

Indigenous Ways of Knowing and Sustainable Development in Higher Education

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ABSTRACT The state of the environment seems to be under enormous pressure worldwide. Numerous and complex environmental problems and risks seem to be dominating the development programmes of nations, 'fighting' for space/inclusion and attention' from already scarce and dwindling resources in order to stay afloat of complete extinction. Through conceptualization of the discourse, Western ways of knowing have thus far provided local and global nations with both useful and not so useful ways of knowing phenomena and understanding society's reality. However, in the process of achieving this educational goal, other ways of knowing, especially indigenous knowledges have been marginalized. Broad based knowledge construction approaches allow for different ways of knowing to provide alternative solutions to problems and the diverse challenges societies contend with. It is for that reason that the researchers argue that curricula in higher education and other institutions of higher learning, cannot afford to continue to exclude or 'peripherize' other ways of knowing. The researchers further propose that in order that education programmes of development and sustainability education succeed in addressing the complex, uncertain and contradictory reality of present societies, education curricula should be underpinned by social critical thinking and capability approaches that not only foster understand in plurality, but also promote world citizenry.

INTRODUCTION

Masuku-van Dame (1997: 26) observed that by 1987, the World Commission on Environment and Development had already advised that society at large had a lot to learn from traditional skills and knowledge to manage and administer complex ecological systems. Just as it is important to administer and manage complex ecological processes, so is it to administer and manage economic, political, social, and environmental and other life processes through indigenous skills and knowledge. Maila and Loubser (2003: 276) attest to the notion that Indigenous Knowledge Systems, as critical knowledge grounded in the contextual milieu of the people, is worthy and capable to manage and resolve national and international problems and risks. However, Le Grange (2000: 115) cautions society to resist the tendency to either politicize or homogenize considerations of indigenous knowledge systems' material and cultural capital. The danger being that the needs of specific environmental contexts could be overridden and be overshadowed by global needs or vice versa.

Even so, Maila and Loubser (2003) argue that indigenous ways of knowing could be used for

the benefit of universal human wellbeing. It is for that reason that the intention of this paper is to ground indigenous ways of knowing in knowledge processes of sustainability education and higher education curricula to enable people at their local 'contexts' to address their own unique problems and challenges, and thereafter challenges confronting the global community.

Deliberating on the need to use and manage Indigenous Knowledge Systems, the United Nations Conference on the Environment and Development (UNCED) in 1992 resolved to promote diversity in general and biodiversity in particular. To achieve this fit, the Conference committed itself to assisting and encouraging indigenous communities to continue to protect and utilize natural resources responsibly a practice that indigenous people were already involved with. It is encouraging to note that most African states have adopted broad policy frameworks for implementing this international resolution regulating the protection and use of biodiversity resources (South Africa 1997: 76; Botswana National Conservation Strategy 1990; Kenya Wildlife Conservation 1977; Tanzania – Arusha Declaration, and the National Environmental Policy of 1997; Namibia's Nature Conservation Amendment Act, 1996; Angola's Constitution – Fundamental Rights and Duties, Article 24). However, the use and conservation or protec-

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tion of biodiversity resources remains a contested terrain, with governments on one hand and civil society on the other.

Whilst most governments in Africa are continuously seeking ways of engaging communities in and around Parks and Reserves to access, use and protect biodiversity resources, this sometimes ends up in governments versus communities contesting the legitimacy of who is the 'birth' owner, or who has the 'birth' right to own such resources. Sometimes governments are actually strengthening some of the laws that entrusted them as governments with the monopoly of the use of wildlife and veld products. For example, the Kenyan government recently infuriated conservationists and environmentalists in its decision to downgrade the status of Amboseli from a national park to a reserve "in a blatant attempt to win political support from the local, but marginalized community" (City Press 2005: 9). The allegation further indicates that

the move would take the management of park and, crucially gate receipts of some 2.5 million pounds a year, away from the world respected Kenya Wildlife Service and hand it over to the local Olkejuado County Council, run by Maasai, who for years have wanted to graze their cattle on land reserved for wildlife.

What is not said in this 'story' is how the government came to declare Amboseli a National Park when it appears that Maasai people were actually the inhabitants of the area for centuries. With elections coming, this seemed to be an opportune time for the government. Did the Maasai people benefit from the Kenyan Wildlife Service before this outcry of conservationists and environmentalists? Did the benefits from tourist revenues, wildlife, veld products and forest products filter through to the locals for their development? Were these issues integral to the schools curricula? These are some of the issues that need answers in order to understand why Brian Jackman in this 'story' claimed that "it is unbelievable, they are taking this iconic sight, one of the crown jewels of Africa and – instead of cherishing it – handing it over to an organization incapable of managing it" (City Press 2005: 9). Assuming that Brian Jackman lacks educational evidence of who the landowners are in the Amboseli region, could provide critical knowledge in understanding this conflict, especially, in understanding that, not only are western trained scientist and western approaches the

only ones that are capable of managing conservation areas. Ditshwanelo (1993: 35) deliberating on the rights of the Central Kgalagadi Game Reserve community to land ownership in Botswana, regarding control and access, points out that

...the Basarwa people themselves had indicated at various fora that the issue of land was a human rights issue. Further, she argues that "the Central Kgalagadi Game Reserve existed prior to independence and was apparently transferred to the Basarwa by the colonial power. To date there is little evidence of ownership in the forms of control and access. A people forcibly removed from ancestral lands become a lost people.

Sustainability education officers can learn a lot from their neighbours in and around their communities, and these communities can greatly enhance the sustainable use of wildlife and veld products through indigenous ways of knowing embedded within their cultural knowings. Most of these communities have been living in these areas for generations (Ditshwanelo 1993: 35), and of course some have just returned to these areas after being forcibly removed from their ancestral lands during the colonial regimes. For example, the Maluleke community in South Africa, near the Northern Kruger National Park border has recently been given the right to own, use and benefit from gate earnings of the piece of their ancestral land (Reid et al. 2004).

Reiterating this view Le Grange (2000) points out that, it is critical that in all protection and conservation strategies that context based knowings are utilized. The researchers argue in this paper that, these knowings should become part of school curricula in order to be further preserved and used to sustain livelihoods of communities. Hence the inclusion of these two stories about conflicts around conservation areas - government versus civil society or civil society versus government. In both stories, it seems that the value and knowledge of indigenous communities is either down-played by 'factors outside the context' which are grounded in ways of knowing prevalent in the North or are subjugated by raw political power. These are ways which ignore contextual realities and our argument is that higher education can be custodians of these rich ways of understanding diversity and tolerance in the use of natural resources.

Conceptual Framework

Indigenous ways of knowing are embedded in the cultural milieu of people. People are historically and culturally bound, hence they have a peculiar knowledge system, which enables them to become a civilized nation (Vilakazi 1999). Ntuli (1999: 190) argues that a 'civilisation', which encompasses a peculiar knowledge system, is professed to be the embodiment of all the community struggles, successes, failures that the community was or is currently engaged in. It is, thus, this dynamic nature of culture which is both a product and a source of creation (Ntuli 1999: 190) and (O'Donoghue et al. 1999) in a community that creates a myriad of definitions of traditional knowledge processes.

Indigenous Knowledge is clarified differently by different scholars and people who are not necessarily in academia, but always the meaning is either the same or slightly different. This view is supported by Vilakazi (1999), Aronowitz and Giroux (1985), Odora Hoppers (2001), Flavier et al. (1999) in the ensuing explication. According to Vilakazi (1999: 202) a civilization is an embodiment of the knowledge systems of a people. Furthermore, he argues that civilization is

...a complex culture; language or languages; a certain technology; an identifiable pattern in art, music, architecture, poetry, literature and dance; a certain body of knowledge, science, medicine, and values; a certain cuisine, manner of dress and certain habits; and so forth, [and that] a civilization is generally so massive and of such power that it acts like a magnet, drawing outsiders to it, influencing others and being influenced by others.

Of note here is the fact that this body of knowledge, grounded in the social, political, economic and biophysical milieu of the people, is influenced by people and it also influences people. Aronowitz and Giroux (1985: 80) equate civilization to cultural capitals. These could be the different sets of linguistic and cultural competences that individuals and community members inherit from their family 'class located boundaries'. Hence the inherited Indigenous Knowledge Systems within a cultural location is important for the individual and collective members of the community, both in its advancement and survival. The notion of viewing Indigenous Knowledge Systems as a 'magnet' that draws all to itself, and also that it is drawn to people, is

supported by constructivist approaches that acknowledge the tendency of human beings constructing knowledge in their social interactions (Aronowitz and Giroux 1985), and in the process knowledge shaping human beings' actions or social, economic, political and biophysical reality. Such knowledge creation processes are certainly not linear but are non-linear because they are integral to the cultural web and history of a people.

According to Odora Hoppers (2001: 4) Indigenous Knowledge Systems are characterized as knowledge that is embedded in the cultural web and history of a people including their civilization and forms the backbone of their social, economic, scientific and technological identity of such a people. Perhaps one could indicate that this clarification seems to concur with Ntuli (1999) and Vilakazi's (1999) views that the knowledge capitals or indigenous ways of knowing of a people are grounded in their cultural civilization. However, Flavier et al. (1999) seem to view Indigenous Knowledge Systems differently, but with the same meaning as the other scholars. They argue that Indigenous Knowledge is basically local knowledge that is unique to a given culture. It is also an information base for the society that facilitates decision making skills (Flavier et al. 1999: 479). Furthermore, they see Indigenous Knowledge Systems as dynamic and constantly informed by internal and external forces that shape them and they too shaping the 'forces'. They also see Indigenous Knowledge Systems as science. Science? Yes, science. The views purported by Flavier et al. (1999) that indigenous ways of knowing shape reality and are being shaped by reality too; seem to reinforce observations made by the other scholars above. However, O'Donoghue et al. (1999) cautions society from viewing indigenous ways of knowing as science. However, we are of the opinion that, there are aspects of indigenous knowledge systems that are science or scientific, and there are also aspects that are social, cultural, myth, religion, spiritual, etc, that would not necessarily qualify under the western concept of science.

To these scholars, Indigenous Knowledge Systems are also viewed as an 'ethno-ecological knowledge/tradition story, in whatever shape or form, fraught with ambiguity, danger and numerous challenges (O'Donoghue et al. 1999:101). These intellectuals are cautioning us not to con-

sume Indigenous Knowledge Systems without being critical to its production and use. Of note is that they further argue that the 'romanticizing effect' that is grounding Indigenous Knowledge Systems at times, can be very disempowering. Perhaps, as noted above, indigenous ways of knowing are not static knowledge types, but are dynamic knowledges. Hence it is undesirable for any conservation officer to ignore indigenous ways of knowing of communities as such knowledges are priori to the advancement and survival of communities.

The plethora of meanings about indigenous ways of knowing also gives an understanding that not everything about the use of Indigenous Knowledge Systems was noble and valuable in the past, therefore, not even today. Problems experienced then, were unique to the times and sometimes such conditions called for the responses which we, today might understand as irresponsible and callous. However, that does not mean that we cannot use and continue to develop African ways of knowing relevant for understanding our contemporary reality within the various school systems in Africa and the world. Therefore, this perspective calls for the incorporation of Indigenous Knowledge Systems and processes in higher education curricula, administration and management processes not just to fulfill government or civil society's politeia demands, but also to use, cherish and strengthen the status and communal position of traditional knowledge and ways of knowing within broader frames of knowledge construction regardless of historic and past use which were/are viewed by the present generation as irresponsible and abusive to humanity. Schooling can provide a better space for studying indigenous knowledge systems and their envisaged contributions to understanding reality in the 21st century.

Other Ways of Knowing and Understanding Reality

Knowledge is a human product that is used as a socializing mechanism; hence it allocates people to various roles or classes in society (Kom 2000:2). Boronski (1987) attests that the instrumentalist approach to knowledge production which is often taken for granted is dangerous. It allows, especially but not limited to, educational institutions of higher education, to stratify

knowledge according to hegemonic status, dictating and informing the politics of learning - what should or should not be considered valid or high status knowledge in sustainability education curricula. The caution is that we should all be aware that knowledge is a global inheritance. As soon as it is in the public domain, it supposedly ought to become independent of the hegemonic inclinations and politics of legitimization. It is supposed to enable and capacitate individuals and collectives to understand differences and promote both local and world citizenry. Probably it is for such reasons that knowledge production and utilization was jealously guarded by higher education as its 'creator' and custodian, as charged by the state (Thompson 2000; Brown and Clignet 2000; Maila 2005). However, we caution that knowledge is neutral, therefore it can be shaped by individuals or collectives to tilt scales power relationships and interactions, whilst in the process it shapes those who come in contact with it.

Most intellectuals also argue that the production of knowledge is often perceived as grounded in scientific paradigms, with strong measurable or quantifiable, validation and reliability instruments in place. To further challenge 'un-scientific approaches' to knowledge production, anything that does not fit into experimentalistic notions, is out-rightly rejected. This is not surprising because such a perspective seems to view knowledge creation in linear lines because knowledge is often validated through 'scientific' scales of measurement. Often, these are ignorant of knowledge production in praxis -critical reflexivity during the process of creation and implementation and non-linear lenses of knowledge construction which are not underscored by a "single reality". To appreciate this distinction, Kraak (2001) posits that knowledge production takes place mostly in educational settings, not ruling out the fact that practical knowledge might be produced outside educational settings, and that, communities also produce knowledge themselves, however, Kraak argues that based on the "single reality" phenomenon and its two processes, which are referred to as Mode 1 and Mode 2. The Mode 1 strategy refers to the core or base of disciplinary and specialized knowledge. Mode 2 knowledge production is 'culturally embedded', and allows the cultural capitals to be brought into learning programmes. The researchers can fur-

ther, say that Mode 2 knowledge production encourages community participation and involvement. Of note is that Indigenous Knowledge Systems are underpinned by notions of participation in communities and their involvement in advancing their wellness. Reiterating the notion that Mode 2 is based on participation and involvement, Kraak (in van Wyk, 2002: 306) says that the Mode 2 strategy is essentially collaborative in its intentions and that it proves by far to be more heterogeneous in terms of learner inputs, which do not always necessarily represent the views of the experts as contained in what is contained in the curriculum.

It is therefore, clear that both ways of knowledge creation, whether through Mode 1 or through Mode 2, both strategies could benefit from each other. More so, that Indigenous Knowledge Systems contexts need to be validated (van Wyk 2002). The numerous, complex, uncertainty and contradictory nature of environmental crisis (climate change included), natural disasters, regional and world conflicts and health risks and vulnerabilities, seem to suggest that broad curricula imperatives in higher education are needed to educate society about resilience, mitigation, adaptation and resolve of these social and natural ills.

How Indigenous Knowledge Systems Can Enhance Sustainability Education Curricula

It is critical to note that Indigenous Knowledge Systems are embedded within the understanding, use and conservation of biodiversity resources. Indigenous peoples with the historical resource-use practice they have experienced over a long period of time, often possesses an expansive knowledge base of the ecological systems in their own localities. This knowledge can be attested to a long series of observations transmitted from generation to generation. Indigenous knowledge reflects dignity and identity of the local communities. Das Gupta (2011: 62) explains that IKS is a multidisciplinary subject and it consists of the following dimensions: physical sciences and related technologies, social sciences and humanities. Mondal (2009) maintains that IKS could further be divided into various domains like agriculture, animal husbandry (including poultry and fishery), handicrafts, tools and techniques, nutrition, health care practices and bio-medicines, psycho-social care, natural

and biological resource, management of environmental and bio-diversity resources, disaster mitigation, human resource management, saving and lending, poverty alleviation and community development as well as education and communication; each of these domains is provided with own respective area and manifestation. IKS has therefore a direct bearing on biodiversity conservation, Natural Resource Management (NRM) and Sustainable Livelihood Development (SLD) (Das Gupta 2006).

From an agrarian point of view, IKS can contribute to the protection of bio-diversity that is rapidly deteriorating due to pollution, unplanned exploitation of resources and use of genetically modified breeds in the name of meeting the profit level, demands and pressure of common people. IKS can also be useful in sustainable harvesting practices. It will provide empirical insight into crop domestication, breeding, and management. It will further act in favor of agro-ecology, agro-forestry, crop rotation, pest and soil management and other agricultural activities (Lal et al. 1986). Indigenous peoples have developed and applied several farming techniques and have orally passed them from one generation to the next. These activities took place during different farming seasons and periods.

In recent years it has become necessary that not only areas that conserve biodiversity, but that 'neighbours' of these areas, should also benefit from the resources in order to ensure their sustainability and the development of the communities. Griffin et al. (1999) reaffirms this view when saying that for such protected areas, involvement of 'park neighbors', ... is key to the development of sustainable management and education thereof. Although this observation seems to be instrumentalist in nature, it must be emphasized that communities living in or around conservation areas are more than benefactors and co-conservators and managers of wildlife, veld products, forest products and tourism; they are also the bearers and producers of cultural knowledge that could also ensure the sustainability of the natural resources through education (informal, non-formal and formal). Beck (1992) argues that there is a serious need to engage in the process of re-appropriation – getting back that which was stolen from or lost to communities.

From the care of indigenous knowledge, it is hoped that the present generation will not only

benefit from this resource, but will also “exploit” (a term used by the Ministry of Minerals, Energy and Water Resources, Daily News Tuesday October 2005, number 203: 12) the natural resources. The term “exploit” when referring to natural resources, indiscriminately, whether they are non-renewable or renewable, is a harsh and very dangerous term to use in this present generation which is highly bent towards consumerism and the enjoyment of a good life at all cost and at the expense of others.

What we have just alluded to can be a useful way of acknowledging the critical and important function of conservation areas in different communities, but this can also be a myth or misconception if viewed in a narrow and self serving manner. Ndaskoi (2001) cautions us that not all conservation areas collaborations with ‘neighbours’ are beneficial to neighbours in particular. Citing the Maasai collaboration with Tanzania Wildlife Conservation, she argues that wildlife does not benefit local communities, the people who were original residents of conservation areas. Hence the ensuing discussion is about the misconception that collaborations between conservation areas and their neighbours always bring meaningful benefits. Such collaborations, for example, the Maluleke Community and SAN-Park in South Africa, remains to be conservation spaces for continuous conflict and tension between conservation areas and their neighbours.

Firstly, it is questionable when conservation areas are seen as the only custodians of the vast natural resources they preserve and conserve, that is, the wildlife and veld products, but not the knowledge that is attached to the resources themselves. The knowledge is an integral part of the resources and is not an ‘add-on, appendix, etc., of the preserved and conserved natural resources. And the knowledge and understanding, is with the people and in the people. Mostly, it is the people who live around and in the parks who are the custodians of cultural or traditional capitals. The challenge here is about the institution of resource-use rights for the local population or the recognition of the existing rights of a particular community. It is imperative that the rights of the local people be balanced against responsibilities. The existing communal property management system must be nurtured and protected. A long lasting solution to this challenge is to legalise communal resource-use rights. Higher education curricula processes cannot afford to ignore this reality.

Secondly, it is a misconception that these natural resources need to be preserved and conserved without being interconnected to what we call, cultural or traditional preservation and conservation. The holistic approach to the preservation and conservation of natural resources cannot be successful if not underpinned by the knowledge and understanding of the cultural and traditional values and worth of these resources. So the knowings and understandings of the communities around and in the conservation areas cannot be simply marginalized because of political and economic interests. But these knowings and understandings should be integral to approaches that seek holistic ways of conserving our wildlife, veld products and cultural/traditional product. For example, Coombe (1998) explains that most of the common plants are more firmly rooted in local realms of meaning and value. Higher education sector will therefore play a vital role through indigenous knowledge to make sure that the plants are protected.

Thirdly, the cultural and traditional ways of knowing of people around and in conservation areas cannot be validated through Eurocentric knowledge lenses. They must be validated and legitimized through their own resilience and use over time context-based paradigms. As stated above, Mode 1 knowledge systems can provide added lenses to the understanding of these without considering themselves as the only legitimate perspectives to do so. It is therefore, imperative for the core business of higher education to purposely integrate indigenous knowledge processes in all curricula on offer. These should not be seen as add-ons, but should be integrated and be aggressively used in all sustainability education (climate change included) programmes that involve the adaptation, mitigation, and minimization of risks and vulnerabilities in human life and biodiversity. The co-creation and recreation of academic knowledge in higher education remain a significant aspect (Dei 2000:113). Collaboration of indigenous knowledges with other knowledges (sustainability education included) will play a role in knowledge production and in informing education practices.

CONCLUSION

Our view is that sustainability education curricula processes need open-ended enquiry approaches to understanding and learning in

Indigenous Knowledge Systems, and that these would normally be framed on non-linear knowledge construction paradigms. Such approaches will definitely be pluralistic – and will involve the participation of different people, and will also be incomplete, that is, informed by contextual realities first, before being informed by international policy imperatives in their perspective of contextually based knowledge production processes. In this process of knowledge production, the role of higher education as one critical custodian of knowledge creation partner cannot be ignored nor be peripheralized. Whilst communities living in or around conservation areas are sometimes marginalized in processes that are supposed to benefit them educationally and developmentally, their role as custodians of Indigenous Knowledge Systems together with the conservation areas, cannot be overemphasized in the design, planning and implementation of curricula that acknowledges different types of knowing to address risks and vulnerabilities of human life and biodiversity. This means that, in reality, they can actually add value to existing educational processes around conservation areas. However, we feel that more can be done regarding Indigenous Knowledge Systems and sustainability education in higher education curricula, not by romanticizing indigenous knowledge systems or ‘dancing’ to the tourist only, but by broadening the knowledge base for meaningful learning in schools.

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