

# Indigenous Knowledge Systems and Their Relevance for Sustainable Development: A Case of Southern Africa

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## INTRODUCTION

This paper discusses Indigenous Knowledge Systems (IKS) in the light of their relevance for sustainable development initiatives in Southern Africa. It argues that IKS can be an invaluable alternative to countries in the region that are overly dependent on modern technology in their quest to raise the quality of life of citizens. The main argument of this article is that modernity has not always provided long-lasting solutions in the manner that Africa's natural resources have been harnessed, supposedly for the benefit of its inhabitants – the Africans. Indeed, the accident is seen in this regard as the main purveyor of an inimical form of modernity on the continent that in effect has failed to arrest Africa's developmental woes. Many theories imported from the West have not been able to find innovative solutions to Africa's development dilemmas. In many instances, solutions from this sphere were usually grafted on the African social milieu with no consideration for adaptation at all. Africa has indeed had its share of experimentations and it is high time that countries on the continent utilise development theories that incorporate IKS dimensions.

Another point of departure of the present discussion is a contention that organically-driven forms of harnessing natural resources should serve as a starting-point as we endeavour to harness our natural resources in Southern Africa. For centuries, it has only been the colonial form of modernity that has been propagated in the region. To this end, modernity has also exacerbated environmental degradation in Southern Africa, and its corollary - modern technology, has been quite detrimental towards efforts aimed at fostering sustainable development. In order to come to grips with some of the arguments of the paper, a closer examination of its key concepts is required.

## CONCEPTUAL DEFINITIONS

### Sustainable Development

This discussion takes sustainable develop-

ment as a process, which seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future (Brundtland, 1987). Key to this definition is an understanding of the following issues:

- The needs of the poor in all nations must be met;
- In order for our environment to be protected, the economic conditions of the world's poor must be improved;
- A direct link exists between the economy and the environment;
- Today's needs should not compromise the ability of future generations to meet their needs;
- In all our actions, we must consider the impact upon the future generations (Brundtland, 1987).

Irrespective of the fact that the Southern African region has utilised and continues to use modern technology, we find that the manner in which it has been disharmonious with sustainable ways of meeting the needs of local communities, brings it in direct conflict with the notion of sustainable development. Rather, we take the view that in fact, it is the indigenous forms of harnessing and utilising the natural resources of the region, by local communities – as they meet their needs – that are much closer to the concept of sustainable development. In this sense, therefore, sustainable development is exemplified by ongoing activities of self-sustenance by indigenous people, although at the same time, it is also a desired state that is not perilous to the livelihoods of those who are not yet born. It is this kind of thinking that brings forth an understanding that sustainable development activities are both current as well as futuristic in form and foci.

### Indigenous Knowledge Systems (IKS)

IKS refers to the complex set of knowledge, skills and technologies existing and developed around specific conditions of populations and communities indigenous to a particular geographic area. IKS constitute the knowledge that people in a given community have developed over time, and continue to develop. It is the basis for

agriculture, food preparation, health care, education and training, environmental conservation, and a host of other activities. Indigenous knowledge is embedded in community practices, institutions, relationships and rituals (Centre for Indigenous Knowledge Systems, 2005:1). Central to this definition is the idea of knowledge ownership. Here, the local population has privy to this knowledge as it has been handed down from generation-to-generation within their context. It is something that is interlinked with their way of life. Therefore, IKS becomes relevant in so far as it is not imported or imposed from outside. The moot point here is that solutions are easily availed to local decision-making processes as IKS interacts with the environment due to the fact that it also encompasses: technology, social, economic, philosophical, learning and governance systems (Business Referral and Information Network, 2005). Furthermore, indigenous knowledge has made, and can still make, a significant contribution to resolving local problems.

There is also a need to distinguish between what is known as Western Knowledge Systems (WKS) and IKS. In regard to the former, such knowledge systems are regarded as universal due to the fact that western education is entrenched in many world cultures. WKS have long been noted for their rigorous observation, experimentation and validation procedures, all of which are carefully documented. The same cannot be said of IKS in particular when it comes to documentation (Kolawole, 2001). Needless to say, in our case WKS is perceived as being bound up with Western imperialism and culture, and that it is not always value-free or even objective. In many instances, it seeks after the obliteration of IKS. This position then takes us to our next point, which is the case of power. The idiom 'knowledge is power' is not the least spurious at all. Whenever, we examine IKS we should not be oblivious to the power relations at play in the local, national, regional and global contexts. Some questions need to be posed in this instance. For example, who or what systems gain from the prevailing skewed utility of WKS? How easy will it be for poorer nations such as those of Southern Africa to begin exploring or for that matter, encode other forms of knowledge in their policy processes? Who or what systems gain from the constant vilification of IKS? It is at this juncture that we take another look at modernity.

## MODERNITY

Modernity will refer to modes of social life or organisations which emerged in Europe from about the seventeenth century onwards and which subsequently became more or less world-wide in their influence (Giddens, 1990: 1). With modernity also came the colonisation and conquest of indigenous peoples by the West. For years, this term was seen as depicting progress and was heavily relied upon by the proponents of the Modernisation School of Thought. In ascendancy in the 1950s, this theory borrowed its basic tenets from Weber's findings on the 'rise of capitalism'. It assumed that development was an inevitable, evolutionary process of increasing societal differentiation that would ultimately produce economic, political and social institutions similar to those in the West. The end result of this process would be the creation of a free market system, liberal democratic political institutions and the rule of law (Afroz, 2004). Already, the premise for conceptualizing the theory was flawed as it used Western experiences as the sole criteria for denoting what was or not development. As Afroz (2004:1) rightly observes, the reality in the developing world was proving to be quite resistant to the theory and such, the Modernisation of Political Development Movement began to collapse by the late 1960s. The initial blame for failure was imposed on the internal civic, economic and political culture of the developing countries. More importantly, this theory came under increasing attack for its very basic inconsistent assumptions, especially the ethnocentrism it promoted.

However, the 1990s saw this theory on the rise once again – albeit in a different guise – and it has proved to be very powerful this second time around. Interpreted as neo-liberalism by many commentators, this notion of the 'West is the best' has been championed by such multilateral aid agencies such as the World Bank and the International Monetary Fund (IMF). With the strict prescription of Structural Adjustment Programmes (SAPs) being meted out to the developing world and Southern African in particular, many countries literally imploded with social crises on the rise, before some of these agencies – the World Bank in particular – turned around and conceded that the way it had approached the problems of the developing world was actually out of synch with prevailing local

conditions. By this time the damage had already been done. With prescriptions that were hatched by 'young Harvard' trained economists with no clue of the socio-political and economic scenarios of the developing world and especially Southern Africa, the World Bank made sure that these economic austerity measures were adhered to by countries that sought its assistance in the form of aid. For the transgressors, tough sanctions were instituted to guarantee conformity. In the process, most Southern African states such as Malawi, Mozambique, Zambia, and Zimbabwe (notwithstanding prevailing internal economic mismanagement and maladministration), had to bite the bitter pill of SAPs and cut down on critical social services such as education, health and welfare. In all of these endeavours there was no due appreciation of the local conditions and more importantly of IKS.

#### **MODERNITY AND ENVIRONMENTAL DEGRADATION: SOUTHERN AFRICA**

For purposes of this discussion, we take countries subsumed under the aegis of the Southern African Development Community (SADC) as points of reference. SADC, was initially a political organ known as the Frontline States in the mid-1970s, and preoccupied itself with the fight against white minority rule in the region. Later on, the Southern African Development Co-ordinating Conference (SADCC) was created in 1980 out of this coalition, to economically isolate racist South Africa. The Declaration and Treaty of the Southern Africa Development Community, signed by all the Presidents of the SADCC countries in 1992, set the stage to move the organisation to an economically proactive position as conflicts in the sub-region were now diminishing, with the independence of both Namibia and South Africa.

Southern Africa is renowned for its mining of rich minerals such as gold, diamonds, copper and semi-precious stones like amethysts, emeralds, etc. From Angola, Botswana, Mozambique, Namibia, South Africa, to Zambia and Zimbabwe, mining has become, after several decades, the mainstay of the economies of these countries. However, modern technology (taken in this paper as a consequence of modernity) has in some cases, had devastating effects for the development of the region of Southern Africa. It is crucial to bear in mind that in the SADC region, the mining

sector contributes about 60 per cent of the Gross Domestic Product (GDP). Thus, mining activities are inextricably bound up with environmental degradation which has taken place over the past 75 years or so, when mining at a large scale began. Mining has also been cited as second to agriculture in terms of environmental degradation (Sinkala, 2000); and the proliferation of small-scale mining, especially for gold and gemstones, has also added to the degradation (Sinkala, 2000). There is a lot of commercial agriculture in the region as well, that is predominantly the domain of white expatriate farmers. For South Africa, the Afrikaners, who are the descendants of the early Dutch settlers are the main actors in this arena. In many instances, commercial agriculture, introduced on a large scale, foreign crops such as tobacco for export to the Western markets. These crops have not been kind to the environments of Southern Africa. The usage of pesticides like DDT and fungicides also added their strain on the local eco-system. Surely, the blame should be put at the doorsteps of modern technology that came with colonialism. We argue that there are better forms of modernity that can be of use to the region, but these have not been utilised at all. The manner in which Western nations are clamouring for organic technology is just one example in the case for IKS.

In South Africa, apartheid (which was a derivative of both colonial and racist paradigms of domination) in consonant with modernity, helped to destroy the African people's way of life and their environment. South Africa is still paying a heavy price for land degradation caused by the apartheid regime's homeland and agricultural policies. The ten so-called homelands in the apartheid era occupied 13 per cent of the country's land. The concentration of people in northern and eastern areas such as Bophuthatswana, Ciskei, Transkei, and Venda increased the strain on limited natural resources in those areas (Gass, 2005). Homeland policies did not just cause land degradation, but also led to large-scale poverty of black South Africans due to lack of economic alternatives.

Large-scale technological change can also be quite harmful to the environment and does lead to the dislocation of communities' livelihoods. In the developing world, the decades of the 1950s, '60s and '70s were characterised by capital intensive development projects such as hydro-electricity dams. The World Bank was the main

schemer of such projects. Again, there was less appreciation of the local environment by the so-called experts, and due attention was not paid to the consequent environmental degradation, and the social costs that would emanate from their interventions (Noyoo, 2000). In Southern Africa, the initial project of this nature can be traced back to the 1950s when communities were uprooted from their environment in the name of development. The Kariba Dam that was conceived for Northern Rhodesia (present-day Zambia) and Southern Rhodesia (now Zimbabwe) is a case-in-point whereby the negative social consequences of dam construction are still being felt by the present-day Gwembe-Tonga of Zambia. The area that they inhabit is also prone to prolonged bouts of drought. Another case that needs highlighting is that of Lesotho. The World Bank again had a hand in this 'development' project. In the 1980s, indigenous communities in Lesotho witnessed large-scale displacement (affecting 20,000 people) through the Lesotho Highlands Water Projects (LHWP).

As in the earlier cited case, there was also loss of common resources (grazing land, topsoil, woodlots) and income through land submersion, and flooding of ancestral burial grounds (Bond, 2000:235). The LHWP has exacerbated Lesotho's scarcity for cultivated land (only nine per cent can be used for farming), by pushing peasants onto soil more vulnerable to erosion. The dam also destroy crucial habitats of the Maluti minnow (an endangered species). To crown it all, even the social fabric has suffered this new 'invasion' as there has been an increase in social problems consequent to dam construction, including a dramatic increase in AIDS, alcohol abuse, livestock theft (Bond, 2001).

We will not end this section without pointing out that the voracious appetites of the West to develop have again made the lives of people of Southern Africa precarious through an amplification of 'natural weather calamities'. The attendant gas emissions that have been increased a thousand-fold in the wake of heavy industrialisation, have added to the negative climatic change of the region. The greenhouse effect or the depletion of the ozone layer by industrial gasses is neither a myth nor a fallacy, but a reality that has devastating effects to those who have not even played any hand in destroying mother earth, such as Southern Africans. In the last decade, Southern Africa has been ravaged by droughts and floods, which have only

compounded social problems such as hunger, disease and lack of shelter. Again, these natural calamities can be ascribed to the consequences of modernity.

### **SUSTAINABLE DEVELOPMENT: SOME CRITICAL LESSONS**

Since all SADC states rely heavily on the exploitation of natural resources and the environment in their economies, the region must put in place harmonised measures and strategies for proper management of natural resources - many of which are shared (Madava, 2000). However, following Western paradigms will not help matters at all. It is imperative that indigenous knowledge systems take centre-stage in regional efforts of development, but at a political or macro level where governments in Southern Africa can begin to consciously reify this form of knowledge, through regional protocols and agreements. The question of power is once more recognised here. It is imperative that regional governments that wield political control begin to recognise the value of IKS and make concrete moves to implement some of IKS' positive attributes in various development projects in the SADC.

Indigenous knowledge has profound roles to play in conserving Southern Africa's environment as well as to promote sustainable ways of utilising the region's natural resources for the common good of all its inhabitants - human or otherwise. Moreover, development activities that work with and through indigenous knowledge, and organisational structures have several important advantages over projects that operate outside them. Indigenous knowledge provides the basis for grassroots decision-making, much of which takes place at the community level through indigenous organisations and associations where problems are identified, and solutions are determined. Solution-seeking behaviour is based on indigenous creativity leading to experimentation and innovations as well as the appraisal of knowledge, and technologies introduced from other societies (Warren, 1992: 3). Southern African communities have built their own body of knowledge and beliefs which, have been handed down generations through oral traditions. This knowledge touches on the relationship between living beings and their environment, encapsulating a system of organisation, a set of empirical observations about the local environment, and a system of self-manage-

ment that governs resource use (Southern African Research and Documentation Centre, 2005).

IKS in the SADC region has a basis for local-level decision-making in a variety of important areas such as agriculture, health, education, community and social organisation (Southern African Research and Documentation Centre, 2005). For instance, IKS that characterises the Zambezi Basin's traditional communities today emerged from a historical sequence of events. The following can serve as building-blocks for sustainable exploitation and management of the region's natural resources:

- Some elements of the Shona of Zimbabwe that include respect for nature, a moral attitudes towards nature, restraint in resource exploitation, mutual co-operation, agreed exclusions, intergenerational communication and socio-cultural continuity can be quite valuable in policy formulation.
- The Barotse or Lozi people in Zambia are guided by a saying: 'Water is life'. The most important food for the Barotse people is fish, their cattle depend on pastures that need water and their transportation is by waterway, hence 'water is life'. Tradition requires that every Litunga (King) in Barotseland, to have canals dug and water management maintained to ensure a flow of water all year round. Natural rules have also controlled marine life for centuries, for example, rivers rise and floods occur during the fish-spawning season. This gives the fish more physical space so that they can become difficult to catch at this time (Southern African Research and Documentation Centre, 2005:2-3). Under laws, introduced by Barotse Kings to conserve wildlife, game animals were best protected for example, it was an offence to kill a female beast.
- In Malawi, IKS is still sustaining people through their knowledge of social management, crop protection systems and traditional medicines. Farmers have extensive knowledge in using the tree species *Msangu* (*Faidherbia albida*) to improve and maintain soil fertility.
- Traditionally, the Tswana of Botswana had grazing land that was located far away from the villages and croplands, resource overseers were responsible for monitoring the status of grazing and informed the Chief when overgrazing was a problem.

The above examples illustrate the employment of indigenous systems by local people in

recognition of their environment's limitations and the need to reduce pressure on it (Southern African Research and Documentation Centre, 2005). Before the advent of colonialism and modernity, Southern African communities had already effective ways of balancing their ecological systems. It can be appreciated from the foregoing examples that Southern Africans are not strangers to issues of sustainable development. Also, it is evident that IKS is not something wishy-washy, but something that is tangible with substantive application in the management of the local environment as well as in raising the quality of life of Southern Africans.

## CONCLUSION

Indigenous knowledge can play crucial roles in the formulation and implementation of sustainable development policies, and projects in the Southern African region. This paper's proposal was that IKS should be given more recognition by regional governments through structures such as the SADC. The workable modalities for operationalising IKS in the region's development, in a sustainable manner, should be at the political level. Even though there are some instruments governing the sustainable use of the environment such as the SADC Protocol on Environment that was adopted in 2000 - more needs to be done, especially in dovetailing indigenous knowledge with policy processes. Indigenous knowledge, particularly in Africa has long been ignored and maligned by outsiders (Warren, 1992), and African governments have fallen prey to this derisive behaviour regarding their heritage. However, a paradigm shift is required, whereby indigenous knowledge drives our development efforts in the SADC.

## ACKNOWLEDGEMENT

I would like to thank the following organisations and persons that made this project possible. The Fondation de la Maison des Science de L'Homme (MSH) for hosting me as a Post-Doctoral Research Fellow when the ideas to this project were crystallised and the Department of Human Ecology at the Free University, Brussels that had invited me to present this paper. Special thanks go to Prof. Emmanuel Boon who made it all possible and for also commenting on an earlier draft of this paper.



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**KEYWORDS** Indigenous Knowledge System (IKS); sustainable development; Southern Africa

**ABSTRACT** Indigenous Knowledge Systems (IKS) were explored in this paper as well as their relevance in regard to sustainable development. Drawing examples from Southern Africa, the paper also shows how IKS can ultimately engender sustainable development in Africa.

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