013
Published Online: July 2013

Key words:

Indigenous knowledge,
Globalization and Cultural
Imperialism

Abstract

Indigenous knowledge (IK) is central to the livelihood and sustenance of resource poor communities of the developing world. IK is the centre upon which the socio-economic activities of a given community depend on. Hence the importance attached to the lifelong transfer of IK to the coming generations of the community in order to support their livelihoods. IK transfer is multi faceted, transfer may occur within the community, between developing nations and IK transfer between the developing and the industrialized nations. The calls for transfer of IK come in the wake of its increased attrition owing to the death or relocation of elderly people who possess the knowledge or the destruction of forests and woodlands which contain Indigenous plants. The paper explores the various means through which IK may be transferred and focuses on the role of Education and Research in enabling IK transfer while highlighting the associated challenges including the impact of globalisation.

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Introduction

Indigenous knowledge (IK) is central to the livelihood and sustenance of resource poor communities of the developing world. IK is the centre upon which the socio-economic activities of a given community depend on. Hence the importance attached to the lifelong transfer of IK to the coming generations of the community in order to support their livelihoods. IK transfer is multi faceted, transfer may occur within the community, between developing nations and IK transfer between the developing and the industrialized nations. The calls for transfer of IK come in the wake of its increased attrition owing to the death or relocation of elderly people who possess the knowledge or the destruction of forests and woodlands which contain Indigenous plants. Although there are some contestations to the recording of IK - the argument being that IK owners may easily lose moral and material ownership of their intellectual property or capital. However, explicit knowledge thrives because of its visibility, access and use. The lack of documentation has been one of the major inhibiting factors resulting in the

high attrition of IK and lack of transfer. The paper pays full attention to the importance attached to IK in Zimbabwe evaluating the means by which it has been transferred so far. The paper recommends strategies to overcome the problematic nature of IK which make it difficult to share and transfer. It explores how Zimbabwe may integrate IK and other forms of knowledge to facilitate IK transfer and sharing. The centrality of the sectors of education, training and research in curbing the extinction and in increasing the promotion and transfer of IK will also be highlighted.

Definition of key terms

Indigenous knowledge

Indigenous knowledge is knowledge that is unique to a given culture, community or society. It is contrasted and differentiated from the knowledge gained at formal institutions. Indigenous knowledge systems encompass all aspects of life, such as the management of natural environment. It forms the basis of survival for the people who own the knowledge. Indigenous knowledge may be part of an on-going experiment or maybe even be an established

local tradition (Slum, 2006). Indigenous knowledge is a result of many generations and is cultivated over pro longed years encompassing experiences, careful observations and trial and error experiments evolving over centuries (Martin, 1995). Thus over centuries, indigenous people of various localities would have developed their own specific knowledge on plant resource use, management and conservation over time. (Cotton, 1996).

Cultural Imperialism

According to Schiller (1986) cultural imperialism is the subjection of a country to undue pressure by a culture of the metropolitan, bigger power. It is characterized by a unidirectional pattern, creating imbalances and a colonial culture of dependence on the North by the South. The imposition of cultural values on third world countries by Western countries is a non violent, subtle and slow process which results in culture of dependence on the west by the Third World. Dependence on the West takes various forms, but would include looking up to the west for the supply of cultural products like films, news and entertainment. Cultural dependence also includes reliance on the west for technology to produce and disseminate these cultural products. Thus cultural imperialism may be viewed as the use of economic and political power to exalt and spread the values and habits of a foreign culture at the expense of a native culture.

Globalisation

Globalisation is the stretching of power and communications across the globe and it involves the compression of time and space, and the recomposition of social relationships. Thus it reflects a world in which societies, cultures, politics and economics have in some sense come together. Globalisation is the intensification of world wide social relations which link distant localities in such a way that local happenings are shaped by events happening away and vice-versa. (Mohammad, 1997).

Characteristics of Indigenous knowledge

IK is found in the form of tacit knowledge and is therefore not codified or systematically recorded and thereby making it difficult to transfer or share. IK tends to live solely in the memory of the beholder and is mostly oral, meaning that unless transferred, it dies with the beholder thus a whole or huge chunk of the community's "library" is lost upon the death of the IK holder. The knowledge is embedded in the culture, traditions, ideology, language and religion of a particular community and is therefore not universal and is therefore difficult to nationalize and let alone

globalize. It is mostly rural, commonly practiced among poor communities and is therefore not suitable in multicultural, urban and economically provided communities. The spiritual and epistemological aspects about IK are difficult to transfer and verify and they are fears that attempts to document IK will result in the social dis-empowerment of the community and owners of the IK.

Ellen and Harris (1996) highlighted the characteristics of IK as being local, meaning that it is rooted in a particular community and situated within broader cultural traditions, a set of experiences generated by people living in those communities. When transferred to other places, there is a potential risk of dislocating IK. The same authors also pointed out that IK is tacit; therefore it is not easily codifiable. Berlin (1992) argued that due to the IK being transmitted orally, or through imitation and demonstration, codifying it may lead to the lose of some of its properties. The local communities which have survived over the years actually act as rigorous laboratories to IK thereby making it experiential, rather theoretical knowledge. Davis and Ebbe (1995) submitted that IK is learned through reputation, which is a defining characteristic of tradition even when new knowledge is added. The same authors are of the opinion that reputation aids in the retention and reinforcement of IK. Grenier (1998) argued that centrally to external observers who regard IK as static, IK actually changes constantly as it is produced and reproduced, discovered as well as lost. Some experts caution against any attempts to transfer IK because they believe: IK cannot or should not be exchanged across communities because it could be irrelevant or even harmful outside its original cultural context; "Western" science is incapable of appreciating traditional cultures; and that attempts to record, document and transfer IK could lead to the dis-empowerment of indigenous people. Sensitive approaches will, therefore, be needed to reduce the potential risk of dis-empowerment of local communities, without compromising the principle of global knowledge partnership for the benefit of all communities.

Many practitioners of traditional medicine widely use a large number of plants well known to them (Mesfin and Sebsebe, 1992). Nevertheless, many are less cooperative to show their knowledge and skill in traditional medicines to others. According to Pankhurst (1990), the knowledge on medicinal plants and method of use circulated mainly among practitioners and the beneficiaries of such practice which are usually close family members. This has made the knowledge and skill on traditional

medicinal plants and traditional medicine more hidden but less available to the public (Abbink, 1995). Often traditional methods of treatment and other forms of indigenous knowledge go into spiritual and metaphysical realm which makes the scientific study, documentation and transfer difficult leading to the gradual erasure of IK. Thus IK is facing extinction.

Importance of indigenous knowledge in Zimbabwe

Indigenous knowledge provides the bases for problem solving strategies for local communities, especially the poor. It represents an important component of global knowledge on development issues. Learning from IK, by investigating first what local communities know and have, can improve understanding of local conditions and provide a productive context for activities designed to help communities. Adapting international practices to local setting can help improve the impact and sustainability of development assistance.

According to 1998 World Bank report, a better understanding of the local conditions, including indigenous knowledge system and practices could help to better integrate global technologies to solve the problems facing local communities in developing countries, Zimbabwe included. Mutenheri (2007) pointed out that most of the people who use traditional medicine in rural areas are poor, that is those who cannot pay for the expensive medicine prescribed in hospitals and by private doctors, but some of the users of the traditional medicines include some wealth families, who resort to traditional medicine because of its accessibility and that such medicine resonates well with their culture.

According to Chavhunduka (1994) the contribution of Indigenous Medicine Knowledge (IMK) in the provision of health care in rural Zimbabwe has been revealed through traditional healing, practiced by local herbalists. Saruchera (1999) is of the opinion that from a cultural perspective, people are comfortable with traditional medicine, are satisfied with the results and therefore many choose traditional medicine regardless of the existence of Western medicine. The African potato (hypoxic species) known as Nhindiri in Shona, has been used by indigenous communities in Zimbabwe in treating various ailments and is now popular for its ability to relieve complications associated with HIV / AIDS infection. (Koro, 2005)

Chigora et.al (2007) pointed out that the importance of IK is shown by the use of various herbs for the

treatment of disease, especially in rural Zimbabwe. Disorders of the digestive system can be treated using *Dicoma Anomala* (Chifumuro), *Catharantus*, (Chirindamatongo) *Schkuhria pinnata* (Ruhwahwa) and *Sonchus Oleraceus* (Rurimirwemombe) to mention but a few. Colds and chest pains could be treated using *Lippia Javanica* (Zumbani), *Pellea adiantaceae* (Mudziwebwe), *Vilex payos* (Mutsubvu) and *Aloe ferox* (Gavakava).

The local weather and climate can be assessed and predicted by locally observed variables and experiences using combinations of plant, animals, insects, and meteorological and astronomical indicators. Thus IK may be used to predict different weather and seasonal climate conditions. The behaviour of certain animals is believed to indicate changes in the weather: (1) Mating behaviour of domestic birds like guinea fowl which normally are secretive may communicate unfavourable weather forecast. (2) The bird Robin Chat disappears for several months and only reappears when a rainy season begins. The swallows *Hirundo Abyssinia* and *Hirundo Smithic White stock* (Shuramurove) exhibit circular movements in the sky when the rain is forming. Certain seasonal cries of birds are also believed to communicate changes in the weather. (3) The Sparrow (Nyenganyenga) if many it means more rainfall will be experienced. (Saruchera, 1999)

Traditional ways of learning: Songs, Riddles, Myths & Legends

Riddles are used to cultivate quick thinking creativity and sharpening memory in young children. The riddles often involve a metaphysical or poetic comment, this indeed was noted long back by Aristotle when he remarked on the close relation of riddles to metaphysical expression. The imagery and poetic comment even in the simple riddles are clearly part of the general literacy, cultural insight into the nature of people's behavior. Riddles have proved that indigenous knowledge systems are not something that is static, but a form of education and entertainment. There is a type of art that involves metaphorical or poetic comments on things which the environment for example young children can be entertained through creative prowess as they create proverbs like *vasikana kundurai marokwe tinakirwe* [girls pull up your dresses so that we can enjoy ourselves] the answer to this riddle is bananas or oranges: The idea is that one has to remove the cover or orange rind so that he/she eats the oranges. In Chewa, there is a riddle which says "zungurira uko tiphe timba [go round so that we kill the wild cat.] Men eat the wild cat. The answer to this riddle is the action of relieving oneself. The idea is that one goes to hidden place when relieving him/herself.

Songs are also used to teach the youngsters to memorize concepts as given in the song 'matsiro dhendere' [in counting] and good quality of personality as in sarura wako "kadeya-deya wendoro chena [choose the one you want who is good.] Many African men and women have never been to school but have been educated or have acquired knowledge in their own way. Transmission of knowledge in the oral tradition was largely informal. Though informal, learning had specific methods, well selected learning materials and facilitators who were highly regarded as experts. Common methods of imparting knowledge were mainly participants observation, oral tradition, linking at all times knowledge, experience and practice hence learning was fun not agony. Participatory methods are used for imparting esthetic values where Africans can express their lives through woodwork, pottery basketry, playing and dancing to musical instruments or hunting (Chigumo, 2011)

How Indigenous Knowledge is Transferred and Shared

Hunn (1993) argued that although IK is readily shared among members of a community, that is in so far as these IK practices are a part of the daily life of the community, it is generally shared to a lesser degree across community. Moreover as IK is predominately tacit or embedded in practices and experiences it is mostly commonly exchanged through personal communications and demonstration, from neighbour to neighbour, from priest to parish, and from master to apprentice. Davis and Ebbe (1995) also pointed out that recording tacit knowledge and transferring and dissemination it is therefore a challenge. The same authors reiterated that it is easy to transfer IK within a community were providers and recipient speak the same language and share its underlining concepts. According to World Bank report of 1998 on indigenous knowledge for development, exchange of indigenous knowledge is a process which comprises of six steps. Recognition and identification of IK is the first step, but it is

critical to appreciate that IK may be embedded in a mix of technologies or in cultural values, rendering them unrecognizable to the external observer.

Stearman (1989) reiterated that storage in retrievable repositories of IK is a critical component, if transfer of IK is to a success. Storage involves categorization, index relating IK to other information and making it accessible, and to conserve, preserve and maintain it for later use. However storage should not be restricted to only text documents, but should include other retrievable types of repositories of information such as tapes, films, and database and IK practitioners.

The World Bank report of 1998 on indigenous knowledge for development points out that the transfer of IK goes beyond conveying it to the potential recipient. Any important element of the transfer is to test the knowledge in the new environment. Technical feasibility, social and environmental impact of the IK need to be examined by the recipients. These transfers could be supported by government and donor agencies. The transfer may involve intensive practical training, apprenticeship or demonstration. It is critical at this point to realize that some local practices can only be transferred directly from practitioner to practitioner, for instance when IK is being transferred within the community.

Berlin (1992) submitted that once the transfers and adaption process has been carried out successfully, the dissemination of IK to a wider community adds the developmental dimension to the exchange of knowledge and could bring about a wider and deeper impact of the knowledge transfer. Public awareness campaign, public broadcasting, advertisements, seminars, workshops and publications incorporating IK could be part of the dissemination activities. Essentially IK transfer is a learning process were by the community where an IK practice originates, the urgency that transmits the practice and the community that adopts and adapts the practice all learn during the practices.

Traditional Means of Exchange of Indigenous Knowledge

Actors and Mode of Transfer	Sectors	Means and Media	Context of Exchange	Content	Potential for Direct Involvement of the Donor Community
Parents – children	.environment .agriculture and animal husbandry . nutrition .handicrafts	. oral . practice . artifacts	. hierarchy	.traditional skills .common practices . values	.limited unless through adult education
Trainer-apprentice	.local medicine .village based craft . PHC	. oral . practice . individual training	. hierarchy . reputation . expertise	. news . specialized knowledge and skills . values . awareness	.moderate TA, volunteer services
Public exchange (Markets, gathering etc.)	.environment, agriculture . nutrition . markets . handicrafts	. oral . artifacts . practice	. parity . reputation . expertise . authority	. news . products . awareness	.moderate by supporting campaigns
Informal groups	. environment . agriculture . nutrition .handicrafts	. oral . artifacts . practice	. parity . reputation . expertise . hierarchy	. news .specialized knowledge and skills . values . awareness	. low
Local organizations and traditional authorities	. environment . agriculture . nutrition .handicrafts . community development	. oral .sketches and plays . songs	. parity .competition . reputation . expertise . hierarchy	. news .specialized knowledge and skills . values . values . awareness	Moderate training, support to NGOs and CBOs
Story tellers	Unspecified, community development	. oral	. Reputation	. news . specialized technical information . values	. moderate
Spiritual leaders	. environment . agriculture . health .community development	. oral . artifacts	. authority	. values .community development	.moderate cooperation, co-financing
Productive activities	. handicrafts . agriculture . environment .community development	. oral . artifacts	Reputation, parity, competition	. news .specific information	.high if targeted within sector approach
Migration	. environment . crafts . values		. parity . competition . expertise	.Knowledge and skills . values	.moderate in refugee and settlement

Source: World Bank staff

The above methods are the ones which are traditionally used by various communities in transferring indigenous knowledge. It is important to note that methods of transferring IK such as storytelling and public exchanges such as Dare are no longer popular due to the fact that the young generations spend most of its time watching television and on internet.

Challenges to IK Transfer

One of the challenges facing IK is how to maintain and transfer it to the future generations? How one learns is as important as what one learns. Young people of today do not have concrete possibilities to take part in all seasonal subsistence activities. Another challenge is how to integrate IK into the modern educational, scientific, administrative, juridical, political, and resource-management regimes and structures.

Three processes which are significantly affecting the continuation and validity of Indigenous Knowledge (IK) in local communities are: (1) the cultural discrimination of IK by the mainstream dominant culture as indigenous people feel inferior, as they are perceived as inferior by outsiders, who provide continuing stereotypes, (2) the disregard for traditional rights, culture and livelihoods by the nation state, both developing and developed, which tries to assimilate peoples of different ethnicity and conserve nature to the detriment of local people. (3) The growing globalization of markets and appropriation of local resources and knowledge by outsiders and ideologies offering a uniform and so-called superior Western ideal of urban and subordinate rural life.

Influences of Modernity and Globalization on Indigenous knowledge transfer

Although IK is largely inseparable from any realistic knowledge and Knowledge Management or classification paradigm, marginalization of IK has occurred over the years, and has retarded its development and integration. While IK has existed within the Zimbabwean communities since time immemorial for there is no community that does not have elements of IK - the degree of such possession varies, and seemingly the more a community possesses or practices it, the more the individual or community is marginalized or stigmatized. We only have to imagine perceptions people hold about such rural communities as Binga for example. Marginalization has also occurred because families and communities are becoming increasingly disintegrated and globalised, a trend that may have stemmed from the push and pull of technologies, and the over-extensive supply of mass products, services

and mass media gadgets and content which have evaded private spaces where IK once thrived. Images of families glued to TV sets and surfing the internet on mobile phones easily come to mind. Thus the time and forums for sharing IK have been displaced by globalization products reducing opportunities for IK transfer. Marginalization of IK has occurred because it has always been associated with the rural poor of the developing nations.

Of crucial importance is the culture which comes attached with the multimedia products and the global media through its cultural products of films, soap operas and global media advertising. These promote cultural imperialism and a consumerist consciousness attaching ideologies of life style and personalities to products. This has made more and more people adhere to western life styles and western knowledge systems. This has contributed immensely to the denigration of IK thereby limiting its transfer.

However, globalization has brought with it certain technologies which have the potential of harnessing the collection and documentation as well as dissemination of IK. The ubiquitous presence of the internet and electronic data bases and video recording equipment can be used to good effect in accommodating IK which is usually orally transmitted. The major challenge remains that of the digital divide to enable access to IK once it has been stored in the new multimedia technologies. There is also the challenge that the multimedia technologies de-contextualizes IK thus alienating IK from its owners. The challenge lies in harnessing new technologies in ways that are culturally relevant.

Urbanisation has been another off shot of the effects of globalisation which has seen the growth of towns and suburban life. This seen the destruction of buildings to pave way for the destruction of woodlands and disrupting the natural environment including ecosystems and wildlife. Woodlands are a source of indigenous medicinal knowledge and wild animals form the core of indigenous wildlife management and wide life behaviour also forms the basis of indigenous climate management as the behaviour of wild life is used to predict weather conditions.

The Potential Role of Education in IK Transfer and Preservation

Ma Rhea (2002) identified protocols for the inclusion of traditional knowledge in education curricula in policy brief, 'Raising awareness of Indigenous knowledge in science and technology education' for the Indigenous Knowledge Dossier of SciDev.Net., observing that, 'It is widely accepted that for society at large to fully understand the issue, science and

technology teachers need to embrace environmental sustainability in their teaching approach.'

In the past, Western-based education has also been criticised for dismissing and attempting to supplant IK. It is therefore worth asking why these systems now want to incorporate aspects of IK into their curricula. Those involved in government and education are beginning to recognise the value of traditional knowledge in terms of gaining an insight into managing ecological sustainability and resource biodiversity.

Adult education

Since many Indigenous people have access to only their local community language that may not have a written form, and since many are also semi- or illiterate, adult basic education can play an important role in developing skills of reading and writing in that language, resulting in greater possibility of documentation and preservation. Adult education can also promote awareness of the cultural significance of the knowledge that is traditional and which is 'taken-for-granted'.

Education activities, draw on documented IK, and sometimes the activity itself seeks to document, register and establish ownership of these knowledges. Education is a key measure in capacity building in many nations as they seek to promote, protect and facilitate the use of traditional knowledge for conservation and economic benefit.

Establishing Collaborative Learning Partnerships

The issue of how IK may be incorporated into mainstream education systems is a highly sophisticated issue. For many years most developing nations like Zimbabwe have heavily relied on Anglo American curriculums as a means of delivering education. Of recent there has been a paradigm shift in most professional disciplines curriculums towards the incorporation of IK in their curriculums. The fields of librarianship and counseling for instance have been some notable examples in Zimbabwe with the inclusion of courses in Afro centric librarianship and counseling. There is a realization that there are differences that exist in environments which lead to certain inadequacies if individuals only approach knowledge from a Eurocentric perspective while neglecting their IK.

The Anglo American bias of the education system has been viewed as the globalisation of education. In denigrating their own IK developing governments fail to note the potential of African IK in contributing both to global ecological sustainability and its potential to minimise the west's pre-occupation with materialism. The challenge lies in revamping the education system in order to design a curriculum that

achieves an appropriate balance between these two knowledge traditions that is western knowledge and African IK.

The difficulties in IK transfer are intensified because western knowledge is given higher status than IK. This poses many problems, particularly in postcolonial countries where western based education systems are seen as having failed Indigenous people and local communities. Indigenous and local community leaders and teachers should take equal responsibility in devising methodologies for curriculum development and pedagogy. It is possible, for example, that the teacher would undergo a period of learning within the local or Indigenous community before being entrusted with traditional IK that could be taken back to the classroom.

The Potential Role of Research in Preserving and Documenting IK

The Blair Research Institute in Harare has undertaken a series of trials on indigenous medicine and in 2001 it released a report entitled "Neuropsychiatric Aspects of HIV Disease Progression: Impact of Traditional Herbs on Adult Patients in Zimbabwe" The study which involved around 200 patients uncovered that herbal remedies suppressed suicidal thoughts among patients and lowered depression. Dr Chandiwana under whose directorship the trials were conducted conceived of the link between depression and immune suppression with the consequence that some herbs boost immunity. Dr Chandiwana went on to accept the importance of herbs in dealing with various opportunistic infections apart from reducing depression.

Research has the potential to establish to some degree the efficacy of IK. IK maybe documented thereby enabling the dissemination of IK as well as protecting it from loss. Several examples are reported of participatory action research projects where local community leaders studied their own communities with a view to raise awareness, develop skills and to empower indigenes, thus contributing to the preservation and integration of local knowledge. However, the challenge of research is that it may result in the plunder of intellectual capital of IK by non owners as researchers tend to "own" findings but yet they would not be the originators of that knowledge. Research is also limited in as far as determining the non researchable elements of IK such as those which go into the spiritual and metaphysical realm.

Recommendations regarding IK transfer & its preservation in Zimbabwe

- ✦ There should be an agreement in principle that Indigenous and non-Indigenous knowledge should feature in national education curriculums
- ✦ Both Indigenous and non-Indigenous collaborators should have a clear understanding of their rights and responsibilities regarding the inclusion of IK in the education curriculum.
- ✦ The intellectual value of Indigenous peoples' knowledge is should be credited thus intellectual property should be shared in ways that are mutually beneficial to researchers and IK owners.
- ✦ Teachers and education practitioners should convey to their students that IK is as important as Western science;
- ✦ IK should be soundly and accurately documented, and its status as knowledge should be verified by knowledgeable Indigenous leaders and by all to give wider acceptance and its incorporation into the global knowledge system.
- ✦ Developing governments should take active participation in supporting cultural institutions like libraries and museums in collecting and disseminating IK materials.
- ✦ Government should adequately support quality programming and other media products that promote IK and curb the negative cultural imperialism that come with the global media. For example the 75% Local content policy in broadcasting was a step in the right direction in the Zimbabwean media.
- ✦ The traditional resource rights and intellectual property rights of the Indigenous collaborative partners should be recognised, for example through a *sui generis* system (a custom-made national system of intellectual property) (Ma Rhea, 2002).
- ✦ Governments should promote and provide incentives for writing and publishing works on IK. For instance government may sponsor conferences such as those which focus on indigenous knowledge systems.

Conclusion

The transfer of IK goes beyond conveying it to the potential recipients. An important element of the transfer is to test the knowledge in the new environment. Economic and technical feasibility, social and environmental impact and other criteria as

deemed necessary by the recipients need to be examined. The discussion has noted the need for the transfer IK as a means of safe guarding the cultural heritage of the indigenous people. What has become clear is that IK cannot longer operate from underneath the rubbles of obscurity and be transmitted informally through oral means, though they are challenges which inhibit documentation and transfer such as secrecy and the spiritual and metaphysical characteristics of IK. Education and Research can come in to formalize and incorporate IK into the global knowledge systems despite the challenges posed by some characteristics of IK and the effects of Globalisation. However, it is vital that IK be documented using a variety of means which are suitable for the different forms of IK to save it from extinction and enable its transfer to future generations and to protect the plunder of this socio-cultural capital by outsiders. This calls for collaborative efforts from various partners such as ZINATHA, The Ministry of Education, Sport and Culture, Civic Society organisations such as the Culture Fund, research institutions as well as the media and publishing houses to promote and preserve IK for future generations.

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