

**INDIGENOUS KNOWLEDGES:
A GENEALOGY OF REPRESENTATIONS AND APPLICATIONS
IN DEVELOPING CONTEXTS OF ENVIRONMENTAL
EDUCATION AND DEVELOPMENT IN SOUTHERN AFRICA**

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ABSTRACT

This study was developed around concerns about how indigenous knowledges have been represented and applied in environment and development education.

The first phase of the study is a genealogical analysis after Michel Foucault. This probes representations and applications of plant-based indigenous knowledge in selected anthropological, botanical and environmental education texts in southern Africa. The emerging insights were deepened using a Social (Critical) Realism vantage point after Margaret Archer to shed light on agential issues in environmental education and development contexts. Here her morphogenetic/morphostatic analysis of social transformation or reproduction is used to trace changes in indigenous knowledge representations and applications over time (from the pre-colonial into the post-colonial era). The second phase uses the same perspectives and tools to extend the analysis of power/knowledge relationships into the interface of indigenous communities and modern institutions in two case study settings in the Eastern Cape of South Africa.

This study reveals colonially-derived hegemonic processes of modern/Western scientific institutional representations/interpretations of the knowledges of indigenous communities. It also tracks a continuing trajectory of their dominating and prescriptive mediating control over local knowledges from the pre-colonial context through into the post-colonial period in southern Africa. The analysis reveals how this hegemony is sustained through the deployment of institutional strategies of representation that transform local knowledges into the disciplinary knowledge discourses of modern scientific institutions. These representational strategies therefore generate/reproduce and validate disciplinary discourses about the other, constructing disciplinary 'regimes of truth'. In this way modern institutions appropriate and displace indigenous/local knowledges, silence the voices of local communities and regulate individual and community agency within a continuing subjugation of indigenous knowledges. This study reveals how working within modern

institutions and disciplinary knowledges in participative education and development interactions can serve to implicate indigenous researchers in these institutional hegemonic processes.

The study also notes evidence of a continued resistance to hegemonic Western knowledge discourses as indigenous communities have sustained many knowledge practices alongside Western knowledge discourses. There is also evidence of a recent emergence of counter-hegemonic indigenous knowledge discourses in environmental education and development practices in southern Africa. It is noted that these have been contingent upon the changing political terrain in southern Africa as this has opened the way for alternative discourses to the dominant conventional Western knowledges in formal education and development contexts. The counterhegemonic discourses invert power/knowledge relations, decentre hegemonic discourses and reposition indigenous knowledges in formal education and development contexts.

This study suggests the need to foreground indigenous knowledges as a process of knowledge decolonisation that gives contextual and epistemic relevance to environmental education and development processes. This calls for a need for new strategies to transform existing institutions by creating enabling spaces for the representational inclusion of indigenous knowledges in formal/conventional knowledge discourses and their application in social contexts. This opens up possibilities for plural knowledge representations and for their integrative and reciprocal co-engagement in situated contexts of environmental education and development in southern Africa.

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LIST OF ACRONYMS AND ABBREVIATIONS

CBD	Convention on Biological Diversity
CIRAN	Centre for International Research Advisory Network
CR	Critical Realism
EEASA	Environmental Education Association of Southern Africa
ESD	Education for Sustainable Development
et al.	and others
FAO	United Nations Food and Agricultural Organisation
HIV/AIDS	Human Immuno-deficiency Virus/Acquired Immune Deficiency Syndrome
ibid.	In the same place
IK	Indigenous Knowledge(s)
IKS	Indigenous Knowledge Systems
ILO	International Labour Organisation
IUCN	International Union for Conservation of Nature and Natural Resources
LTHPs	Local Traditional Health Practitioners
NMM	Nelson Mandela Metropolitan
NTFPs	Non-Timber Forest Products
NUFFIC	the Netherlands Organisation for International Cooperation in Higher Education
pers. comm.	Personal communication
PRA	Participatory Rural Appraisal
SADC	Southern African Development Community
SADC-REEP	Southern African Development Community – Regional Environmental Education Programme
TEK	Traditional Ecological Knowledge

THPs	Traditional Health Practitioners
TK	Traditional Knowledge
TKS	Traditional Knowledge Systems
UN	United Nations
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNCED	United Nations Conference on Environment and Development
WWF World	Wide Fund for Nature Conservation

CHAPTER 1:

THE BEGINNINGS - SITUATING THE STUDY

1.1 Introduction (Motivation for the research)

I am an indigenous African scholar from Zimbabwe, a country in the southern African region. My interest in indigenous knowledge originates from and is rooted in my experiences of the relationships between people and plants amongst the Korekore speaking people (a Shona dialect) in our rural family home area in the Hurungwe District, Zimbabwe. This is where I spent most of my school holidays away from the city as I grew up. It was there that I was introduced to and naturalised into the wealth of local plants and their uses (for food, firewood, timber, construction materials, domestic appliances, craftwork, medicine, fodder and other purposes) through observations and interactions with family and other local community members. There was always so much to learn from the surrounding terrain through my peers and elders. This included learning how to recognise plants, what fruits we could relish, what roots we could dig out and eat, what plants to avoid, what trees provided hardy and resistant poles, what trees provided the best firewood, what plants were good for a stomach ache, and what plants we could apply to wounds or burns to speed up healing.

From these experiences I learnt to articulate the heterogeneity of the landscape and to come to terms with the seasonal variability and availability of plant resources. I acquired my elementary 'informal' botany intuitively from this continuous exploring of the surrounding veld. Even to this day I find I can still correctly identify a good number of local plants without any reference to botanical keys and taxonomic classification systems. This reminds me of what one famous indigenous Zimbabwean botanist, Steve Mavi, said about identifying plants: "It don't matter how you do it as long as you get it right" (pers.comm. 1994), thereby articulating the intrinsic nature of local/traditional plant classification and identification processes. I have also observed that many people in the local rural communities can clearly distinguish between very similar and usually closely related species with a high degree of

accuracy. For example they can distinguish three edible species of *Strychnos* in Zimbabwe: mutamba-muzhinyu (*Strychnos cocculoides*), mutamba-mun'ono (*Strychnos spinosa*) and mutamba-usiku (*Strychnos pungens*), as well as differentiate between very similar looking leguminous trees, musasa (*Brachystegia sphecormis*) and munhondo (*Julbernardia globiflora*). There is even a local Shona proverb about the latter two species that is used when someone can't make up his/her mind (is beating about the bush): "anga achingoti pamusasa pamunhondo", literally meaning s/he was vacillating between whether it was the musasa or the munhondo, revealing the local community awareness of how difficult it is to distinguish between these two tree species. What all this signifies is that indigenous classification systems that are applicable in the local context do exist. However, these indigenous community classifications, which are locally significant for the effective identification and differentiation of indigenous and other plant species, have been marginalised or excluded and replaced by the institutionalised hegemony of modern classification systems in mainstream (formal) knowledge representations.

In my city life, I was privileged to grow up and be educated up to high school level in the predominantly Ndebele speaking part of Zimbabwe, 'Matabeleland', where my parents worked. I therefore grew up speaking Ndebele as my second language and learnt about the Ndebele culture in the process. More importantly, because my father was a railway worker, we moved around cities and resided in several townships among other migrant workers from all over southern Africa, particularly from Malawi, Mozambique, Zambia and from within Zimbabwe. As I recall from our stay in Victoria Falls and later in Bulawayo, the townships were a cultural melting pot. We grew up experiencing a myriad of cultural activities, including initiation ceremonies, dance festivities, weddings and funerals of the Kalanga, Lubale, Ndebele, Nyanja/Chewa, Quilimane, Shangaan, Shona, Sotho, Tonga and Venda peoples among whom we stayed. We also sampled various traditional cuisines from sneaked snacks (my mother would not allow it!) in the homes of friends and neighbours and grew to associate the food crops in people's backyard gardens with their cultures, even though there was much sharing of

gardening plants and recipes. I found many common links in the languages and cultures of southern African people.

I left 'Matabeleland' after high school to study biological sciences (botany and ecology) at the main university in Harare in 'Mashonaland', the predominantly Shona speaking part of the country. After studying botany at the University of Zimbabwe I worked as a research officer responsible for environmental (conservation) education at the National Herbarium and Botanic Garden in Zimbabwe. My work at this botanical institute included taking groups of students on educational tours (guided walks) of the Botanic Garden. In these educational tours I noticed how an emphasis on botanical and ecological discourse tended to remain decontextualised to the students, more so for those from rural contexts. However, the inclusion of local plant names and uses brought the ensuing discussions back into context for these students by establishing the people-plants connection. It also revealed that the students had considerable knowledge about local plant taxonomy, use and ecology in their own socio-cultural contexts. This recontextualisation also established a bridge between western science that the students were learning in formal education institutions and local community knowledge that they grew up with, thus making botany and ecology more accessible and relevant to their local contexts.

Subsequent to the above experiences, I have pursued ethnobotanical research on use of wild food plants as food by a local community in the Eastern Cape, South Africa, for my masters' thesis research (Shava 2000). In undertaking ethnobotanical research with local communities in Zimbabwe and in southern Africa, I have realised over time that the way we (researchers) represent (document and disseminate) the outcomes of research makes it inaccessible to local communities since, in the process of making it generally accessible to the botanical community (and scientific community at large), we proceed to re-classify and codify plant information to conform to modern global taxonomic systems and the relevant botanical discourse of Western scientific institutions. In this re-presentation process, local knowledge is decontextualised and generalised as it undergoes transformation to situate it

in and make it accessible to the international botanical community. In other words the research outcomes do not filter back to the local communities from which they were derived. The resultant botanical narratives are therefore only accessible to the botanically-literate few.

The practice of re-presentation of research outcomes outlined above is the standard norm in botanical institutions, a process that Foucault refers to as the normalising tendencies of modern institutions (Foucault, 1980a). It is within such normalising tendencies of modern institutions that scientists ply their trade and, under the guise of scientific objectivity, remain oblivious to the politics of knowledge they practice that perpetuates the hegemony of Western knowledge systems and the concurrent marginalisation of local knowledges.

Institutions serve as agencies for homogenisation, standardisation and uniformity, creating what Shiva refers to as "monocultures of the mind" (Shiva, 1993). Modern botanical institutions provide an example that depicts how the institutional appropriation (institutionalisation) of local plant knowledges and classification systems takes place through the use of science, and how science in the process becomes an instrument of colonialism. The development of the Linnaean binomial nomenclature and taxonomic classification system drew from, and yet does not acknowledge, the knowledges of indigenous peoples of Lapland and Asian classification systems (Ellen and Harris, 2000; Ellen, 2004). This Linnaean classification system was used, not only to classify British plants, but rather to specifically cope with the growing mass of new knowledge generated by the 'discoveries' of the 'new world' (Smith, 1999). Within southern Africa, the Kew Herbarium in England facilitated the establishment of local herbaria in British colonies for the purpose of collecting plant specimens in the region, the main herbarium being the then Southern Rhodesia Government Herbarium (SRGH) in Salisbury, established in the early 1900s, now the National Herbarium and Botanic Garden of Zimbabwe in Harare (www.sabonet.org.za/herbaria/herbaria_zimbabwe_srgh.htm). This herbarium houses a comprehensive collection of plant specimens from the Flora Zambesiaca region (comprising Botswana, Malawi, Mozambique, Zambia and

Zimbabwe). The collection of plant specimens was done mainly by Kew researchers and appointed staff supported by the British government - of course with the aid of local/indigenous assistants whose contribution and local expertise remained unrecognised - with specimens tagged with the name of the collector and his (rarely her) notes. Collection in 'new territories' always yielded new species to the field of botany, most of which were then named after the collectors as an honour in recognition of their contribution to the discipline. Very few, if any, plant species within the region are named after local indigenous people working within these herbaria. These plant specimens were collected in duplicate sets of five, with the best specimen being sent to the Kew Herbarium for identification/verification and classification, a process that was facilitated by the still existent National Museums and Monuments Act of 1972 which enabled free mailing of herbarium specimens and their exemption from customs excise. The overall effect of this system was the production of a Flora for the region, *Flora Zambesiaca* by Kew, with Kew subsequently producing recognised authorities (expert doctorate researchers) in the process, while the local herbaria, which at best had to console themselves with the production of research assistants and technicians, served as subordinate intermediaries providing semi-processed data in the knowledge generation chain, ensuring their institutionalised marginality (Hountondji, 1997; Odora Hoppers, 2001). As Paulin Hountondji succinctly puts it: "Third World countries, especially those in Africa are tied hand and foot to the apron strings of the West" (1997, p. 1) This externally-controlled and outwardly-oriented research process therefore enabled the Kew Herbarium to maintain its colonial hegemony over local herbaria in southern Africa, a position that has been recently subverted by the establishment of the Southern African Botanical Diversity Network (SABONET) in 1996 (www.sabonet.org.za) with more immediate and tangible outcomes in the form of the development of local expertise and locally authored scientific publications. The re-arrangement, re-presentation and re-classification of local plant information into the discourse of modern botanical institutions has transformed it into the legitimate discourse of Western science that is accessible to the globally networked botanical communities of practice and

inaccessible to the local communities who exist in the same environments and directly interact with these plants.

With the emergence of knowledge institutionalisation, indigenous knowledges have been marginalised and excluded in formal research, education and community development processes. However, the post-independence era of the late 20th and early 21st century in southern Africa has, together with a new awareness of knowledge production processes, brought a current shift in favour of indigenous knowledges and a call for their documentation. It is against this emerging realisation on the plight of indigenous knowledges that my study has a focus on how they have been and are represented and ways in which they are applied, with a specific interest on plant-based indigenous knowledge from my botany background. I now turn to look at some key terms that are used in this study.

1.2 Conceptualising key terms

The following terms will be used within this study and for that purpose it is necessary to clarify what they mean in the context of this study.

1.2.1 Indigenous Knowledge (IK): The knowledges of indigenous peoples (that is indigenous ways of knowing and doing things) have been variably termed “indigenous knowledge” (IK), “indigenous knowledge systems” (IKS), “endogenous knowledge” (Hountondji, 1997; Crossman, 2002), “local knowledge”, “situated knowledge”, “traditional knowledge”, “traditional knowledge systems” (TKS), “traditional ecological knowledge” (TEK) (Inglis, 1993) and “traditional environmental knowledge” (Johnson, 1992). These terms are related analogues that basically attempt to define and give meaning to the knowledge of indigenous people, that is they are different ways/approaches of defining the same thing. However, “indigenous knowledge” (IK) appears to be a widely used internationally preferred term that has been adopted by most researchers in this field (Dei, 2002; Odora Hoppers, 2002; Masuku Van Damme & Neluvhalani, 2004) and will be the term used in this study interchangeably with “local community knowledge”.

I have avoided the limitations of giving a concise and prescriptive definition of indigenous knowledge to fit all contexts, taking into consideration the contextual variability of indigenous knowledges. Further, Masuku Van Damme and Neluvhalani (2004) warn of the dangerous trap of uncritically dictating what IK is, which may lead to generalisations that are decontextualised and that distort reality. I will instead focus on what I think are the two key aspects that characterise indigenous knowledge systems and what I consider to be principal organising concepts of what a definition of indigenous knowledge should incorporate.

1.2.1.1 “Indigenous” knowledge, the indigeneity component of IK, incorporates several principal organising concepts (key factors). These are: **people**, **context** (place and time), **culture**, **language**, **practices** and **dynamism**.

People (the knowers) are creators of knowledge; they give it discourse and meaning based on and relating to their experiences in interactions with their environment (the known) over time. The knowledge that indigenous people generate is embedded in their culture and embodied in their practices. This knowledge is trans-generational, transmitted from generation to generation orally (through narratives, stories/folklore, songs and poetry), visually (through arts such as ‘bushmen’ paintings, writings, craft, cultural rituals and dance) and practically (through doing and the artefacts associated with practice). This description should not however be misconstrued to imply indigenous knowledge is a knowledge of the past (primitive and static), and does not have aspects that are directly applicable to present day life situations. Elabor-Idemudia supports this in her claim that:

People brought up in Western and Westernised societies often equate knowledge with written literature (text) and forget that oral traditions precede and helped shape written knowledge.

(2002, p.102)

It should also be noted that while indigenous knowledge has been said to be mainly oral, it currently exists in oral (as well as the other forms described

above) and textual forms (as IK literature) due to deliberations on, and efforts to document it.

Language is the main medium for the representation and transmission of indigenous knowledge. Changing language, as usually happens in interpreting indigenous knowledge in English and other internationally dominant languages, and/or writing down indigenous knowledge usually results in modifications, accommodations and loss of its fundamental features to fit the new language, that is distortion or loss through transmission and translation (Agrawal, 1995). Learning indigenous peoples' languages and cultural practices by researchers and representation of their (indigenous peoples') knowledge in their own languages is a key aspect towards more comprehensive representation of their knowledge systems. It is a process that is necessary to attend to power/knowledge relations that exist in Africa today, emerging from its colonial history, as I describe with reference to my own and others' experiences below.

I am writing in English which is my third language and which remains a key reminding feature of colonial domination and oppression/subjugation/marginalisation of local languages. I recall in my secondary school education during the 1980s at Ihlathi Secondary School in Tshabalala Township, Bulawayo, that there was a medal system to enforce the speaking of English on the school premises. The medal was passed on from one unfortunate student who was found speaking in the so-called 'vernacular' languages to another. The last person to have the medal at the end of the day was booked for punishment that consisted of gardening chores around the school. In this regulatory process we were alienated and dissociated from our local languages, cultures and practices that existed in the immediate community outside the school, acculturated to be fluent in a foreign language and indoctrinated to hate menial tasks that our parents taught us to enable us to be self-sustaining in producing our own food. Through this practice, we were thus being modelled into 'white-collar-job' workers who consumed what they never produced and, in the process, became uprooted from any link to our local cultures and knowledges. (Our resistance to this

indoctrination came through in our reverting to our local languages and speaking them with impunity immediately we were outside the school gates). Commenting on this school experience, Odora Hoppers states that:

More like a proverbial blind, deaf and dumb torchbearer trampling on everything in its path, the school's awkward presence is also felt in terms of the value patterns, norms, and modes of social and economic relations that it chooses to impart. Thus every time a child enters the gates of the school, the spontaneous process of that symbolic fumigation, cosmological cleansing, and mandated acculturation begins. In fact, as teachers determinedly pursue the orderly dispensing of the knowledge and information they have acquired during their years of training, and unknown to them, or perhaps unwittingly, they begin to participate in the collective but sub-conscious process of subjugating local indigenous values and suppressing the authentic cosmologies of the very context in which the school is located.

(2001, p. 75)

I am very conscious of the discomfort and ambivalence I feel in using English to express myself, of my constant struggles and liberties to bend, subdue, belabour and abuse it, appropriating it as a paintbrush to throw into relief the expected textual space in the landscape of meaning. At the same time I acknowledge that it has offered me an alternative medium of communication that has cosmopolitan use and accessibility. In writing this thesis in this medium, I propose that appropriating the English language as the tool of expression, talking back in the language of colonial domination, is a necessary process for indigenous peoples to enable us to critically articulate and express our experiences broadly and to combatively refute and displace erroneous representations. We need to plough a pathway for social transformation by constructing our own discourses embedded within but speaking back to the colony and its impacts, signifying our intertwined histories and ever present ambivalence.

Because indigenous knowledge systems derive from different **locales/places** and different communities, they cannot be grouped as a collective single entity under the commonly used unifying term 'indigenous knowledge'. Rather, they are **plurally definable heterogeneous bodies of knowledge** or "indigenous knowledges" arising from various spatially differentiated and distributed knowledge-generating nodes instead of a singular homogenous body of

knowledge. This deliberate emphasis underlines a shift from the plural unity that drowns these knowledges into a collective anonymity to a focus on plural diversity of identifiable singular knowledges (the same applying to indigenous peoples instead of the universalised and depersonalised label of 'indigenous people') and an **emphasis on place** (contextual relevance) that is usually ignored in Western knowledge abstractions and generalisations of the 'other'. I will however, for the sake of continuity, use the term indigenous knowledge (for a specific context and people) interchangeably with indigenous knowledges (signifying the broader context), bearing in mind the above qualification. Differences in geographic origin (spatial differences) influence the knowledges that emerge amongst local peoples in relation to their engagement in everyday life with their surrounding environment. Riverine communities, for example, can thus have a fishing culture and flood plain cultivation practices (see Scudder, 1962), while arid land communities may be adept in finding water sources to survive in their environment (see Lee, 1979).

Though rooted in history, indigenous knowledges are reflexive to changes over **time** in the lived environment and external influences, contacts and interactions. They should not be rigidly held and perceived, but instead analysed to reveal the emergent processes of natural evolution of knowledge. Over time they lose some of their substance, retain some of it, produce new ways of knowing and absorb new aspects through interactions with other knowledge systems. This means indigenous knowledges are not static/stagnant, closed systems but rather open and **dynamic systems** that are being transformed, created and recreated in context (see Masuku, 1999; Shava, 2000; Dei, 2002; Pottier, 2003; Masuku van Damme & Neluvhalani, 2004). All knowledge systems continually undergo processes of internal (and external) critical review in order to be authenticated in terms of their relevant applicability. However, dynamism does not refer to a periodic complete overhaul of a knowledge system, which will posit indigenous knowledges as uncertain and indefinable bodies of knowledge. Indeed much indigenous knowledge generated in the past has stood the test of time (what I will refer to as the skeletal framework or roots) and still applies in the current everyday

lives of local communities. In other words there are both stable and transforming aspects within indigenous knowledges.

1.2.1.2 Indigenous “knowledge” is the knowledge component of IK. An indigenous “knowledge” emerges from the interactions between people (the knowers) and their environment (the known). Here I borrow from, modify and build upon the work of Horsthemke (2004) who describes three kinds of knowledge:

- a) *propositional knowledge* - this is factual knowledge accumulated by local people such as knowledge that a plant is poisonous, can cure a certain ailment, or is edible (it is this aspect of indigenous knowledge that is usually underplayed in its representation);
- b) *practical knowledge* (know-how) - this is process knowledge or capabilities (skills) such as how to make arrow poison, a mat or basket, a hoe handle, beer or food; and
- c) *knowledge of the context* (knowledge about) - this comes from familiarisation/naturalisation over time such as knowledge of where certain plants and animals occur in the geographic terrain, what season certain fruits and vegetables occur, or where to find water.

The above knowledge aspects are woven together in the following interrelationship: knowledge comprises facts derived from (and thus related to) practice in context (knowledge is relative to the spatial, temporal and social context). In addition to the above, the following are also aspects of indigenous knowledges:

- d) *intuitive knowledge* - this is non-mediated knowledge that comes from direct acquaintance. People can know intuitively that it is going to rain, for example.
- e) *tacit knowledge* - this is knowledge that one has which is hard to share because it is not explicit (factual) and cannot be easily described or codified. Tacit knowledge is exceptionally difficult to teach unless there is engagement in the activity itself. It is learned through participation

and from personal experience. Recognising people's faces, plants (from leaves, flowers or roots) or animals (from spoor) is tacit knowledge.

- f) *knowledge from dreams* - this is knowledge transmitted through dreams (claimed to be spiritually derived from the ancestors), which includes knowledge on healing (as professed by traditional healers), hunting strategies and predictions/prophecies of the future.

It should be noted that knowledge in indigenous communities occurs in both generalised and specific forms. Generalised knowledge is the 'everyday knowledge' that local people use to find their way around their world (that is to solve problems and survive). It is this aspect that is comparative to 'everyday knowledge' in different contexts throughout the world. However, it is only generalisable to a particular context. Specific knowledge resides or dwells in specialised trades, practices and processes, as well as in the in-depth knowledge of the local context. Indigenous knowledge is not evenly distributed within a community, rather it is differentially distributed according to age, gender, social differentiation (class and hierarchy), and also specialised groups (such as hunters, craftspeople or healers). Indigenous knowledge is, however, communal in that it is shared and utilised by the community.

Indigenous knowledges are usually organised into locally normalised procedural processes or indigenous knowledge systems (IKS) such as farming systems, hunting systems, healing systems, and cultural family, law, custom and respect systems. Note is made here of normalisation as a common feature of all knowledges including indigenous knowledges. However, my contention is with the appropriative normalisation processes of Western knowledges. Normalisation discussions in this study shall therefore specifically be with reference to the latter.

1.2.2 Plant-based IK: This is local community knowledge generated about (indigenous) plants, their names (local taxonomy), distribution, ecology, properties (such as healing or poisonous attributes) and uses (such as food and medicines).

1.2.3 Indigenous peoples: Indigenous peoples are also termed 'first nation peoples' (in North America), 'aborigines' (in Australia and New Zealand) or 'subalterns' (in Asia). In the international politics of identity, the criteria for defining the world's indigenous peoples emphasise remote, localised (geographically confined) and marginalised minority groups of the world such as the San (Barsh, undated, International Labour Organisation 1989) and as such ignore or dismiss the majority of the indigenous peoples of Africa (see Kenrick & Lewis, 2004). Such perceptions cannot go unchallenged as they manifest and perpetuate the hegemonic power of modern institutions and outside researchers to define, interpret and represent the other and to consequently create idealised identities prescribing what indigenous peoples are and are not. The above-mentioned criteria have served to stereotype many marginalised minority indigenous peoples, making them ideal objects and subjects for traditional anthropological studies that have sought unique, exotic cultural groups by creating an image of them as removed from external contacts and the onslaughts of modernity (see Beteille, 1998). However, these externally set criteria ignore the fact that in reality these now more-or-less static communities occupying remote geographic locations have been driven there by internal incursions and mainly by external colonial subjugation. That such communities occupied larger territories is, for example, evidenced by the cultural legacy of the San people through their 'Bushmen' paintings scattered throughout southern Africa. Colonisation has impacted on and shaped the lives of the majority of indigenous peoples of sub-Saharan Africa who, despite their numerical superiority, have been dispossessed of their lands which have been converted into prime farm and rangeland estates for the colonising minority, and into state forests, national parks and game reserves, mining sites, industry sites, dam sites, research institution sites, military sites, town sites and recreation parks. In this dispossession process, indigenous communities have been pushed out and confined to marginalised and overpopulated areas (the so-called tribal homelands or trustlands) and made into sources of labour in the 'new' farms, upcoming mines and industries of the developing cities. While the plight of minority groups such as the San is more pronounced in that they have been subjected to a double incursion (from

other dominating indigenous groups as well as Western colonisers), this does not justify sidelining the majority of local communities in Africa who have undergone colonial subjugation. The local/aboriginal peoples (myself included) are indisputably indigenous on the basis that they were the original occupants of the continent prior to colonisation (see ILO, 1989) and in that they have no origin and ancestry other than on the continent.

It must also be highlighted that, as an outcome of colonial encounters, modernisation, urbanisation and increased mobility, indigenous peoples currently comprise not simply localised communities confined to remote rural villages where they are presumed and expected to live traditional (static), unaltered subsistence livelihoods. While the majority of indigenous peoples still remain in rural areas, a good proportion of them have migrated to the towns and cities, a seemingly growing trend. However, they still retain their identity, languages, cultural distinctiveness, ties to the extended family and links to their rural origins. Thus, by transcending the divide between rural and urban, they are transformed from being the 'indigenous traditional' stereotype to 'indigenous modern' people, allowing them to be both different and modern (see Cocks, 2006a). Of those indigenous peoples that still reside in rural areas, many have adopted the modern cash economy such as the cultivation of cash crops. In addition, there is also international migration in a globalising world order which posits some indigenous peoples in the diaspora. Their significant contribution to indigenous knowledge discourse is exemplified by the works of such people as George Sefa Dei, V.Y. Mudimbe, Edward Said and Ladislaus Semali (Dei et al., 2002; Mudimbe, 1994; Said, 1979; Semali & Kincheloe, 1999). These changes above point to a need to revise the limitations of traditional, externally-derived anthropological discourses informing global politics of identity of indigenous people as static, territorially bound, non-industrial, hunter-gathering societies. These changes also relate (and tie in) to the dynamism of indigenous knowledges discussed above. What all this signifies is not only that indigenous people are a resilient part of today's world and therefore not all of them are disappearing, but also that they have a history, a culture and knowledge system that distinctively identifies them and forms a key part of their legacy.

1.2.4 Local community: This refers to an indigenous community that has been occupying a particular geographical space over an extended period of time and has developed situated knowledges and practices. However, this delimitation does not exclude contact with the outer world and appropriation, adaptation and adoption of externally derived resources, knowledges and practices.

1.2.5 Indigenous epistemologies: These are the ways indigenous peoples understand, conceive and perceive the world or their worldviews (how they come to know what they know) and the way that knowledge plays a role in their lives. Indigenous epistemologies originate within specified social, historical and geographical contexts. They are therefore relational to context. Epistemology also includes abstract, taken for granted belief systems (cosmologies) which are usually reflected in such statements as “this is the way we do things here” or “this is the way things are/were”. Incorporated within belief systems are spirituality/religion and mythology.

1.2.6 Western Science Knowledge Systems: This broadly refers to modern institutionalised and universalising knowledges that were originally developed in the North (Europe and North America, which are loosely termed the West). These unifying knowledges have become widely distributed and hegemonic due to their imposed introduction and normalisation into the rest of the so-called ‘developing world’ -from as early as the slave trade era, through colonisation to the present- as the only true and formal knowledge, with their associated appropriation, assimilation, subjugation, marginalisation and exclusion of local knowledges. Western scientific knowledges are currently generated by and located mainly in modern institutions (see 1.2.7 below).

Despite their evident plurality, Western scientific knowledges are usually presented as a singular Western Science, an aspect reflecting the hegemony of such knowledge systems. However, this study has a biased focus on indigenous knowledges and will not deliberate the plurality of Western

knowledge systems. They will thus be interchangeably referred to as Western Science(s) and Western Knowledge system(s).

1.2.7 Modern institutions: These are mainstream governance, education, research and development institutions based on Western Science knowledge systems (described 1.2.6 above). Modern institutions' primary activity is the generation and dissemination of knowledge. To this end they have developed their discursive niches or identities/brands and related institutional systems or techniques and instruments for generating and representing these knowledge discourses.

1.2.8 IK representation: This interrogates the politics of knowledge. With regard to local knowledges it is about the examination (critical analysis) of processes of privileging, suppressing or excluding particular aspects of local knowledges (that is the content and context of local knowledge in discursive texts). No representation is value neutral and every representation highlights/focuses on the specific area(s) of interest while simultaneously marginalising other areas. The key issue with knowledge representation is: who is representing whose knowledge for what purposes? However, problems with IK representations stem from being represented by or as 'the other'. These problems are four-fold: **appropriation, distortion or misrepresentation, exclusion, and romanticisation or idealisation**. Indigenous people should therefore strive for the power to be able to represent their own knowledge for their own purposes.

1.2.9 Knowledge application: Knowledge gives local communities the localised agency or the capacity to act. Indigenous knowledge application is therefore the mobilisation or use of local knowledge in social (learning, living/livelihood and development) processes and practices. These practices are the engaged local community agency that supports, produces and reproduces detached symbolic knowledge representations such as stories or narratives, texts, pictures, and visual artefacts. In other words while representation is the vehicle/medium of communicating knowledge, it in itself derives from practice.

1.2.10 Power-knowledge relations: The term 'power-knowledge' was coined by Michel Foucault to emphasise the reciprocal relationship between power and knowledge. Foucault (1980b) claimed that knowledge is intertwined with power. It is impossible for power to be exercised without knowledge in as much as it impossible for knowledge not to engender power. Local/indigenous knowledge in Africa struggles against three compounding and interrelated powerful forces: **colonisation** (and neocolonisation) and (the institutions of) **modernity** and **globalisation**.

1.2.11 Southern Africa: this is the geographic region comprising countries belonging to the Southern African Development Community, which include Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Madagascar, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. All of these countries were variously colonised by the British, Dutch, Germans, Portuguese, French and Belgians between 1600 and late 1900s and all obtained independence between 1960 and 1994. The history of independence is therefore still relatively short.

1.3 Research Focus

My focus on indigenous knowledge is against a shared historical background of colonially-derived power inequalities in what counts as in/valid knowledge and epistemologies within Southern Africa. Western knowledge systems have dominated, and still continue to dominate, the social framing of formal education, development and economic spheres of our society in Southern Africa. However, while acknowledging that there have always been interactions between Western scientific knowledge institutions and local communities, this intertwined nature of Western and local epistemologies has unfortunately resulted in the appropriation, subjugation, marginalisation and exclusion of local knowledges stemming from the skewed power relations between the coloniser and the colonised. My research interest is both political and emancipatory in that it aims to interrogate totalising Western knowledge discourses and reveal strategies of domination, and to radically question what

counts as in/valid knowledge. My main focus is how we can bring about a social transformation process that enables the creation of opportunities and space for the inclusion/application of indigenous knowledges in environmental education and community development initiatives, thereby creating a robustly inclusive and integrated knowledge framework (see Odora Hoppers, 2001, p. 77).

My research interest in Indigenous Knowledge is two-fold. Firstly I am interested in changing modes of IK **representation** by and within modern institutions (particularly educational, research and development institutions). Secondly I would like to investigate IK **application** within community development and formal education settings, specifically in environmental education.

The emergence of modern/scientific institutions (academic, development, industrial, economic, and media), the disciplines they constitute, the discourses they create/produce and the regimes of truth (knowledge claims) they generate, has had a significant impact on social life, permeating into the very private life of the individual. Institutions are no longer simply structures and systems for knowledge production, but are also effective strategies of control and appropriation. Institutions are now powerful structures of expertise that control or govern the self (usurping the capability of individuals to independently decide and act for themselves, thereby creating dependency and uncertainty) and have given themselves the role of producing knowledge representations, creating boundaries of inclusion and exclusion, and are serving to sustain unequal power relations. Our actions are directly and indirectly linked to the enabling and constraining effects of institutional hegemony. We write within or against them (the knowledge institutions), their specific traditions, disciplines and audiences as is the case with this thesis. This implies that institutions go beyond realised formal structures and systems, rhizomatically permeating and spreading into all aspects of social life. I therefore take a specific focus on the knowledge-generating interactions at the interface between modern institutions and local communities and how institutions represent and apply the indigenous knowledge of local

communities. It is these two key aspects, **representation** and **application**, that are the focus of my study.

1.4 Research Context

The southern African region has a shared colonial history and regionally-shared cultural aspects - notably there are some cultures that span across colonially-demarcated country boundaries (such as the Venda people living on the Limpopo Valley in South Africa and Zimbabwe, the Tonga people living on the Zambezi valley in Zambia and Zimbabwe, the Kalanga people living in Botswana and Zimbabwe, the Shangaan (Tsonga) people living on the Limpopo-Save valley in South Africa, Zimbabwe and Mozambique, and the Swathi (Swazi) people living in South Africa and Swaziland). This has enabled me to look at this study from a regional perspective. However, at the same time there is a need to take into account the importance of place, that is the difference in knowledges derived within specific local contexts. Taking the diverse contexts into consideration this research is therefore not intended to be a comparative study.

This research has two main parts. The first part is an analysis of the representation of plant-based indigenous knowledge in selected texts from some southern African countries (Botswana, Namibia, South Africa, Zambia and Zimbabwe). The second part comprises case studies in the Eastern Cape province of South Africa and looks at the representation and application of plant-based indigenous knowledge. The specific study sites are Alice, Bizana, Butterworth and Grahamstown.

1.5 Research Goals

This research has two main goals:

1. To investigate the genealogy of selected representations of plant-based Indigenous Knowledge in environmental education and development processes and texts in a southern African context.

2. To critically investigate the power/knowledge relationships that arise when plant-based Indigenous Knowledge is mobilised at the interface between community and modern educational, research and development institutions in selected cases in the Eastern Cape province of South Africa.

1.6 Research Questions

This study will attempt to answer the following questions:

1. How has plant-based Indigenous Knowledge been represented in selected environmental education and development processes in southern Africa?
2. How is plant-based Indigenous Knowledge being applied by educators within environmental education processes?
3. What power/knowledge relationships arise at the interface between communities and modern institutions (education, research and development institutions) in the representation and application of Indigenous Knowledge in environmental education and development processes?
4. What are the implications of the power/knowledge relationships that arise in the representation and application of Indigenous Knowledge for environmental education and development processes in a southern African context?

1.7 Justification of the Research

Indigenous knowledges have to a large extent remained marginalised and excluded from mainstream knowledge discourses. There is therefore a need to create space for indigenous knowledge in mainstream knowledge discourse in accordance with the renewed interest in IK by Western science and indigenous scholars. Focusing on how IK is represented addresses the issue of knowledge politics at the interface between modern institutions and local communities and provides an historical overview of this representation. A focus on application goes beyond knowledge documentation to address the

question on how we use documented indigenous knowledge, an area that has, as yet, not been widely explored by indigenous knowledge scholars.

This research aims to inform future institutional and individual research representations and applications of plant-based indigenous knowledge generated at the interface between modern institutions and local communities in formal education processes and community development initiatives. The study also intends to be of some benefit to academics, environmental and conservation practitioners, development organisations and environmental educators working with plant-based Indigenous Knowledge. It will also provide insight into the use of genealogy and critical realism as methodologies for environmental education research in Southern Africa.

1.8 Methodology

The research is designed to include two distinct, but interrelated phases, each of which is discussed separately below. The first phase of the study focuses on a **genealogy** of plant-based IK **representations** in selected anthropology, botany and environmental education texts produced in southern Africa (see Chapter 4). The second phase of the study focuses on the genealogy of **representations** of plant-based IK in selected case study contexts (see Chapters 5 and 6). Phase two of the study also focuses on **applications** of plant-based IK in environmental education processes and the power-knowledge relationships that arise at the community-modern institution interface. The analysis in phase two seeks *ontological depth* and thus draws on critical realist concepts and methodology (see Chapter 3).

As indicated earlier, issues of knowledge **representation** involve the exercise of power (Shiva in Dei, 2002; Nader, 1996). Foucault (1979) makes a link between power and knowledge in claiming that knowledge and power are always and necessarily dependent (that is knowledge is not objective). A site where power is exercised is a site where knowledge is produced, and conversely a site where knowledge is derived is a site where power is exercised. Foucault (1979) makes reference to subjugated knowledges and

describes how the power-knowledge relations between the dominant and the subjugated knowledge form has the effect of stimulating resistance (by the subjugated), that is, efforts to wriggle out of various determinations and classifications. He proposes **genealogy** as a methodological approach which serves as an “insurrection of subjugated knowledges” (Foucault, 1980, p. 81). Foucauldian genealogy will be used in this research to review historical trends in Indigenous Knowledge representation (specifically knowledge on plants) and its associated application in educational processes within southern Africa. I will also use genealogy to study power/knowledge relationships at community and modern institution interfaces in the contemporary generative process of Indigenous Knowledge in community development and education settings (see Chapter 3).

The **application** of indigenous knowledge in formal education and community development contexts involves the interactive engagement of modern institutions and communities in research, development and educational processes. The possibility that is created here is of a knowledge arena where, instead of oppositionalised viewpoints, a plurality of ways of knowing can be recognised and utilised to enhance our overall understanding of reality. From a **critical realist** perspective there is a real world existing independent of our knowledge of it, that is a reality beyond what we know and experience (Bhaskar, 1978; Archer et al., 1998; Sayer, 2000). This enables one to consider different ways of knowing (from different knowledge systems) as different representations or interpretations of reality that together can bring a deeper understanding (ontological depth) of that stratified reality. Critical realism, in particular Margaret Archer’s **social realist morphogenetic approach** (Archer, 1988, 1995) will be used in this study as a theoretical vantage point to investigate the interface between institutional (scientific/propositional) and local (embodied and embedded in situated practices) knowledge (see Chapter 3).

1.9 Layout of the study

Chapter 1: Situating the study

This current chapter introduces the study by tracing the origin and growth of my interest in indigenous knowledge. It also attempts to define conceptually the key terms that will be used in the study. The research goals, research questions, study sites and an introduction to the methodological underpinnings of the study are also stated.

Chapter 2: Review of IK in the Global Arena and Southern Africa Region

This chapter maps out an overview of IK in the global and southern African contexts, with a focus on policy issues, debates and emerging trends in environment, education and development.

Chapter 3: Theoretical Framing of the Study

This chapter covers the methodologies and methods applied in the research. These are Foucauldian genealogy and Critical Realism (in particular Social Realism and the Morphogenetic Approach of Margaret Archer), as briefly introduced above.

Chapter 4: IK Representation in selected texts in Southern Africa

This chapter presents a genealogical review of the representation of plant-based indigenous knowledge in selected literature in southern Africa from anthropology, botany and environmental education disciplines covering the period 1960-2006. It looks at trends in the way IK is represented in these disciplines over time.

Chapter 5: Indigenous Medicinal Plants Community Development Project

This chapter is a case study of a medicinal plant project in the Eastern Cape. It analyses the representation and application of indigenous knowledge generated in interactions between a local community and a modern institution. I also look at power-knowledge relationships at the interface between a

modern development institution and a local traditional healers' community of practice.

Chapter 6: Genesis and use of Cultural Plants Poster

This chapter is a case study in the Eastern Cape that reviews the process of representation of community indigenous knowledge of cultural plants by a modern institution in the form a poster. It analyses power-knowledge relationships between the research institution and local community in the genesis of the poster. This chapter also documents the way the Cultural Plants Poster is mobilised for educational purposes by four educators in developing lessons around plant use in formal education contexts in the Eastern Cape.

Chapter 7: Synthesis, Reflections, Conclusions and Recommendations

This chapter provides reflections on the study process, summarises the key emerging themes and makes recommendations from the study.

1.10 Chapter Summary

In this chapter I introduce the background to the study by reflecting on my interest in indigenous knowledge. I have defined key terms that are used in the study. The research focus, context, goals, questions and theoretical underpinnings of the study have been introduced. The chapter also provides a brief outline of the whole study.

CHAPTER 2:
HISTORICAL CONTEXTUALISING
OF INDIGENOUS KNOWLEDGE
(AN OVERVIEW OF THE DEVELOPMENT OF IK)

2.1 Introduction

Neither Innocence nor Experience

*A sudden blow! and she claims me for child
Hawk eye and beard proclaim parenthood over me
Whispering ghosts arrive bearing gifts
Declaring an uncle, an aunt, a sister.
Where am I? Who are these? No sooner arrived
Than I am washed, swaddled, offered swollen breasts.
What a world for a defenceless child!
Then more of them wet me at the fount
Sit me at the school desk, propel me to office desk
Till in utter bewilderment I surrender, bite the bit,
And haul me along to the cold anonymous Out There.
What a world for a defenceless youth!
Love surprises my heart at sight of another like me
We wed, drag into light several shrieking children
Who fearfully accept my puzzled fatherhood
And as they grow through th'injustice of it all
Giggle at my dotage, sign me into The Old People's Home
Where now I pen this vague protest, knowing
There is never time to know what is going on.*

Dambudzo Marechera, 1992

This poem paints a dismal picture of realising what it means to feel trapped by having the direction of your life determined from without, with you having little say on how your life develops. However, behind this distraught picture

emerges another voice, a voice of protest and resistance, struggling out of the past, which challenges these constraints and begins to suggest that this should not be, and that there are other possible alternatives that can enable and empower the author/victim. It is in this vein of contrasting but intertwined phases: 'domination' and 'resurgence' (each phase contaminated/fertilised by the other), that I view the development of indigenous knowledge. The former voice characterises the era or phase of domination of local knowledges by Western scientific knowledges (IK smothered); the latter voice characterises the current resurgence of indigenous knowledges in the post-colonial era, what Foucault (1980b) refers to as the "insurrection of subjugated knowledges" (IK resuscitated). A third important aspect revealed in this poem is the impact of normalising tendencies of hegemonic discourse exemplified by the acceptance and perpetuation of the status quo (colonial dominance), from which the persona described is identified by the author as 'not innocent'. This reflects "how dominant knowledges shape human life by naturalising and normalising the construction of personal and social identities" (Seidman, 1998). I will attempt to review the development of indigenous knowledges from the above perspectives in both the global arena and at home in southern Africa.

2.2 Indigenous People and Indigenous Knowledge in the Global Arena

2.2.1 International Conventions on indigenous people and indigenous knowledge

The emergence of indigenous issues in international political fora, as reflected in international policies and conventions, has made indigenous peoples increasingly aware that their localised struggles for representation are shared by other indigenous peoples throughout the world. This has in turn intensified the global proliferation of IK literature and the interchange of experiences amongst the world's indigenous communities that share similar struggles against colonisation, marginalisation and misrepresentation.

Early international concerns about indigenous peoples have been exclusively devoted to human rights issues rather than to knowledge. Indigenous people and their rights made their debut appearance in the international political arena in 1957, earmarked by the adoption of *Convention 107 Indigenous and tribal Populations Convention* by the International Labour Organisation (ILO 1957). This convention includes provisions on the protection of the rights of indigenous and tribal peoples. However, its main thrust was on the progressive integration of those groups into the life of their respective countries. In other words it focused on the normalisation of indigenous peoples through the nationalisation and the modernisation of indigenous people's ways of life, a process that ironically runs counter to protecting the identity of indigenous people, their knowledges and their cultures. This earlier convention was ratified by 27 countries. It was followed up by the adoption by ILO of *Convention 169 Convention Concerning Indigenous and Tribal Peoples in Independent Countries* in 1989. Convention 169 includes detailed provisions on the protection of indigenous peoples and their rights. This convention was ratified by only 17 countries, mainly from Latin America (13), as well as Europe (3) and the Pacific (1).

In 1966 the United Nations (UN) General Assembly adopted the *International Covenant on Civil and Political Rights*. While the covenant makes no specific reference to indigenous peoples, it does deal with ethnic, religious and linguistic minorities in article 27, which stipulates that in states where minorities exist they should have the right "to enjoy their own culture, to profess and practise their own religion, or to use their own language".

The 1980s mark the beginning of an era in which some United Nations agencies and international environmental organisations were advocating for the recognition of the value of indigenous/traditional knowledge, particularly in biodiversity conservation management. This indicates a major shift in power/knowledge relations between scientific institutions and organisations and indigenous communities from a view that in the past excluded and marginalised the knowledge of local communities, caricatured their livelihoods

as destructive and unsustainable and their knowledge systems as unscientific, and promoted the hegemony of Western science to the same institutions now representing indigenous communities and knowledges as valuable. This period also marks recognition in the international arena of the limitations and fallibility of Western science and the search for alternatives in other knowledges. An example of the shift/inversion in power/knowledge relationships is the focus on indigenous/traditional knowledge in Chapter 14 of the *World Conservation Strategy* (1980), a joint initiative of the International Union for Conservation of Nature and Natural Resources (IUCN), the United Nations Environment Programme (UNEP), the World Wide Fund for Nature (WWF), the United Nations Food and Agricultural Organisation (FAO) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO). There is also a delicate terminological transition in international environmental organisations from an emphasis on “science” to the broader category of “knowledge” as an approach to addressing environment-development challenges (Martello, 2001). Below are some key international covenants/policies and events, chronologically arranged, that have a direct relationship to the recognition of indigenous/traditional knowledge.

In 1982 the UN Working Group on Indigenous Populations was established. Its main mandate was to prepare a draft Declaration on the Rights of Indigenous Peoples. Although this process started in 1985, this declaration was only recently approved by the UN General Assembly on 7 September 2007. The declaration recognises that the “respect for indigenous knowledge, cultures and traditional practices contribute to sustainable and equitable development and proper management of the environment.” Among its articles, the following have a link to indigenous knowledge and education:

Article 13

1. Indigenous peoples have the right to revitalize, use, develop and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems and literatures, and to designate and retain their own names for communities, places and persons.

2. States shall take effective measures to ensure this right is protected and also to ensure that indigenous peoples can understand and be understood in political, legal and administrative proceedings, where necessary through the provision of interpretation or by other appropriate means.

Article 14

1. Indigenous peoples have the right to establish and control their educational systems and institutions providing education in their own languages, in a manner appropriate to their cultural methods of teaching and learning.
2. Indigenous individuals, particularly children, have the right to all levels and forms of education of the State without discrimination.
3. States shall, in conjunction with indigenous peoples, take effective measures, in order for indigenous individuals, particularly children, including those living outside their communities, to have access, when possible, to an education in their own culture and provided in their own language.

Article 15

1. Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations which shall be appropriately reflected in education and public information.
2. States shall take effective measures, in consultation and cooperation with the indigenous peoples concerned, to combat prejudice and eliminate discrimination and to promote tolerance, understanding and good relations among indigenous peoples and all other segments of society.

The 1992 Earth Summit (United Nations Conference on Environment and Development - UNCED) in Rio signified the entry of indigenous knowledge into mainstream international environment and development discourse. Its key products/instruments include the Rio Declaration, the Earth Charter, Agenda 21, and the Convention on Biological Diversity.

The Rio Declaration on Environment and Development recognised that:

Indigenous peoples and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development. (Principle 22)

The Earth Charter (1992) affirms the right of indigenous people to their knowledge in provision 12b of the principles which aims to “Affirm the right of indigenous peoples to their spirituality, knowledge, lands and resources and to their related practice of sustainable livelihoods.”

Agenda 21 (UN 1992a) has a specific focus on indigenous knowledge in Chapter 26 which is entitled “Recognising and strengthening the role of indigenous people and their communities”. Chapter 26 claims that indigenous peoples “have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment” (Provision 26.1). It urges governments and intergovernmental organisations to:

- i) recognize the “values, traditional knowledge and resource management practices of indigenous people with a view of promoting sustainable development” (26.3(iii));
- ii) enhance “capacity-building for indigenous communities, based on adaptation and exchange of traditional experience, knowledge and resource management practices, to ensure sustainable development” (26.3 (vii));
- iii) improve understanding of indigenous people’s knowledge and expertise related to the environment, and apply to address development challenges (26.5 (c)(i); and
- iv) consult with indigenous people “with a view to reflecting on their needs and incorporating their values and traditional and other knowledges and practices in national policies and programmes”. (26.6.(a))

The Convention on Biological Diversity (CBD) (UN, 1992b) addresses indigenous/traditional knowledge in the following articles:

- i) Each contracting party shall “subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with

the approval and involvement of holders of such knowledge, innovations and practices.” (Article 8(j))

- ii) Each contracting party shall facilitate exchange of information, including indigenous and traditional knowledge, relevant to the conservation and sustainable use of biodiversity. (Article 17(2)).

A key aspect of the CBD is equitable benefit sharing. This is designed to enable the distribution of the proceeds from commercial application of indigenous knowledge to directly benefit the local communities from which it derives (Article 19).

In 1993 the UN General Assembly issued a resolution proclaiming the period 1994-2004 as the “International Decade of the World’s Indigenous People”. The goals of the decade were to strengthen international cooperation for the solution of problems faced by indigenous people covering such action areas as education, health, development, environment and human rights. In 1994 the UN General Assembly resolved to declare and celebrate the “International Day of Indigenous People” on 9 August every year of the decade. In December 2004 the General Assembly also issued another resolution proclaiming the period 2004-2014 as the “Second International Decade of the World’s Indigenous People.”

The Convention to Combat Desertification of 1994 covers some aspects on indigenous knowledge. These are as listed below.

- i) Article 17(1) (c)

The contracting party shall support activities that “protect, integrate, enhance and validate traditional and local knowledge, know-how and practices, ensuring, subject to their respective national legislation and/or policies, that the owners of that knowledge will directly benefit on an equitable basis and on mutually agreed terms from any commercial utilization of it or from any technological development derived from that knowledge.”

- ii) Article 18 (2)

The parties shall, according to their respective capabilities, and subject to their respective national legislation and/or policies, protect, promote and use in particular relevant traditional and local technology, knowledge, know-how and practices and to that end:

- a) make inventories of such technology, knowledge, know-how and practices and their potential uses with the participation of local populations, and disseminate such information, where appropriate, in cooperation with relevant intergovernmental organisations;
- b) ensure that such technology, knowledge, know-how and practices are adequately protected and that local populations benefit directly, on an equitable basis and as mutually agreed, from any commercial utilisation of them or from any technological development therefrom;
- c) encourage and actively support the improvement and dissemination of such technology, knowledge, know-how and practices or of the development of new technology based on them; and
- d) facilitate, as appropriate, the adoption of such technology, knowledge, know-how and practices to wide use and integrate them with modern technology, as appropriate.

iii) Article 19

The parties shall recognise the significance of capacity building in efforts to combat desertification and mitigate effects of drought and shall promote capacity building:

- (d) by fostering the use and dissemination of technology, knowledge, know-how and practices of local people in technical cooperation programmes wherever possible.

The main idea of indigenous/traditional knowledge in the above conventions is very instrumental and technicist in that indigenous knowledge is perceived as mainly performative and as a resource waiting to be extracted, documented or databased, codified, abstracted, decontextualised, institutionalised, commodified, universalised and widely applied. It re-structures and re-orientes indigenous knowledge into compartmentalised knowledge disciplines that are typical of Western science. This somehow paradoxically runs counter to the holistic and process-oriented nature of indigenous knowledge that is recognised by the same international conventions (see Martello, 2001). This process also reveals the 'scientisation' of indigenous knowledges, that is how modern global institutions are now assimilating indigenous knowledges into their own discourses. This affirms Foucault's concern about the possible institutional appropriation of resuscitated indigenous knowledges:

... isn't there a danger that they will be recoded, recolonized by these unitary discourses which, having first disqualified them and having then ignored them when they reappeared, may now be ready to reannex

them and include them in their own discourses and their own power-knowledge effects?

(1997, p. 11)

2.2.2 Trends in international literature on Indigenous Knowledge

In looking at trends and key debates in IK representation I will focus on IK in environment, development and education disciplines.

2.2.2.1 (Colonial) Anthropological and Ethnographic literature

Early research on indigenous people and their knowledge is mainly by anthropologists and ethnographers, with early sojourners/travellers making the first accounts of 'newly discovered' territories. Perceptions of indigenous people and their knowledge by these early Western travellers and anthropologists have been read through the lenses of the Western contexts from which the authors originate (see Nader, 1996). These readings have mainly taken two forms: the first, a negative reading depicting an undesired dark, primitive past, seen in the "ignoble primitive/savage" (see Levi Strauss, 1966; Achebe, 1978; Tennant, 1994); and the second, a yearning of the rich past lost that can be perceived in the ideologically romanticised 'other', the "noble primitive" (Tennant, 1994).

Commenting on perceptions of the other as primitive, Kuklick says:

When Daniel Gookin observed the Massachusetts Algonquians in 1674, he saw 'as a mirror or looking glass, the woful, miserable, and deplorable estate that sin reduced mankind unto naturally.' His was a conventional European view: technologically unsophisticated, preliterate peoples were living in humankind's primeval condition, innocent of repressions necessary to civilisation. This image has persisted in the Western mind, although its lineaments vary considerably, as historical experiences have altered assumptions about human nature. For centuries, European observers have found their understanding of their own impulses both challenged and confirmed.

(1991, p. 1)

It is from this European gaze of the exotic other that the noble and ignoble savage images tend to mirror either the 'repulsive self' or the longing for the 'lost self' of the author's European home context.

Writing on the perceptions of the African as the 'primitive savage', Achebe posits that:

...the West seems to suffer deep anxieties about the precariousness of its civilization and to have a need for constant reassurance by comparison with Africa. ...Africa is to Europe as the picture is to Dorian Gray – a carrier onto whom the master unloads his physical and moral deformities so that he may go forward, erect and immaculate.

(1978, p.13)

Paradoxically, it is indeed also from anthropology and ethnography that early advocacy for indigenous people and their knowledges is found. Some early lone voices from the colonial anthropology encounters that advocate for indigenous people include Malinowski who, in an ambivalent mix of denigration and praise, argued that the so-called primitive men [sic], or in his words 'savages', were "endowed with an attitude of mind wholly akin to that of modern man of science!" (1948, p. 26). Malinowski proceeded to claim that:

Science, even as represented by the primitive knowledge of savage man, is based on the normal universal experience of everyday life, experience won in man's struggle with nature for his subsistence and safety, founded on observation and fixed by reason.

(1948, p. 87)

Some of the old, negative anthropological texts and terms are now being used by indigenous communities in their efforts to reclaim their rights. Shaw contends that an interesting turn in the current era is that colonial anthropology is used to authenticate indigeneity as "much of the 'bad, old' Anthropology remains crucial to indigenous peoples' legal and political struggles, or is helping to reinvent their societies in ways they desire" (2003, p. 203). Some of these prior-to negative and derogatory identities are now being re-appropriated by indigenous people to assert themselves and signify as different, their cultural identity in relation to the colonising other and to reclaim their land. In agreement with this, Smith states that:

There are also terms by which indigenous communities have come to be known, initially perhaps as a term of insult applied by colonizers, but then politicized as a powerful signifier of oppositional identity, for example the use of the term 'Black Australia' by Aborigine activists.

(1999, p. 6)

Similarly Masuku-Van Damme (pers. comm. 2007), in her study of the #Khomani San in the Kalahari, reports that they proudly identify themselves as the 'Bushmen', a previously denigrating term, in a process of political self-definition. This situation posits anthropology in an ambivalent role in which it has both served the coloniser and the colonised.

Advocacy for indigenous knowledge in its extreme form amounts to glorifying the lifestyles of indigenous people in comparison to the modern world, from which derives the romantic images of the 'noble/primitive savage'. This includes idealised images of indigenous people as "minimal disturbers of nature" and "admirable scientist of the concrete" (Malkki, 1992, p. 29).

2.2.2.2 Anti-Colonial and Post-Colonial Literature

The arena of Indigenous Knowledges (IK) has been the subject of renewed attention in environmental education, environmental management and development disciplines in the past two decades (Nygren, 1999; Brossius, 2004; Ellen, 2004), and it emerges as a new field. This renewed interest in IK appears to be driven from two main sources. On the one hand, there is waning confidence in Western science as the prime source of solutions to the world's environmental problems. This is due to a gradual realisation that Western science does not provide answers to all environmental problems (Odora Hoppers, 2002; Le Grange, 2004). At times Western science has given wrong answers, and some Western scientific solutions actually contribute to the environmental crises, for example, agrochemicals threatening species biodiversity and synthetic drugs having fatal side effects on the very same humans they are supposed to heal (see Shiva in Dei et al., 2000). The realisation of the fallibility of science has rejuvenated the search for alternative solutions to environmental problems in other previously marginalised knowledges (Odora Hoppers, 2002). This is, for example, evidenced in the current 'back to nature' trend in addressing human health concerns which is characterised by the rising popularity of wild and organic foods and traditional herbal medicines. It is notable how IK has in similar

ways been recently taken up in the development arena in an effort to develop and implement local solutions for local problems following the development impasse (Pottier et al., 2003; Bicker et al., 2004; Briggs, 2005).

Interest in IK on the other hand also stems from indigenous peoples themselves. This interest by indigenous peoples appears to be directly linked to the liberation from Western colonial domination. For example, there is an increasing body of IK research in South Africa after the attainment of independence in 1994 (see an overview by Masuku van Damme & Neluvhalani, 2004). The focus on IK by indigenous people is a form of resistance, a search for identity and origin, a process of struggle for freedom from historical marginalisation by dominating knowledge discourses (Dei, 2000) that is bound to and that succeeds liberation (Tambouku, 1999). This struggle is made evident in the writing of indigenous scholars such as Catherine Odora Hoppers (2001, 2002), Ngugi wa Thiongo (1986, 1993), George Sefa Dei (2000, 2002), Paulin Hountondji (1997), Vandana Shiva (in Dei et al., 2000) and Linda Tuhiwai Smith (1999) who challenge the historical hegemony of Western scientific knowledge associated with Western colonial oppression.

2.2.2.2 a) Modern Scientific Institutions

Interest in IK by modern scientific institutions is to a large extent focused on the performative/utilitarian aspects of these knowledges including sustainable natural resource use, technical know-how (for example, farmers' knowledge) and specialised knowledge such as medicinal plant use and has been driven mainly by interests from development and conservation of natural resources. Achebe (1978) had anticipated this shift in the perception of other knowledges by Western scientific institutions in his suggestion that:

Perhaps this is the time when it can begin, when the high optimism engendered by breakthrough achievements of Western science is giving doubt and even confusion. There is just a possibility that Western man [sic] may begin to look seriously at the achievements of other people.

(1978, p. 14)

The early emphasis on IK by Western scientific and development institutions was on documentation of this knowledge and on making it accessible for use by scientific and development institutions. Warren et al. (1995), in their book *The Cultural Dimension of Development: Indigenous Knowledge Systems* call for the documentation of indigenous knowledge, warning that this knowledge is rapidly disappearing. They argue that:

The documentation of the vast amount of unrecorded, often rapidly disappearing, indigenous knowledge could provide the basis for many effective development interventions, if this knowledge could be shared. (1995, p. xvii).

That they feel this knowledge is best used in the hands of Western institutions is apparent in the statement: "By taking time and effort to document these systems, they become accessible to change agents and client groups." (ibid., p. xv)

A key outcome of early research interest in IK by development practitioners has been the periodical *The Indigenous Knowledge Development Monitor* and its related IK resource centres throughout the developing world supported by NUFFIC-CIRAN (the Netherlands Organisation for International Cooperation in Higher Education (NUFFIC) and the Centre for International Research and Advisory Networks (CIRAN)). The main focus of the periodical and the centres has been to document IK and develop IK databases for the purposes of safeguarding it from complete loss and making it available for use by the wider community. However, this is problematic in that i) it is an attempt to document knowledge that it is dynamic; ii) it involves processes of translation, codification and generalisation which decontextualise and transform the original knowledge; iii) codifying and 'scientising' knowledge perpetuates the hegemony of Western science; and iv) wider accessibility makes knowledge vulnerable for appropriation without benefits accruing to the local people from whom the knowledge is derived (see Agrawal, 2002). Another danger of documentation is that indigenous knowledge can only come to be legitimised and validated if it conforms to experts' ideas of useful knowledge, which usually implies measuring indigenous knowledges against the standard of

Western science and discarding anything that does not fit these standards as unnecessary excess baggage.

Following this earlier focus on documentation, there has been a more recent shift towards a focus on local community participation in development and conservation initiatives, and with it has arisen a plethora of participatory approaches/methodologies. This shift is characterised by such development texts as *Participating in Development: Approaches to Indigenous Knowledge* (Sillitoe et al., 2002). Participatory approaches include Participatory Rural Appraisal (PRA), Action Research, and Community Based Natural Resource Management. The main aim of participatory approaches has been to empower local communities. However, problems can still arise as to the level of participation, with concerns over participation becoming rhetorical - an appropriate terminology that does not match the way development workers perceive local communities or how they feel development should be done (see Chambers & Richards, 1995; Ellen, 2002).

Another recent focus in development has been the realisation of existing power dynamics between modern institutions and local communities in development initiatives and the need to view development as a negotiated process with local communities as active agents (Pottier et al., 2003).

The value of indigenous knowledge has also been acknowledged in environmental management, particularly with regards to biodiversity conservation. The Biodiversity Support Programme, commenting on environmental degradation in Africa states that:

Environmental degradation and loss of biodiversity in Africa results from a variety of factors, including, and perhaps most importantly, the lack of recognition, understanding, and use of Africa's indigenous knowledge, technology and practices. The knowledge and skills developed by Africans over millennia to adapt to and manipulate their land, flora, and fauna constitute an invaluable resource. Indigenous knowledge and skills are key resources that should be used in conjunction with their Northern counterparts in the effort to craft sustainable biodiversity conservation programmes.

(1993, p. 57)

Speaking about traditional environmental knowledge and its possible role in environmental management, Johnson claims that:

Today, a growing body of literature attests not only to the presence of a vast reservoir of information regarding plant and animal behaviour but also to the existence of effective indigenous strategies for ensuring sustainable use of local natural resources. (1992, p.3)

In a keynote address to an International Workshop on Indigenous Knowledge and Community-based Resource Management, Chief Robert Wavey, speaking on environmental management in North America said:

After 500 years of continuous exploitation and development, guided by science and technological discovery, non-aboriginal management systems have created an era of unprecedented opportunity for widespread ecological catastrophe. As was the case with Columbus, 'discovery' is in the eye of the beholder. It may be more accurate to state that the dominant European-based society, after 500 years, has finally stopped ignoring our traditional knowledge, laws and customs.
(1993, p. 11)

Chief Wavey proceeds to state the role of indigenous people in environmental management:

Governments have begun to view indigenous people and their knowledge of the land as an early warning system for environmental change, perhaps in much the same way as miners once viewed canaries. The difference is that a canary does not know why it died, or what was wrong; indigenous people do. The canary cannot propose solutions or provide an example of lifestyles and ethics to restore ecological balance; indigenous people can. The canary does not foretell environmental change, but indigenous people can accurately predict ecological disturbance, based on multi-generational accumulations of knowledge and experience.
(ibid., p. 12)

Speaking on the economic potential of local knowledge of plant biodiversity, Balick and Cox (1996) claim that the reasons why ethnobotanists should focus attention on indigenous people is because indigenous cultures still retain much knowledge concerning plants and that indigenous knowledge systems

can guide the development of new crop varieties or medicines. They also state that, in relation to biodiversity conservation:

...indigenous peoples are stewards of some of the most sensitive ecosystems on this planet. Indigenous knowledge systems, developed over centuries of residence in such habitats, can inform current debate concerning the conservation of natural resources.

(1996, p. 7)

This implies that in people and plant relations, indigenous people hold a wealth of knowledge that is relevant to current/modern biodiversity conservation initiatives.

Commenting in a similar vein on the interrelated nature of knowledges and the growth/development of science from the appropriation of indigenous knowledges, Nader says:

...in spite of differences, there is the common theme of human societies doing science or accumulating knowledge by verifying observation, or by borrowing from others knowledge that works the same way. Thus one way of looking at modern science is as the ongoing result, though not cumulative result, of the discoveries, inventions, and collective sciences of others. We have been munching on each other for millennia.

(1996, p. 11)

Thus indeed Western science is umbilically connected to indigenous knowledges, deriving its foundational nourishment from them.

2.2.2.2 b) Indigenous scholars

Interest in IK also stems from among indigenous peoples themselves as “a response to the growing awareness that the world’s subordinated peoples and their values have been marginalised – *that their past and present have been flooded out* by the rise in influence of Western industrial capital” (Dei et al., 2000). As discussed earlier in Chapter 1 this interest in IK by indigenous scholars appears to be directly linked to the liberation from Western colonial domination. For example, there is an increasing body of IK research in South Africa after the attainment of independence in 1994 (see an overview by Masuku van Damme & Neluvhalani, 2004) as there was in West Africa in the 1960s when most countries in that region attained independence (wa

Thiongo, 1993). The focus on IK by indigenous people is a form of resistance, a search for identity and origin, a process of struggle for freedom from historical marginalisation by dominating knowledge discourses (Dei, 2000) that is bound to and that succeeds liberation. This struggle is made evident in the writing of indigenous scholars such as Dei (2000, 2002), Hoppers (2001, 2002), Hountondji (1997), wa Thiongo (1986, 1993), Shiva (1993, 2000) and Smith (1999), among others who challenge the hegemony of Western scientific knowledge historically associated with Western colonial oppression. Most of this writing is emancipatory (liberative, deliberative and transformative), with a focus on transforming skewed political relations in the knowledge playing field. Some notable and telling titles are *Decolonising the Mind* (wa Thiongo, 1986), *Moving the Centre* (wa Thiongo, 1993), *Monocultures of the Mind* (Shiva, 1993), *Decolonising Methodologies* (Smith, 1999) and the *Empire Writes Back* (Ashcroft et al., 2002).

One of the key concerns arising among indigenous scholars is the colonially derived unequal **representation** (and **application**) of IK in relation to Western Knowledge Systems (Nader, 1996; Agrawal, 1996). This includes the domination, colonisation, neo-colonisation, devaluation, subjugation, appropriation, misappropriation, misrepresentation, marginalisation, primitivisation, invalidation, decontextualisation, exclusion and rejection of IK that has been perpetuated primarily by Western Knowledge institutions and researchers (Hountondji, 1997; Dei et al., 2002; Smith, 1999; Shava, 2000; Hoppers, 2001, 2002; Masuku van Damme & Neluvhalani, 2004).

Shaw, commenting on indigenous peoples' reflections on early anthropological representations of them (indigenous peoples) states that:

Many indigenous peoples were... angered when they began to read what had been written about them, and to realise how it had been used to frame and justify particular social, cultural and political understanding of and policies towards them.

(2003, p. 200)

In reference to the above forms of representation, Dei, reminiscing on his time while teaching in the Canadian education system about educational processes encountered in the North American milieu states:

I hear my students - especially though not exclusively those from minoritized groups - ask me why certain experiences and histories count more than others when 'valid' academic knowledge is being produced and validated. I hear students lament the effort it is taking for educators to recognize the powerful linkages between identity, schooling, and knowledge production. But more importantly, I hear my students worry how indigenous knowledges are being marginalised in the academy, and about the impact that the ranking of knowledges may well have on the prospects for educational transformation and social change.

(2002, p. xi-xii)

Smith, a New Zealand Aboriginal researcher, challenges Western dominance, knowledge appropriation and knowing of the other in declaring that:

It galls us that Western researchers and intellectuals can assume to know all that it is possible to know of us, on the basis of their brief encounters with some of us. It appals us that the West can desire, extract and claim ownership of our ways of knowing, our imagery, the things we create and produce, and then simultaneously reject the people who created and developed those ideas and seek to deny them opportunities to be creators of their own culture and own nations.

(1999, p. 1)

The interactions of modern institutions with local communities in education, research and development have been linked to a continued (post-colonial) marginalisation of indigenous knowledge (McGovern, 1999; Hountodji, 1997; Rahnema & Bawtree, 1997) and the perpetuation of the dominant western discourses. For example, the development discourse has been characterised by Western development conceptions such as economic growth, industrialisation, urbanisation and technological advancement (Escobar, 1997). Similarly scientific research has been oriented towards western terms of 'objective' rationality, sophisticated technologies and apparatus and highly compartmentalised disciplines that displace local science and technologies (Hountondji, 1997; Smith, 1999). Formal education institutions have had a decontextualising effect through curricula which "weaned the child from his

roots and failed to adequately prepare learners to survive in their own environment” (Mokuku & Janse van Rensburg, 1997, p. 31).

Reflecting on his educational experiences and how indigenous knowledges were viewed while growing up, Dei recalls that:

I come to a discussion of Indigenous knowledges through an educational journey replete with experiences of colonial and colonizing encounters that left unproblematized what has conventionally been accepted as ‘in/valid knowledge’. My early educational history was one that least emphasized the achievement of African peoples and their knowledges both in their own right, and also for their contributions to academic scholarship on world civilizations. Like many others, I engage the topic of ‘Indigenous knowledges’ with a deep concern about the historical and continuing deprivileging and marginalizing of subordinate voices in the conventional processes of knowledge production, particularly (but not exclusively), in Euro-American contexts.

(2000, pp. 112-113)

Dei (ibid.) argues that the interplay between different knowledges is one reason for integrating (recentring) indigenous knowledges in academic knowledge work. He suggests “using indigenous knowledges for the political purposes of academic decolonization”, that is as counterhegemonic knowledges to “challenge imperial ideologies and colonial relations of knowledge production that continually characterize and shape academic practices”.

Commenting on Western science research, Smith claims that amongst indigenous peoples the term research is inextricably linked to European imperialism and colonialism. She posits that:

The word itself, ‘research’, is probably one of the dirtiest words in the indigenous vocabulary. When mentioned in many indigenous contexts, it stirs up silence, it conjures up bad memories, it raises a smile that is knowing and distrustful.

(1999, p. 1)

On the growth of Western knowledges through appropriation of indigenous knowledge by Western research, Smith contends that:

This collective memory of imperialism has been perpetuated through the ways in which knowledge about indigenous peoples was collected,

classified and then represented in various ways back to the West, and then, through the eyes of the West, back to those who have been colonized.

(ibid., pp. 1-2)

Smith calls for creating indigenous research methodologies and approaches to research that are contextual to place and respectful of culture and for developing indigenous people as researchers.

Relaying the decontextualising nature of modern education systems and their exclusion and invalidation of local contexts, Lizop (in Kizerbo et al.) points out that:

As soon as the school is opened, it creates around itself a zone of cultural depression, as it were. Ask an African teacher what the cultural resources of his village are. He [sic] will answer: the school – and nothing else...Maybe the missionary, but often because he, too, is imported. But the market, the palaver tree, the dance, the song, the language of the tam-tam, the tales and proverbs, the historical legendary stories, the potter, the blacksmith, the weaver, are not for him sources of culture. The school acts as an instrument of humiliation. It establishes its empire upon destroying whatever it is not, whereas its mission should be to reveal to everyone all the riches and gifts they represent...

(1997, p. 157)

What is evident here is the lack of contextual relevance of modern education systems and the subordination and exclusion of the educational role of the local community and its knowledge. Through formal education people become alienated from their own culture and are absorbed into western culture to the detriment of their own culture.

Reflecting on the marginalisation of local knowledge in Westernised education systems in Africa and on their possible role, Opoku laments that:

There is a tendency among many Africans who have formal schooling, as well as many foreigners, to think that those Africans who have not been to school and who usually live in the villages are ignorant and that those who are 'educated', in the modern sense of the word, possess real and worthwhile knowledge. But such thinking is wrong, for there is knowledge which is not necessarily acquired in the classroom. Besides, our schools in Africa tend to make us ignorant of the knowledge which

is the basis of the way life of our respective societies, and the reason we go to school is to learn how others live, not how we live. ...

Modern education and other factors have combined to push this [indigenous] knowledge into the background. Besides, many people in the rural areas have been made to feel traditional knowledge and techniques are in many respects backward, 'unscientific', and certainly out of touch with the 'modern' world. Such people, therefore, are usually reluctant to disclose information concerning their methods, techniques and attitudes. But this knowledge base is very much alive and continues to inform many of our people. And, by taking the life of our people seriously and respecting it well enough to study it, we can come to an appreciation of this knowledge and recognize the inescapable role it plays in our efforts at genuine development. This knowledge may be likened to a thumb without which one cannot tie a knot, as our ancestors said: 'Obi nkwati kokrobeti mmo pow' - one cannot tie a knot without the thumb.

(1999, p. 43)

Opoku is placing the emphasis here on the need for education to be relevant to the immediate society of learners, the need to move from a focus on education going beyond the enclosed classroom and the individual to engaging the community context, and the need to realise the role of local community knowledge and expertise in education and development. Opoku is also alluding to the importance of re-looking into local community contexts as a source of knowledge generation.

Commenting on colonial domination and oppression of self-representation, wa Thiongo speaks of postcolonial literature as:

...that tradition of the struggle for the right to name the world for ourselves. The new tradition was challenging the more dominant one in which Asia, Africa and South America were always being defined from capitals of Europe by Europeans who often saw the world in colour-tinted glasses.

(1993, p. 3)

Wa Thiongo proposes "...moving the centre from its location in Europe towards a pluralism of centres, themselves being legitimate location of the human imagination." (1993, p.8).

Speaking on processes of exclusion of indigenous knowledge by dominant Western knowledge Shiva (1993, p. 9) states that "...local knowledge is made

to disappear by simply not seeing it, by negating its very existence". Shiva further contends that:

When local knowledge does appear in the field of the globalising vision, it is made to disappear by denying it status of systematic knowledge, and assigning it the adjectives 'primitive' and 'unscientific'.
(1993, p.10)

On power relations between Western science and local knowledges, Shiva argues that "emerging from a dominating and colonising culture, modern knowledge systems are themselves colonising" in that they create boundaries of inclusion and exclusion as elaborated in the following statement:

The knowledge and power nexus is inherent in the dominant system because, as a conceptual framework, it is associated with a set of values based on power which emerged with the rise of commercial capitalism. It generates inequalities and domination by the way such [Western] knowledge is generated, structured, the way it is legitimised and alternatives are delegitimised, and by the way in which such knowledge transforms nature and society.
(1993, p. 9)

Shiva claims that dominant scientific knowledge therefore breeds a 'monoculture of the mind' by destroying the very conditions for alternatives to exist and calls for pluralism and democratisation of knowledges against the disturbing tendency of Western institutions and academy to divorce Western institutional discourse from the rest of the world, to frame what counts as in/valid knowledge and to determine regimes of truth.

Nygren (1999) queries the created dichotomies between Western science and local knowledge and the accompanying binary concepts such as tacit/scientific knowledge and folk knowledge/universal knowledge. He contends that:

Many black and Third World scholars, postcolonial theorists and feminists have pointed out that the absolutist dichotomy 'either/or' that underpins Western philosophical thinking works in a discriminatory manner to structure representations of knowledges in specific contexts... It is based on a Cartesian model of the subject who knows and the object who is to be known. According to post-structuralists, all knowledges are socially constructed, thus the focus of analysis should

be on those processes that legitimize certain hierarchies of knowledge and power between local and global (scientific) knowledges.

(1999, p. 268)

In analysing the hegemony of Western science and how it has transformed power/knowledge relations, Shiva (in Dei et al., 2000) argues that:

The priorities of scientific development and R&D efforts, guided by a Western bias, transformed the plurality of knowledge systems into an hierarchy of knowledge systems. When knowledge plurality mutated into knowledge hierarchy, the horizontal ordering of diverse but equally valid systems of knowledge was converted into a vertical ordering of unequal systems, and the epistemological foundations of Western knowledge were imposed on non-Western knowledge systems with the result that the latter were invalidated.

(2000, p. vii)

Shiva argues that one knowledge system, the Western system and its epistemology, must not serve as the benchmark for all systems and that diverse knowledge systems should not be reduced to seeing the world through the logic of Western knowledge systems, taking into account the fallibility of Western knowledge systems and its appropriation (biopiracy and intellectual piracy) of other knowledges.

Analysing the current and intended role of scientific research in Africa, Hauntondji claims that:

...research is an activity oriented outwards, focused on the external world, ordered by and subordinate to external needs. Its focus is not inward. Its primary purpose is not, as it should be, to address issues raised, directly or indirectly, by African society itself.

(1997, p. 2)

Commenting on Western driven development in the Third World, Escobar holds that:

Development assumes a teleology to the extent that it proposes that the 'natives' will sooner or later be reformed; at the same time, however, it reproduces endlessly the separation between reformers and those to be reformed by keeping alive the premises of the Third World as different and inferior, as having a limited humanity in relation to the accomplished European.

(1997, p.93)

Writing on the need to re-orient development to make it relevant to local context and the role of local people therein, Dei asserts that:

Debates about 'development' must be situated in appropriate social contexts that provide practical and social meaning to the actors as subjects rather than as objects of development discourse. This is a critical perspective of development: that local communities should own and control the solutions of their own problems.

(2000, p. 73)

2.3 Indigenous Knowledge in Southern Africa

In this section I look at indigenous knowledge in the pre and post-colonial periods in southern Africa. This periodic demarcation does not imply a disjuncture (lack of continuity) in indigenous knowledge literature but is rather a socially framed heuristic, an attempt to historically contextualise it and reveal the transformative processes in the emerging IK discourse.

2.3.1 Colonial Literature

The colonial era in southern Africa has been marked by two main forms of writing that incorporate indigenous people and their knowledges. One form has been the appropriation of indigenous knowledge into Western scientific texts. This is exemplified by some (ethno)botany and conservation texts written during and after the colonial era. The other form of writing is the representation of IK in anthropological and ethnographic texts that describe the lives of indigenous peoples and the use of natural resources in their environment, often compared against the standard of the European colonizers. Commenting on colonial representation of indigenous peoples and their knowledges, O'Donoghue and Neluvhalani state that:

The colonial histories of southern Africa are full of cases where indigenous peoples and practices were regarded as barbaric or uncivilised against the more enlightened precepts of the colonists. In contrast to and alongside these perspectives and the appropriating politics of colonising prejudice, one also finds cases where outsiders developed insights on, and a respect for, the common sense wisdom of indigenous peoples.

(2002, p. 22)

The appropriation of indigenous knowledge is exemplified by texts such as Watt and Breyer-Brandwijk's *The Medicinal and Poisonous Plants of Southern and Eastern Africa* (1962), which documents the use of plants by indigenous people as medicines, giving it their own authorship and making it broadly available purportedly for the good of humankind (in this case for the good of the settler communities).

Anthropological representations of indigenous peoples and their knowledge in Southern Africa include those that represent indigenous people as the primitive other. An example is Lee in his book entitled *The !Kung San: Men, Women and Work in a Foraging Society* (1979) in which he claims that the purpose of his study was to look at a "contemporary hunting and gathering society from an evolutionary perspective" (p. xvii), revealing that the study was aiming to look for a society that was 'evolutionary primitive' compared to the society from which the author originates. The portrayal of the San as 'foragers' in the title reduces them to the level of animals, a process which also reflects a similar 'taken for granted' domination over nature (a continued undermining/oppression of the other) by humankind.

On the other extreme end are texts that romanticise indigenous people and their relation to the environment. Describing the life of the Bushmen of the Kalahari, Walker and Richards (1975) claim that:

The Bushman's [sic] place in the ecology of the reserves is that of a predator on the ungulates, springhares, jackals, foxes, rodents, birds and insects which they hunt and eat. Bushmen are also the rivals of browsers and fruit-eaters for the edible plant foods.

(1975, p. 43)

The above description posits 'Bushmen' in the category of wildlife rather than humans, relegating them to primitive beings in an imaginary human evolutionary line. This is a phenomenon that appears characteristic of early anthropological writings on indigenous people. In this case, 'Bushmen' are not portrayed as ignoble savages but are romanticised as a natural part of the

ecosystem, living in harmony with nature and the Bushman's [sic] environment, though harsh and restrictive to him, is "ecologically unaffected by his occupation over many years" .

2.3.2 Post-Colonial Literature

Post-colonial writings on indigenous knowledge proliferate and come to bloom in the post-independence era of southern African states. These can be broadly grouped into those that have a tendency towards unification of indigenous knowledge, such as focusing on an 'African Indigenous Knowledge System', 'African Philosophy', 'African Culture', 'African Identity' and 'Afrocentrism', and those that have more a pluralistic perspective.

The first group seeks to find a singular unity or unifying concept and consensus through common threads that wend through indigenous people in African states, linked together by common aspects such as language (for example, Bantu speaking people or the smaller Nguni group of languages) and culture and a shared colonial history (see Higgs, 2003; Masolo, 2003; Ramose, 2004; Mkabela, 2005; Botha, 2007) against the hegemony of Western scientific knowledge. However, a tendency to focus on unified singularities is reductionist and has the weakness that one becomes blind to (fails to take cognisance of) the rich diversity of indigenous peoples and their plural knowledges and the need to pay attention to local contexts. In other words one is focused on the synthesised (created and imagined) ideal. I contend that there is no 'African Indigenous Knowledge System' but 'African Indigenous Knowledge Systems', no 'African Philosophy' but 'African Philosophies' rooted within their socio-cultural contexts, no 'African Culture' but 'African Cultures', and no single African centre but multiple African centres embraced within the African continental boundary. Moreover, the idea of a unified African knowledge system perpetuates the legacy of colonially entrenched binaries/dichotomies and knowledge boundaries of one worldview versus another, which tends to create oppositional thinking and to be confrontational. This should not be taken to say that we should elide the

history of colonial domination and Western science hegemony, rather that we should acknowledge its impacts and map an alternative pathway forward.

The second pluralistic form of postcolonial literature may be weak in its more fragmented representation, but its strength is that this plurality is realistic of the situation on the ground and provides the richness and depth of local contexts. The two forms can be complementary. There is indeed a need to visualise, theorise and idealise in as much as there is a need to present the actual reality on the ground. However, my inclination in this study is towards pluralistic view of indigenous knowledges for the reasons specified above. I will focus here on IK within education and, more specifically, within environmental education in southern Africa.

Commenting on the impact of Western knowledge hegemony and the role of indigenous voices in education, Odora Hoppers states:

The African voice in education at the end of the twentieth century is the voice of the radical witness of the pain and inhumanity of history, the arrogance of modernization and the conspiracy of silence in academic disciplines towards what is organic and alive in Africa. It is the voice of 'wounded healers'... struggling against many odds to remember the past, engage with the present and determine a future built on new foundations. ... It exposes the established hegemony of Western thought, and beseeches it to feel a measure of shame and vulgarity at espousing modes of development that build on silencing of all other views and perceptions of reality ... and dares educators to see the African child-learner not as a bundle of Pavlovian reflexes, but as a human being culturally and cosmologically located in authentic value systems.

(2000, p. 1)

Hoppers calls for making quality space available for the emergence and mainstreaming of the African voice in education.

Within environmental education, related views are shared. O'Donoghue, in a similar way to Odora Hoppers, notes how indigenous knowledge had previously been marginalised and how it is now a tool for liberation:

Indigenous knowledge has historically been transformed to become both a tool of oppression and a voice within the struggle for liberation.



These anomalies present the teacher with a challenge to use so-called indigenous/traditional knowledge as an enabling voice in a process of environmental education that is both transformative of and liberating for the cultural perspectives that are eroding the earth's capacity to sustain life.

(1994, p. 4)

Mtshali (1994), in her study of indigenous environmental knowledge in rural black communities in KwaZulu-Natal, found its relevance within environmental education and environmental (conservation) management. She notes its absence in mainstream formal education and calls for the integration of Indigenous Knowledge within education contexts and its inclusion alongside Western science.

Masuku, in her exploration of the role of indigenous knowledge in schools, argues for a recontextualizing and reconceptualising of schools within communities:

There is a need for parents and teachers to forge and commit themselves to an in-depth partnership with regard to refining curriculum content and educational relevance to present day changes.

(1999, p. 106)

My own work (Shava, 2000) which is focused on the use of wild food plants by rural communities in the Eastern Cape of South Africa observed that there was a decline in the use of wild food plants in the study area due to the stigma attached to wild food plants as 'primitive' and 'food for the poor'. This occurred through the influence of Western education, urbanisation and modernisation and the media. I did, however, note that:

Indigenous knowing is still evident in some rural communities like Tuku village. The value of such knowing should be supported through our formal education systems, which should embrace different kinds of knowing. Within indigenous communities, the value of indigenous knowing and its relevance to local settings should be revived as this can be beneficial to them.

(Shava, 2000, p. 49)

On the role of the local community in education my research advocated that

In educational settings such as the school, the accumulated knowledge of the elderly should be drawn upon to enrich the learning environment and to enable their participation in educational processes.

(Shava, 2000, p. 46)

The study (ibid.) called for making education relevant to context through the inclusion of Indigenous Knowledge within formal education contexts and by drawing on different knowledge systems.

Following up on my earlier work on indigenous food plants, Asafo-Adjei (2004) undertook groundbreaking research by experimenting with the inclusion of IK in the formal school curriculum. Working on indigenous wild leafy vegetables, Asafo Adjei mobilised this indigenous agricultural knowledge into the South African Agricultural Science curriculum, thereby going beyond the formalised boundaries of what is defined as Agricultural Science in the school curriculum by bringing local knowledge from the margins into the centre of agricultural learning activities.

In related work on inclusion of IK in the formal school curriculum, Hanisi (2006) and Kota (2006) worked with traditional fermented beverages, *Umqombothi* and *amaRewu* respectively, within their schools in the Eastern Cape, relating them to the abstracted concept of fermentation in science. This in its turn drew renewed respect for indigenous knowledge among learners and enriched the depth of ontological understanding by drawing on both local knowledge and Western science, making the learning processes integrated and contextually relevant.

At the national level, efforts to bring in indigenous knowledge are evident in national policies and curricula that make specific reference to indigenous knowledge. In South Africa, through the IKS Policy for South Africa adopted by the Cabinet in 2004, the government has registered its commitment to the recognition, promotion, development, protection and affirmation of IKS. The policy proposes the establishment of various institutional structures for the affirmation, recognition, promotion, protection and development of IKS. In the Department of Education, the department's role is to integrate IKS into the

education curriculum and the National Qualifications Framework. In the development of the New Curriculum Statements, there has been a strong drive towards recognising and affirming the role of IK, especially with respect to science and technology education. This fits into the Constitution's principles of democracy, social justice and equity that underpin the values upon which the education system is premised. In the Zimbabwe Environmental Education Policy and Strategies of 2004, one of the nine key National Objectives that has to be implemented across all sectors is "To protect and promote the use of indigenous knowledge systems".

There are also similar efforts at the regional level and beyond. Important points of reference here are the Environmental Education Association of Southern Africa, particularly its journal, the Southern African Journal of Environmental Education (SAJEE) produced in collaboration with Rhodes University, and the SADC Regional Environmental Education Programme (SADC-REEP) and its indigenous knowledge systems publications (IKS Series) through Share-Net.

In the Southern African Journal of Environmental Education, evidence of the stronger indigenous voice is seen by the increase in the number of articles on indigenous knowledge. In 2004 Mokuku and Mokuku published an article in the journal on *The Role of Indigenous Knowledge in Biodiversity Conservation in the Lesotho Highlands*. Here they studied the application of indigenous knowledge to conserve biodiversity and found that practices and beliefs about certain plant and animal species contributed to their conservation. 2005 saw the publication of three articles on indigenous knowledge in the journal. O'Donoghue wrote an article entitled *Cholera in KwaZulu-Natal: Probing Institutional Governmentality and Indigenous Knowledge*. In this article he analysed how a post-apartheid institutional rhetoric of participation, empowerment and social transformation in interactions between health institutions and local communities sustained institutional hegemony and produced instrumental conservatism whereby cultural exclusion and marginalisation was perpetuated. Price wrote an article entitled *Playing Musement Games: Retrodution in Social Research, with Particular*

Reference to Indigenous Knowledge in Environmental and Health Education. Here she uses retroduction in Critical Realism as a methodology to advocate for polyvalent ontologies that include indigenous knowledge and for allowing IK to be validated through ethical outcomes experienced in our lives rather than through the Western knowledge criteria of empirical validity. In that same journal I wrote an article entitled: *Research on Indigenous Knowledge and its Application: A Case of Wild Food Plants of Zimbabwe.* In this article I point to the research focus in IK documentation and the lack of emphasis on its applications in education and community development contexts. I advocate for the practical application of IK in the context from which it is derived and beyond. In 2006 Impey wrote an article in the Journal entitled: *Musical Constructions of Place: Linking music to environmental action in the St Lucia Wetlands.* Here she documents an ethnomusicological project which explores the interface between music, cultural knowledge and environmental stewardship. Using local musical expression as a starting point she explored the ways in which active recovery of deep-rooted cultural wisdoms about land, natural resources and a sense of place could be mobilised towards a more integrated and inclusive paradigm for environmental conservation. In a special pre-conference journal article marking the World Environmental Education Conference's coming to Africa in 2007 and carrying the conference theme *Learning in a Changing World*, one of the key 'think-pieces' in the Journal is by Jackson entitled: *Learning to Think Differently.* Here Jackson notes the colonially-derived problem of IK representation in post-colonial countries where "traditional cultural models have been discredited and ridiculed by the Western colonisers of these societies and thus delegitimized" (2007, p. 86). He perceives cultural transformation, involving a radical change in worldview, as an inevitable natural and spontaneous phenomenon occurring at certain times in history and the notes the need to facilitate "conscious transformative learning".

Within the SADC-REEP, several projects have emerged in the post-colonial era that foreground indigenous knowledge. These include the Indigenous Knowledge Series publications project that has seen the development of several IK learning support materials. Key among them is a collection of IK

stories: *Amanzi Amnandi: Sweet Water*, *Isangcobe: Grain Storage*; *Umqombothi: Beer, Ants and Ancestors* and *Umlanhlankosi: Trees, Goats and Spirits* (Xaba, undated). These stories explore the interlinked nexus of culture and nature and the embedded sustainability ethic that the cultural practices embodied. The SADC-REEP, in collaboration with Rhodes University, also published the EEASA Monograph: *Indigenous Knowledge in/as Environmental Education Processes* in 1999. This monograph is a diverse collection of short articles on IK practices such as stories, narratives and proverbs, and more conceptual papers, including one by O'Donoghue and Janse van Rensburg (1999) on Indigenous Myth, Story and Knowledge in/as Environmental Education Processes, from the southern African region. The latter paper cautions against processes of romanticisation, oppositional dichotomies and idealisation of IK in its re-appropriation in post-colonial contexts.

Indigenous knowledge is an emerging issue in current deliberative discourses on Education for Sustainable Development (ESD) in southern Africa. There is concern for the “‘taken for granted’ validity associated with scientific knowledge and information provided by scientific institutions on environmental issues and risks” (Lotz-Sisitka et al., 2006a, p.30). A key challenge identified by ESD practitioners was the “lack of capacity and research on mobilising IK in education in the context of ESD issues” (ibid. p.32). The practitioners recognised local knowledges as being critical to contextual approaches to education and training that they were in favour of (Lotz-Sisitka et al, 2006b). They pointed to the need to mobilise indigenous knowledges as a key feature of ESD.

Also emerging within the post-colonial era in southern African is the indigenous knowledge journal *Indilinga: African Journal of Indigenous Knowledge Systems* (<http://www.indilinga.org.za>) with a more embracing focus on indigenous knowledge issues in the region.

Beyond the region, IK articles from the region have been published in other international journals and publications. Masuku van Damme and Neluvhalani

(2004) published an article in the international journal *Environmental Education Research* entitled *Indigenous Knowledge in Environmental Education Processes: Perspectives on a Growing Arena*. This paper provides an overview of research activities and debates that have characterised the emergence and growth of indigenous knowledge in/as environmental education processes within southern Africa, with particular reference to processes of institutionalisation of IK and its effects. In this study they map earlier marginalisation of IK, followed by external and disembodied definitions of IK, through oppositional positioning of IK with its resultant marginalisation and 'othering' discourse, through reification (romantisation) of IK, to enabling contextualisation of IK in environmental learning processes. The recent international book *Social Learning* (Wals, 2007) features a joint article by O'Donoghue, Lotz-Sisitka, Asafo-Adjei, Kota and Hanisi entitled: *Exploring Learning Interactions Arising in School-in-Community Contexts of Socio-Ecological Risk*, in which the mobilisation and application of indigenous knowledge in a local school curriculum and embedded environmental learning processes within the local community context are described. These processes established a link between the school and community that enabled the engagement with the previously marginalised local community and the representation of previously excluded local community knowledge in formal education processes. This therefore enabled contextualised learning processes that rupture conventional disciplinary subject boundaries.

2.4 Conclusion

The arena/field of IK within education and development is quite complex and related to the intertwined nature of indigenous people and their local context on one hand and the coloniser and their empires on the other. It includes issues of **politics of power** such as democracy, social justice, ethics and values, inclusivity, diversity and plurality. It also includes **knowledge representation issues** around educational quality and contextual relevance, validity and acknowledging different ways of knowing (plural epistemologies). Among indigenous peoples the thrust is that indigenous knowledges are a counterhegemonic challenge to Western scientific knowledges and should be

given space and voice in local and global discourses, after long periods of subjugation, in mainstream knowledge discourses.

Linked to this resuscitation of indigenous knowledges, is a notable growing concern for **contextual and epistemological relevance** of local educational processes. There are apparent shifts in the perception, representation and application of IK by Western scientific institutions, amidst the increasing frequency and amplitude of counter-hegemonic indigenous voices, coming from its validity and possible applications in environment management, development and education disciplines. However, there is still the looming danger of assimilation of indigenous knowledges into dominant disciplinary and institutional discourses.

There have also been shifts in the use of the term 'indigenous', from its negative connotations associated with colonialism where the coloniser defines the other as primitive, ignorant and inferior to its re-appropriations by indigenous peoples and application as a signifier of identity, self determination, autonomy and difference (see Maurial, 1999) .

Another notable change is the shift in discourse from 'indigenous knowledge' to 'indigenous knowledges' and from 'indigenous people' to 'indigenous peoples', indicating the (recognition of) the existence of plural forms of indigenous knowledges from the diverse communities of indigenous peoples that exist in real life contexts rather than the unified representation that had been normalised by Western knowledge institutions. Smith states that the term 'indigenous peoples' is a relatively recent term and that "the final 's' in 'indigenous peoples' has been argued for quite vigorously by indigenous activists because of the right of peoples to self determination" (1999:7).

In the next chapter I look at theoretical perspectives informing the study and methods for gathering and analysing data.

CHAPTER 3:

THEORETICAL FRAMEWORK INFORMING THE STUDY AND METHODS

3.1 Introduction

As indicated in Chapter 1, a key concern in this study is how indigenous knowledge has been, and is, represented and applied against a historical background of colonial subjugation and the continuing hegemony of Western (modern institution) scientific knowledge in southern Africa. In this regard, on one hand I am interested in the politics of representation, while on the other I am interested in tracing whether there have been changes in the way IK is represented over time. My choice of theoretical perspectives has therefore been largely influenced by the need to critically analyse these issues. The primary aim is to interrogate and deconstruct negative perceptions of indigenous knowledges in an effort to democratise the knowledge arena that is dominated by Western knowledge perspectives. This democratisation refers to a process of decentering Western knowledge in mainstream knowledge processes by giving voice to indigenous peoples and space for 'self-representation' (representation by the indigenous peoples themselves) of indigenous knowledge discourses. I have therefore searched for and selected appropriate theory to serve the purpose of enabling me to study these issues rather than trying to fit my research into a particular theory. It is also for this same reason that I work judiciously and selectively with these theoretical perspectives in the study.

The purpose of this study is to interrogate the power/knowledge relationships at the interface between modern (Western Knowledge) institutions and local communities in selected knowledge generation contexts and to critically analyse the resultant knowledge representations. Since the focus is on studying representations rather than making representations, its scope does not extend to the active engagement of local communities in making their own knowledge representations as this would interfere with the existing

representation processes that are being investigated, hence the lack of use of participatory methods of representation. However, efforts have been made to represent the voices of local communities through the inclusion of direct quotations from them on their views about representations of their knowledge in the text, particularly in the selected case studies in Chapter Five and Chapter Six.

In this study I draw upon critical insurgent theories that challenge dominant knowledge views and allow for multiple perspectives, thereby giving voice to subjugated knowledges in a context where Western knowledges and epistemologies have been imposed and are hegemonic, thereby marginalising and excluding local knowledges, a legacy of our colonial history. I found Michel Foucault's **genealogy** to be useful in analysing the politics of knowledge representation and Margaret Archer's **morphogenetic approach** to (Critical) Social Realism useful for tracing changes over time in the way indigenous knowledges are represented in southern Africa. Genealogical analysis allowed me to shatter the continuous pane/mirror of normalised, Western-derived representations of indigenous peoples and their knowledges to reveal the nuanced nature of underlying realities of historical power struggles of subjugation and exclusion that problematise and challenge these dominant views/perceptions, bringing to the fore the subdued voices and subjugated knowledges and excluded histories of the repressed. Archer's morphogenetic analysis provides a transect that dissects across the historical landscape of indigenous knowledge representations to reveal the shifts and transformations in these representations over time.

As this is a post-colonial study critical of Western knowledge hegemony, my drawing on Western theories may be perceived as perpetuating the hegemony of the West. However, my appropriating these theories is because they illuminate relevant issues to study that apply to the local context, specifically power/knowledge relationships and the need for social transformation. Also, if we as indigenous peoples are concerned about the appropriation of indigenous knowledges, it is reciprocally possible to

appropriate western theories towards our own ends. Ashcroft et al. contend that:

...it is possible to argue that post-colonial discourse may appropriate what it requires from European theory. Discursive formations are not hermetically sealed, they overlap and intersperse in ways that may be fruitfully and reflexively utilized. It is, after all, at the point of intersection with other discourses that any discourse becomes determined.
(2003, p. 166)

Smith similarly supports this contention in arguing that:

Decolonization, however, does not mean and has not meant a total rejection of all theory or research or Western knowledge. Rather, it is about centring our concerns and world views and then coming to know and understand theory and research from our own perspectives and for our own purposes.
(1999, p. 39)

The selected theoretical approaches used in this study are elaborated upon below.

3.2 Michel Foucault on Genealogy and Archaeology

Foucault's archaeological and genealogical analyses are closely interrelated. I will therefore discuss both and the relationship between them in relation to my study.

3.2.1 Archaeology (Archaeology of Knowledge)

A key feature of archaeology is its focus on discourse and discursive formations. The task of archaeology is to analyse the content of a discourse. Discourse can be defined by not "what one says" but "where they are speaking from" (Foucault, 2002). This is particularly important with regard to Western scientific knowledge where claims of neutrality have been made despite the marginalisation and exclusion of other knowledges. Discourse exists in the realm of representations and it gains power not simply due to its representational character but by being always part of variously constructed 'regimes of truth' (Pearce & Woodiwiss, 2001). Foucault makes an assault on structured thinking. According to Foucault, truth is not an absolute. It is the

'child of discourse' and as discourse changes so does the truth contained in it. Discourse is the product of an epoch, and in any epoch there are those who resist/refuse the prevailing discourse. These are denounced, marginalised and/or branded unreasonable/mad. Foucault in essence is arguing that any discourse, in particular scientific discourse, is not a value-neutral mode of representation.

Commenting on Foucauldian discourse, the post-colonial theorist Edward Said claims that:

It is now certain that Foucault's greatest intellectual contribution is to an understanding of how the will to exercise dominant control in society and history has also discovered a way to clothe, disguise, rarefy and wrap itself systematically in the language of truth, discipline, rationality, utilitarian value, and knowledge. And this language, in its naturalness, professionalism, assertiveness, and antitheoretical directness, is what Foucault has called discourse. ... discourse works its productions, discriminations, censorship, interdictions, and invalidations on the intellectual, at the level of base not of superstructure. The power of discourse is that it is at once the object of struggle and the tool by which struggle is conducted.

(1983, p. 61)

Our knowledge of the world is always mediated through discourse. The premise of archaeology is that systems of thought and knowledge (epistemes or discursive formations) are governed by rules (beyond those of grammar and logic) that operate beneath the consciousness of individual subjects and define a system of conceptual possibilities that determine the boundaries of thought in a given domain and period (paradigm). By analysing individual events, archaeology is able to discover radical transformations and discontinuities in the conditions of human knowledge (Foucault, 2002). Archaeology focuses on discontinuities rather than continuities (i.e. its effect is diversifying rather than unifying). It analyses the conditions that permit and restrict people to speak the way they do and hence make possible certain knowledges and their objects. Foucault was interested in demonstrating that humans are not at the origin and centre of historical processes and suggests that there are many factors which condition a person's ability to know the world her/himself.

Archaeology is the study of what made an event or a situation possible. It is therefore mainly structuralist. It tries to take an objective neutral position and it avoids causal relations of change (knowledge and power). Archaeology is a strict analysis of discourse.

3.2.2 Linking Archaeology and Genealogy

In defining genealogy and archaeology, Foucault contends that:

Archaeology is the method specific to the analysis of local discursivities, and genealogy is the tactic which, once it has described these local discursivities, brings into play the desubjugated knowledges that have been released from them.

(1997, pp. 10-11)

Genealogy therefore incorporates and supersedes archaeology by reversing/destabilising existing power relationships through bringing into play subjugated knowledges, such as indigenous knowledges which are the focus of this study.

Genealogy focuses on the causes of transformation from one way of thinking to another (like archaeology) and the contingency of entrenched contemporary positions. The point of a genealogical analysis is to show that a given system of thought (uncovered by archaeology) was the result of contingent turns of history and not the outcome of rationally determined trends.

3.3 Genealogy

The task of genealogy is to analyse who uses discourse and for what ends. The genealogist is a 'political historian' whose aim is to foster the insurrection of subjugated knowledges which are opposed to the centralising powers linked to the institution and functioning of an organised scientific discourse (Foucault, 1980a). How indigenous knowledges are represented is a key issue I am analysing in this study, taking into consideration the historically skewed relationships resulting from the hegemony of Western scientific

knowledges and the subjugated nature of indigenous knowledges. I use genealogy in this study as one of my analytical lenses because genealogies are about the insurrection of subjugated knowledges.

Foucault defines subjugated knowledges as:

- i) ...the historical contents that have been buried or masked in functional coherences of formal systematizations (1980b, p. 81;1997, p.7) and
- ii) A whole series of knowledges that have been disqualified as non-conceptual, as insufficiently elaborated knowledges: naive knowledges, hierarchically inferior knowledges that are below the required level of erudition or scientificity (1980b, p.82; 1997, p. 7).

Subjugated knowledges therefore consist of:

- i) the dissenting opinions and theories that did not become established and widely recognised;
- ii) local beliefs and understandings (which are subjugated by dominating knowledges).

Genealogy is therefore “a combination of erudite knowledge and what people know”, that is “... the coupling together of scholarly erudition and local memories, which allows us to constitute a historical knowledge of struggles and to make use of that knowledge in contemporary tactics...” (Foucault 1997, p. 8)

Foucault further qualifies local knowledges (what people know) by an emphasis on context, and their non-uniform distribution within local populations by arguing that:

...this [local knowledge] is by no means the same thing as common knowledge or common sense but, on the contrary, a particular knowledge, a knowledge that is local, regional, or differential, incapable of unanimity and which derives its power solely from the fact that it is different from all knowledges that surround it.

(1997, pp. 7-8)

In genealogy Foucault is suggesting local knowledges as an alternative to universal theories and disciplinary power of Western sciences. It is Foucault's emphasis on the local context, his rejection of universal prescription and his

proposition of what has to be done by hegemonic and hierarchising knowledges that are of relevance to this study.

With regard to local knowledges, Foucault refers to them as the local character of criticism against the inhibiting effect of global, totalitarian discourses and he notes that this criticism indicates an autonomous, non-centralised kind of theoretical production whose validity is not dependent on the approval of established regimes of thought, what he terms a 'return of knowledge' or an 'insurrection of subjugated knowledges' (Foucault, 1980b).

3.3.1 Genealogical Analysis

Genealogy is a conception of history in which dispersion, disparity, difference and division are conceived to lie behind historical beginnings of things rather than a singular point or moment of origin (Smart, 2004). In pointing to the contingent nature of historical events, Foucault states that:

A genealogy...will never confuse itself with a quest for...'origins', will never neglect as inaccessible the vicissitudes of history. On the contrary, it will cultivate the details and accidents that accompany every beginning; it will be scrupulously attentive to their petty malice; it will await their emergence, once unmasked, as the face of the other.
(1977a, p. 144)

Genealogical research focuses on analysis of **descent** and **emergence** of events.

On **descent**, Foucault states:

...to follow the complex course of descent is to maintain passing events in their proper dispersion; it is to identify the accidents, the minute deviations-or conversely, the complete reversals-the errors, the false appraisals, the faulty calculations that gave birth to those things that continue to exist and have value for us; it is to discover that truth or being do not lie at the root of what we know and what we are, but the exteriority of accidents.

(1977a, p.146)

Analysis of historical **descent** "rejects the uninterrupted continuities and stable forms which have been a feature of traditional history in order to reveal

the complexity, fragility, and contingency surrounding historical events” (Smart, 2004, p. 56). This is evident in Foucault’s following statement:

The search for descent is not the erecting of foundations: on the contrary, it disturbs what was previously considered immobile; it fragments what was thought unified; it shows heterogeneity of what was imagined consistent with itself.

(1997a, p. 147)

The dimension of historical **emergence** in genealogy focuses on power struggles, or the “hazardous play of dominations”. Foucault states that:

Emergence is always produced through a particular stage of forces. The analysis of **Entstehung** [emergence] must delineate this interaction, the struggle these forces wage against each other...

(1977a, p. 149)

Emergent forms are embodiments of dynamic relationships of struggle. Smart elaborates that the dimension of historical **emergence** “...embraces the confrontations, the conflicts, and the systems of subjection of which emergent historical forms are but temporary manifestations...” (2004, p. 57).

Historical change or emergence can therefore be viewed as a succession of one mode of domination by another. Foucault claims that:

The forces operating in history are not controlled by destiny or regulative mechanisms, but respond to haphazard conflicts. They do not manifest the successive forms of a primordial intention and their attraction is not that of a conclusion, for they always appear through the singular randomness of events.

(1977a, pp. 154-155)

Foucault defines genealogy as an alternative to traditional histories of a continuous nature. He claims genealogy is ‘effective history’:

‘Effective’ history deprives the self of the assuring stability of life and nature, and it will not permit itself to be transported by a voiceless obstinacy toward a millennial ending. It will uproot its traditional foundations and relentlessly disrupt its pretended continuity.

(1977, p. 154)

Genealogy focuses on the **singularity of events** in order to discover the multiplicity of factors constitutive of an event, a process referred to as

eventalisation. Analysis of events involves **decomposition** of the process constitutive of a particular event and a concomitant **construction** of external relations of intelligibility (Smart, 2004).

Overall, the aim of genealogy is a critical analysis of present systems in light of their history.

3.3.2 Key issues in Genealogy

3.3.2a) Institutionalisation of Knowledge

According to Foucault, genealogies are anti-sciences and not so much against the contents, methods, or concepts of a science but “primarily an insurrection against the centralizing power-effects that are bound up with the institutionalization and workings of any scientific discourse organized in a society such as ours” (1997, p. 9).

Genealogy assumes that there is a close tie between institutions and discourses. Seidman claims that:

Genealogy's aim is primarily to disturb the 'normalising' role of dominant discourse. It reveals how dominant knowledges shape human life by naturalising and normalising the construction of personal and social identities.

(1998, p. 180)

Foucault points out that disciplines (and their associated institutions) are the bearers of discourse (Foucault, 1980a). With reference to educational and other social institutions from which scientific discourse derives, Foucault argues:

That this institutionalization of scientific discourse is embodied in a university, or in general terms, a pedagogical apparatus, that this institutionalization of scientific discourses is embodied in a theoretico-commercial network such as psychoanalysis, or in a political apparatus – with everything that implies – is largely irrelevant. Genealogy has to fight the power effects characteristic of any discourse that is regarded as scientific.

(1997, p. 9)

His main emphasis above is on destabilising/curbing the centralising and hegemonic influence of institutional discourses. This is elaborated in his following statement:

Compared to an attempt to inscribe knowledges in the power hierarchy typical of science, genealogy is, then, a sort of attempt to desubjugate historical knowledges, to set them free, or in other words to enable them to oppose and struggle against the coercion of a unitary, formal, and scientific discourse...against scientific hierarchicalization of knowledge and its intrinsic power effects.

(1997, p. 10)

3.3.2b) Power

A central theme in genealogy is the concept or notion of power. While in archaeology power is considered as repressive, in genealogy Foucault posits power as diffuse, capillary and productive, producing subjects and utilising knowledge. Foucault (1980b) claims that power is neither possessed, given, exchanged, nor recovered; rather, it is exercised. Individuals are vehicles for the transmission of power, always in a process of simultaneously undergoing and exercising power. Power circulates and is never localised, it is not a commodity but a strategy, a multiplicity of force relations comprising dispositions, manoeuvres, tactics, techniques and functions. Foucault brings into perspective a new and useful aspect of power besides its usually repressive effect, that is, its productive effect and its networked strategic nature.

Foucault also relates power to resistance by arguing that “where there is power, there is resistance” (1990, p95). This resistance in this study is signified by the persistence of indigenous knowledges despite the imposition and hegemony of Western science knowledges.

3.3.2c) The Power/Knowledge Configuration

An important aspect of genealogy that Foucault brings into play is the reciprocal relationship between power and knowledge. Foucault, instead of referring to power and knowledge separately, compounds/conjoins the term to

power-knowledge or power/knowledge and speaks of power/knowledge relations (Foucault, 1980a, 1995).

The central themes in genealogy are that:

- i) knowledge, especially knowledge of human beings, is intertwined with power;
- ii) individuals are constituted through specific techniques and procedures that depend on power relations.

Foucault argues that knowledge and power are always and necessarily interdependent (that is, knowledge is not objective):

...we should abandon a whole tradition that allows us to imagine that knowledge can exist only where power relations are suspended and that knowledge can develop only outside its injunctions, its demands and its interests... We should admit rather that power produces knowledge (and not simply by encouraging it because it is useful); that power and knowledge directly imply one another; that there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presume and constitute at the same time power relations.

(1995, p. 27)

A site where power is enforced is therefore a site where knowledge is produced, and conversely a site where knowledge is derived is a site where power is exercised (Foucault, 1995). It is impossible for power to be exercised without knowledge. It is impossible for knowledge not to engender power. Knowledge is the instrument of power and the goals of power cannot be separated from the goals of knowledge (in knowing we control and in controlling we know).

The issue of **representation** is at the heart of the question of power/knowledge. Every power relation implies, at least potentially, a strategy of struggle. Foucault's concern in genealogy is of power relations that produce certain forms of valuation and knowledge (dominant knowledge forms). The task of genealogy is to critique those power relations. Genealogy aims to disrupt accepted social conventions and norms. In this study my focus is in representation of indigenous knowledges, an aspect that is influenced by the

valuation and the in/validation of certain knowledges by knowledge generating institutions.

Foucault (1995) argues that knowledge is power over others, the power to define others, i.e. knowledge ceases to liberate and becomes a mode of surveillance, regulation, discipline. In an interview with Foucault, Deleuze points out that Foucault in his work has “taught us something fundamental: the indignity of speaking for others” and that only those directly concerned can speak in a practical way on their own behalf (1977, p. 209). Most of the contested representations about indigenous people as revealed in this study have been done by external researchers who claim knowledge authority of the other (see Chapters 2 and 4).

3.3.2d) Truth

According to Foucault:

...truth is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its regime of truth, its 'general politics' of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true.

(1980a, p. 131)

What Foucault is alluding to is the power struggles by which certain truths dominate and are normalised within society, particularly the hegemony of 'truth' centred on the form of scientific discourse and institutions that produce it. He is also highlighting the relationship between truth and power and claims that: “We are subjected to the production of truth through power and we cannot exercise power except through the production of truth” (1980b, p. 93).

Foucault further argues that:

'Truth' is linked in a circular relation with systems of power which produce and sustain it, and to effects of power which it induces and which extend it. A 'regime' of truth.

(1980, p. 133)

Foucault suggests that the solution to the political problem of truth is:

... not a matter of emancipating truth from every system of power (which would be a chimera, for truth is already power) but of detaching the power of truth from the forms of hegemony, social, economic and cultural, within which it operates at the present time.

(1980, p. 133)

Foucault is therefore not denying that there is truth, but is highlighting the conditions in which discourses of truth are generated. However, Foucault denies that there is absolute truth, signifying that our knowledge of reality is incomplete. Also, a discourse is not true because it represents or captures the essence of reality; on the contrary it gains this accolade by establishing a certain predominance through subjugating and excluding alternative discourses in the name of what is true (Jacques, 1991). Genealogy is in opposition to the idea of timeless and universal truths (Smart, 2004). This is particularly relevant to the representation of indigenous knowledges in this study considering the exclusion and marginalisation of these knowledges. It reflects that there are no single truths but multiple perspectives of truth, some of which are subjugated by dominant knowledges.

3.3.2e) Governmentality

Foucault uses the term 'governmentality' to define the genealogy of the art of government, that is the tactics (mechanisms/strategies/techniques) of control and regulation of society used by modern institutions or what Foucault terms the 'conduct of conduct' (Dean, 1999). Governmentality pertains to:

The ensemble formed by institutions, procedures, analysis, and reflections, the calculations and tactics that allow the exercise of this very specific albeit complex form of power...

(2000, p. 219)

Governmentality therefore refers to "regulatory strategies that are heterogeneous and indirect" (McNay, 1994, p. 119). Governmentality will be used to analyse power/knowledge relations at play between modern institutions (the community development training institution, the Department of

Health and the international funding institution) and local communities (the local traditional health practitioners' community) that relate to regulation and control of society in the Traditional Medicinal Plant Conservation Project in Chapter 5. The focus of the governmentality analysis here will be on the i) role of each stakeholder (that is its **reason** for involvement), ii) the **techniques** of governance and iii) the **subject** of those governance strategies. It is hoped that revealing these aspects of governmentality will help illuminate the nuanced power/knowledge relationships among the different stakeholders in this case study and their implications in the representation and application of indigenous knowledge.

3.3.3 A Problem with Genealogy

Genealogical historical accounts or desubjugated knowledges are still vulnerable to assimilation within existing discourses. Retrieved historical contents and formerly subjugated knowledges may be recodified and recolonised within unitary discourse which had formerly disqualified and /or ignored them. This fear is clear in Foucault's statement on insurrected local knowledges:

...compared to the situation we had five, ten or fifteen years ago, things have, perhaps, changed; perhaps the battle no longer looks quite the same. Well, we are really still in the same relationship of force, and does it allow us to exploit the knowledges we have dug out of the sand without their becoming subjugated once more? What strength do they have in themselves? And after all, once we have excavated our genealogical fragments, once we begin to exploit them and put in circulation these elements of knowledge that we have been trying to dig out of the sand, isn't there danger that they will be recoded, colonized by these unitary discourses which, having first disqualified them and having then ignored them when they reappeared, may now be ready to reannex them and include them in their own discourses and their own power-knowledge effects?

(1997, p. 11)

3.3.4 Some Criticism of Foucault's Genealogical Analysis

i) The issue of agency

A main concern with Foucault's archaeo-genealogical method that I consider in this study is the abandonment of the possibility of human agency to enable social transformation, what is usually referred to as "Foucault's anti-

humanism". This is well articulated in the following critique by Said quoted in Hussein (2002):

- a) Foucault's archaeologies "make not even a nominal allowance for emergent movements, and none for revolutions, counterhegemony, or historical blocks." (p. 198)
- b) Foucault offers an account of modernity which alerts us to the pervasiveness and surreptitiousness of power but simply disregards the often insidious human motivation behind it....a great deal of power remains in such coarse items as the relationship between ruler and ruled, wealth and privilege, monopolies of coercion and, and the central state apparatus. In other words, despite Foucault's annihilation of agency, power is exercised by identifiable groups and for specific political and economic ends, and the convergence of discourse and power that Foucault so ably describes takes place precisely because of this fact: dominant groups realize that power cannot always be dispersed from the barrel of the gun – that, to be effective, it has to be legitimized, camouflaged, rendered palatable. (Hussein 2002:198)
- c) "Foucault...fails to realize that where there is power there is resistance, resistance implies a change for the better." (p. 199)

Agency is important aspect in this study, particularly with regard to local community agency to sustain indigenous knowledge and the agency of indigenous scholars in academies to give voice and create spaces for indigenous knowledge discourses in contexts where it has been prior to marginalised. However, theoretically the issue of agency has been addressed by using Archer's morphogenetic approach which (Archer, 1995 & 1998) has an emphasis on agential issues.

The issue of resistance is elaborated in the following point below.

ii) The issue of resistance

The issue of resistance was an important aspect in the continued sustenance of indigenous knowledges in the colonial era and in their re-emergence in the postcolonial period.

There are claims that:

...despite Foucault's assertions about the immanence of resistance to any system of power, this idea remains theoretically underdeveloped, and, in practice, Foucault's historical studies give the impression that the body presents no material resistance to the operations of power.
(McNay, 1994, p. 102)

Smart (2004) also states that: "Critics of Foucault's work have argued that his conception of resistance lacks a foundation or 'any unique and unified agency of social change" (p. 132).

Smart however argues that:

An appropriate point from which to proceed is with the statement 'where there is power there is resistance'...What Foucault meant by this is that resistance is present everywhere power is exercised, that the network of power relations is paralleled by a multiplicity of forms of resistance. This has been interpreted by some commentators to mean that resistance is always and already colonized by power or inscribed within it and thereby is doomed to defeat. Such an objection is anticipated in Foucault's observation that although resistances exist by virtue of the strategic field of power relations, this does not mean that they are 'doomed to perpetual defeat', on the contrary they constitute an 'irreducible opposite' of power relations. In other words both power and resistance are synonymous with sociality; their respective forms may change, but a society without relations of power and therefore forms of resistance is in Foucault's view inconceivable.

(2004, pp. 132-133)

Resistance in this study is considered with regard to the sustenance of indigenous knowledges in contexts where it has been marginalised and its re-emergence in the academic arena (formal knowledge domain).

iii) **The issue of power/knowledge**

Foucault conflates power and knowledge. While this is important in highlighting the relationship between power and knowledge, it overlooks the fact that power and knowledge are autonomous entities that are capable of being analysed independently. Archer argues that :

Any formula which serves to compact structure and culture – like Foucault's 'power-knowledge' complex...merely defies and defeats analysis of different configurations.

(1995, p. 324)

To highlight the autonomy of the separate entities, Archer states that:

...on the contrary, social organization and cultural organization are analytically separable. Once this is done it becomes possible to assert that discursive struggles are socially organized and that social struggles are culturally conditioned.

(1995, p. 324)

In this study I recognize the value of highlighting the reciprocal nature of the power/knowledge relationship. However, I do not consider power and knowledge as one thing but rather as autonomous but interrelated entities.

iv) Lack of theory

Foucault has been criticised for his lack of cohesive theory (Prado, 2000). However, according to Foucault, theories are instruments which fit individuals and their experiences into moulds which do not properly suit/articulate the actual experience of humans in social arenas. Theories distort reality because they attempt to isolate certain elements, certain causations, in a closed system, which he sees as so foreign from what it claims to represent (Foucault, 1977a). Foucault's aim was to be as historically realistic as humanly possible, to grasp the way beyond what appears to be in a specific local context. Foucault has revealed that **there are other ways of interpreting reality** than the meanings typically given by Western scientific discourses and theories, following from Nietzsche's perspective that there is no truth, there are "only interpretations" and no meaning but "countless meanings" (Prado, 2000, 122).

Foucault claims that

The role of theory today seems to me to be just this; not to formulate the global systematic theory which holds everything in place, but to analyse the specifics of the mechanisms of power, to locate the connection and extension, to build little by little a strategic knowledge.
(1980, p.83)

Foucault therefore avoids the prescriptive nature of theoretical framing and focuses instead on the underlying power struggles of social contexts.

v) Foucault's Relativism/ Nihilism

Foucault's interrogation of discourse and his denial of the existence of absolute truth has led to him being labelled as relativist and, in the extreme, as nihilist (ref). Being relativist implies that all claims to truth are on a par. However rather than denying that any truth claim can be proven, thus making them all equal, Foucault denies the possibility of a global and correct

description of reality, what Prado refers to as 'perspectivism'. This implies that there are plural perspectives on reality. However, reality is not plural, that is "every view upon the world is an interpretation, a limited and revisable perspective" and that "the world is ontologically indeterminate" (May quoted in Prado, 2000, p123). This alludes to the transcendental nature of knowledge and theories about reality and the non-transcendental nature of reality (in other words the reality that exists is beyond what we know about it), a key aspect of Critical Realism discussed below.

3.4 Critical Realism

3.4.1 Historical background

Critical Realism (CR) is built upon the earlier 'realist philosophy of science' work of Ron Harre (*Philosophies of Science*, 1972) by Roy Bhaskar. Bhaskar's **realism** started off as a philosophy of science in his realist account of natural science, which he terms **transcendental realism**, in the book *A Realist Theory of Science* (1978). To account for social science, Bhaskar developed a realist version for it called **critical naturalism** in his second key book *The Possibility of Naturalism* (1979). Critical naturalism and transcendental realism are then drawn together as **critical realism**, starting in his book *Reclaiming Reality* (1989), from which the basic tenets of critical realism emerge. The prominent group of critical realists, following Bhaskar, includes Archer (1995, 1998), Collier (1994), Jessop (1995), Lawson (1997), Layder (1994), Outhwaite (1987) and Sayer (1992, 2000).

CR makes a distinction between epistemology (theory of knowledge), and ontology (theory of being/conceptions of reality). Instead of a focus on **epistemology** realism puts an emphasis on **ontology**. This shift in emphasis from epistemology to ontology, has enabled me to navigate the epistemological dichotomy created when working at the interface between Indigenous and Western knowledges.

The basic tenet of CR is the belief/concept that **there is a world existing independent of our knowledge and thoughts of it** (that is experience and mind-independent reality). Reality is non-transcendental while theories and knowledge about reality are transcendental (fallible). This key aspect enables us to realise that different knowledge epistemologies give us different perspectives on reality and that in considering the different perspectives or 'regimes of truth' we are able to get a deeper understanding of reality or ontological depth. CR rejects (opposes) reductionist/deterministic and dualist/pluralist conceptions, and pays attention to **openness, contingency** and the **contextually variable character of social change**.

Key features/notions of CR ontology are stratification and emergence. Accompanying this is an emphasis on the analysis of causation. These are elaborated below.

3.4.1a) Stratification

CR's ontology makes a distinction between the **real** (whatever exists, that is objects, their structures and powers/liabilities (passive/potential powers)), the **actual** (events, that is what happens if and when powers are activated) and the **empirical** (experiences, that is what exists and the causal explanations). CR ontology is therefore **stratified** as opposed to an empirical ontology based on, for example, what we can observe and experience, what Bhaskar refers to as the **epistemic fallacy** (knowledge/statements about reality are not reducible to the real object as western philosophy of science usually claims).

3.4.1b) Emergence

Emergence is a situation where the conjunction of two or more aspects/features results in a new phenomenon which has properties that are irreducible to those of their constituents.

3.4.1c) Causation

A distinctive feature of CR is its analysis of causation. Causal powers are part of structures (e.g. individual agents within social structures). When causal powers combine new structures emerge. These resultant emergent structures

or systems are **contingent** on other conditions, that is they have both intended and unintended outcomes/aspects.

In this study I use Critical Realism as an underpinning philosophy (an under-labourer) backgrounding the research as it enables me to negotiate issues of epistemology and to work with plural/multiple perceptions of reality. It also enables me to work with different theories that are relevant to the key aspects of my research.

3.5 Margaret Archer's Morphogenetic/Morphostatic Approach

In this study I draw on Margaret Archer's social realism theory that she terms "the morphogenetic approach" (Archer, 1995, 1998) as a lens to analyse change in the representation of indigenous knowledges over time. This approach is built upon and draws on Critical Realism. Archer claims that events (such as the production of an IK textual representation) can be seen, but social mechanisms (for example, the exercise of power through institutional strategies of representation) are not readily discernable, therefore they require theory and abstraction. (Social) reality is **stratified** (composed of different levels where none of these levels can be reduced to another level, with higher levels emerging from and explainable independently of the lower level). People cannot be reduced to society, nor society to people. Individuals and an objectively real social context (culture and structure) are interdependent in that individuals create a social world (no individuals means no social reality), but this social reality, which is more than individuals, then has an autonomy of its own (social structures and systems are **emergent entities/properties**, i.e. they are a result of but are not reducible to the **individual/causal agencies** from which they arose). The social structures then exert a causal influence on the individuals, i.e. individuals/agents with free will interact with the social context they generate in ways that both enable and constrain them (i.e. the social context enables and constrains the individual's agency). However, this implies that social structures only

condition but do not determine the activity of the individuals. This possibility of individuals to bring about social transformation relates to the Foucauldian criticism given by Said in Hussein above, an aspect that Foucault seems to neglect. Over time individuals may effect changes in structures (individuals' activity has a real existence in its own right, and it may effect causal power over the context in which it is already located). Individuals' agency is always located in some social context, but agency is not determined because it can alter the context in which it is located. CR has an interest in studying underlying causal mechanisms within events.

In this study, specifically in Chapter Five and Six, I am interested in institutional structures and their influence on agency as well as individual and collective agency and its influence on institutional structures and regulatory systems and how these impact on IK representation and application.

3.5.1 Analytical dualism

Whilst structure, culture and agency are always intertwined in reality, to study their interplay it is necessary to use theoretical abstraction to separate the different factors. **Analytical dualism** can be employed to separate structure, culture and agency in order to study this interplay (i.e. the causal relations).

Analytical dualism enables distinguishing between the orderly or conflictual relations pertaining between groups of actors (the degree of social/cultural integration (SC)) from the orderly or contradictory relations prevailing between parts of the social/cultural structure (degree of system integration – cultural system (CS)). Analytical dualism addresses the problem of the relation between structure/culture and agency by avoiding the conflation of structuralism (conflation of agency into structure or **downward conflation**), individualism (conflation of structure into agency or **upward conflation**) or duality of structure/culture (**central conflation**) by recognising the relative autonomy of structure and culture and the interdependence (interplay) between them. It does this by making an analytical distinction between structure/culture and human agency.

In this study I make an effort in the two case studies on the relationships at the interface between local community and modern institutions (Chapter Five and Six) to highlight structural issues such as institutional governance structures and strategies of representation and agential issues such as those involving actions of community groups or institutional members. I also look at the interrelationships between structure and agency in these modern institution/community interfaces.

3.5.2 Morphogenesis

Analytical dualism is used to separate structure/culture and agency in order to study their interplay. This interplay can be explained via a **morphogenetic cycle** (Archer, 1998). The morphogenetic cycle breaks down the interaction between structure and agency into three temporal phases: structural conditioning (i.e. the context in which individuals find themselves), socio-cultural interaction (i.e. what individuals do), and the resulting structural elaboration (morphogenesis or change) or structural reproduction (morphostasis or continuity). The morphogenetic cycle can be represented as:

Structural/Cultural Conditioning>Socio-Cultural Interaction>Structural/Cultural Elaboration or Reproduction

This cycle is repetitive. It should be noted that the distinctions between structure, culture and agency portrayed in analytical dualism are in reality artificial. However making that distinction enables the study of the interplay of these aspects over time.

In the case studies discussed in Chapter 5 and Chapter 6 I am interested in whether the interaction between institutional agents and community members results in transformative processes in institutions (in their relationships with the communities they work with) or whether it maintains the initial power/knowledge relationships that were evident at the beginning of the case study.

3.5.3 Some Criticisms of Archer's Method

- i) While Archer draws on various sources to develop her theory (Karl Popper for a concept on culture, David Lockwood on social integration and systems integration, Emile Durkheim on analysis of contradiction between Christian beliefs and classical civilisation in European education, etc.), she does not fully utilise/elaborate their theories (that is she elides them) (Zeuner, 1999).
- ii) The social/cultural morphogenesis theory has not been empirically tested in reality with any analytical history of emergence (with the exception of her own history of emergence of state education systems) (Zeuner, 1999).
- iii) Archer's theory neglects intersubjective communication and how this influences agency through social movements and democracy (Vandeberghe, 2005; Mutch, 2004). This points to the need for the internal conversation to consider the broader social context, that is our interaction with others. Archer has responded to this criticism through her new book, *Making our Way through the World: Human Reflexivity and Social Mobility* (Archer, 2007).

3.6 Critical Realism and Genealogy - Making the links

The following links can be between Critical Realism and Genealogy.

- i) Issue of truth (regimes of truth, reality beyond what we know - plural epistemologies/perceptions of reality):

Foucault (above) claims that there are no absolute truths but that there are 'regimes of truth' governed by power relations. This relates to the CR notion that 'reality exists beyond our knowledge of it' and in the existence of different perspectives on reality (discussed earlier in Section 3.5 above). Genealogy, by being a continuous, non-ending critique, enables a reflexive thinking process on our beliefs and practices in educational processes, particularly around knowledge representations and applications, which can lead to

agency for social change. Tambouku (1999), commenting on the role of genealogy (as effective history), asserts that:

A history of the present is, however, more interested in the future. Calling to question self evidences of the present by exposing the various ways they were constructed in the past, such histories shatter certain stabilities and help us detach ourselves from our 'truths' and seek alternative ways of existence[implying agency and social change]. In order for such transgression to occur, however, effective histories should also break with our current systems of rationalisation and show that there is no truth but truths, no reason but reasons, no knowledge but knowledges of the ways of people have come to understand themselves and the world.

(p. 210)

Critical realism ontology however differs from the Foucauldian conception of truth in that it realises the presence of non-transcendental (intransitive) aspects of reality.

ii) Emergence (contingent nature of emergence):

Emergence in CR refers to a situation where the conjunction of two or more aspects/features results in a new phenomenon which has properties that are irreducible to those of their constituents. Emergence in genealogy refers to a dominant historical event that arises from (is contingent upon) power struggles. This event relates to CR idea of emergence in that it is a new phenomenon. Both ideas of emergence occur due to the agency arising from social interactions that can bring about transformation (or reinforcement) of the existing social structures and systems. According to Foucault human subject are conduits for the exercise of power, acting and being acted upon by it. However, Foucault does not recognise the transformational role of human agency, save for his reference to resistance.

iii) Enabling and constraining nature of social reality:

Foucault points out that personal and social existence can never be free of constraint and regulation, every society produces its own configuration of bodies, pleasures, identities and regulatory social norms (Foucault, 1995). He also alludes to this in the exercise of power by expressing it as follows:

It operates on the field of possibilities in which the behaviour of active subjects is able to inscribe itself. It is a set of actions on possible actions; it incites, it induces, it seduces, it makes easier or more difficult; in the extreme it constrains or forbids absolutely; it is nevertheless always a way of acting upon an acting subject or acting subjects by virtue of their acting or being capable of action.

(2000, p. 341)

This statement can be related to the critical realist understanding in the morphogenetic approach of enabling and constraining institutional/cultural structures and of how individual agency can result in structural reproduction or elaboration. Acceptance and resistance of constraints of (historically pre-existent) social institutions constitutes an act of agency on the part of the individual, who is not necessarily a passive recipient of the **exercise of power**. Foucault (1979) claims that in the exercise of power:

...power is not exercised simply as an obligation or a prohibition on those who 'do not have it'; it invests them, is transmitted by them and through them, it exerts pressure upon them, just as they themselves, in their struggle against it, resist the grip it has on them.

(p. 27)

However, as discussed earlier, genealogy has been criticised for its lack of focus on agency (causal powers) in that it cannot analyse the conditions under which resistance to power becomes possible, why some people resist and others do not, and how resistance may become successful (Fox, 1998). What Archer's morphogenetic approach does is to go beyond the mapping out of power/knowledge relationships and acknowledging resistance of Foucauldian genealogy, to an in-depth analysis of how that resistance is expressed as agency within situated contexts and its implications for existing social systems (as change/morphogenesis or reproduction/morphostasis).

I will use a combination of Foucault's genealogical analysis and Archer's morphogenetic analysis for the case studies in Chapter Five and Six. Genealogical analysis will be used to explore power/knowledge relationships at the interface between communities and modern institutions while the morphogenetic analysis will be used to investigate the influence of structure and agential issues.

3.7 Research Design and Methods

This study was designed to comprise two distinct, but interrelated phases, as mentioned earlier and further discussed below. The first phase of the study was on a **genealogy** of plant-based IK **representations** in selected environmental education texts produced in southern Africa. The second phase of the study was a genealogy of **representations** of plant-based IK in selected case study contexts. Phase 2 of the study also focused on **applications** of plant-based IK in environmental education processes and the power-knowledge relationships that arose at the community-modern institution interface. The analysis in Phase 2 sought **ontological depth** and thus drew on critical realist concepts and methodology.

3.7.1 Phase 1: Genealogy of representations of plant-based IK in environmental education texts in southern Africa

As outlined in the context in Chapter 1, I was interested in analysing the **representations** of Indigenous Knowledge within modern institutional settings and tracing arising power-knowledge relationships. To address this, the first phase of the research is a genealogy of selected educational representations of plant-based indigenous knowledge research and publications in southern Africa, starting from the mid-1900s to coincide with the emergence of the conservation discourse in the field of environmental education (O'Donoghue, 1997; Irwin and Lotz-Sisitka, 2005). The focus is on plant-based IK representations (see Chapter 4).

Varela (2001, p. 112) states that Foucauldian genealogy attempts to "... accomplish an ascending analysis of power relations in order to explain how disequilibriums of power, or, in certain cases domination, were established." The task of genealogy is to analyse who uses discourse and for what ends.

An important aspect in genealogy is power and knowledge (power/knowledge) relations. As mentioned earlier in this chapter, Foucault (1979) claims that **knowledge**, especially knowledge of human beings, is intertwined with **power**. Concern with knowledge **representation** (and the embedded power /

knowledge relations) is quite evident in the writings of indigenous researchers (see Chapter 2). According to Foucault (1979) every power relation implies, at least potentially, a strategy of struggle. Supporting the presence of this resistance in relation to colonised indigenous people, Dei et al. (2002) posit that:

The anti-colonial discourse emphasizes the power held by local/social practice to survive the colonial and colonized encounters. It argues that power and discourse are not possessed solely by the 'colonizer'. Discursive agency and the power of resistance reside in and among colonized and marginalized groups.

(p. 7)

In this phase of the research I was particularly interested in an historical look at **power/knowledge relations** between indigenous knowledge and modern institutionalised knowledge and how these relations affected the resultant representations of IK in documented texts and in environmental education practices and processes in a southern African context. My intention was to use genealogy to map out the 'history' of plant-based representations of IK and to probe and bring out the discontinuities that are not normally presented in environmental education discourses in southern Africa, in particular within 'normalised' institutional knowledge representations. To do this I analysed documented literature on IK on plant use from selected botanical and conservation texts, anthropological (ethnographic) accounts and environmental education texts to probe continuities and discontinuities in how local plant-based knowledge has been represented over time from the mid-1900s. The choice of texts has been largely influenced by my botanical background, hence a biased emphasis on texts that focus on indigenous plants and their uses in southern Africa, a subject area that I am familiar with.

Genealogy claims to be a 'history of the present' (Dean, 1999) in that it disrupts/raptures the present taken for granted understandings by making the unfamiliar familiar (or the familiar unfamiliar). By revealing discontinuities in the supposedly continuous development of history, genealogy also implies a discontinuity in present social formations derived from that history (Tambouku,

1999). Speaking on the effects of genealogical analysis, Kendall and Wickham state that genealogy is:

...a methodological device with the same effect as a precocious child at a dinner party: genealogy makes the older guests at the table of intellectual analysis feel decidedly uncomfortable by pointing out things about their origins and functions that they would rather remain hidden.
(1999, p. 29)

3.7.2 Phase 2: Researching representations and applications of plant-based IK at the interface between community and modern institutions in the Eastern Cape

Most documented research on Indigenous Knowledge occurs through generative processes during interactions between institutions and local communities. How the knowledge is applied and represented stems from relationships within these interactions. In probing the processes and implications of modern institution and community interactions surrounding the application of plant-based IK, the second phase of my research involved a multi-sited case study approach. This phase of the research investigated the power/knowledge relationships that arose at the interface between communities and modern institutions in their interaction around a common reality, in this case applications of IK on indigenous plants in selected contexts. My cases had two main foci: i) knowledge generation and application (at the modern institution/community interface) in community development contexts, and ii) knowledge generation and application in formal educational contexts. These cases are discussed below.

A) Medicinal plants conservation project in the Eastern Cape

This project focused on the conservation of threatened (rare and endangered) medicinal plants used by traditional healers in the Eastern Cape. Traditional healers were provided training by a non-governmental development organisation on propagation techniques for growing the indigenous medicinal plants that they use in their trade. The traditional healers suggested which indigenous plant species should be propagated. I investigated the power/knowledge relationships arising from the interactions between traditional healers and the non-governmental organisation and how this

community development organisation represented and applied plant-based IK in the context of their project.

B) Cultural plants project in the Eastern Cape

i) Generation of cultural use of plants poster project in the Eastern Cape:

This project involved university-based research into natural resource use by local communities, with an emphasis on plants of cultural value. A poster (a symbolic representation of documented IK) was developed from this project as one of the outcomes for use in environmental education processes. I undertook a genealogy of the poster up to its intended use. I then investigated how the local community from which the knowledge represented in the poster was derived responded to the poster. I also explored the power/knowledge relations embedded in the genealogy of the poster, and in its intended and actual applications within and without the community of origin.

ii) Application of cultural plants poster (using a disembedded symbolic representation of local knowledge) within formal education institution contexts:

The cultural plants poster (in Bi) was provided to educators in the Eastern Cape in contexts other than where the poster was derived. The aim was to study how they applied it in a formal education process. Power/knowledge relationships at the teaching/learning and community interface were investigated. Three cases of the poster's application were selected for in-depth study.

Bassey (1999) defines case studies as studies of singularities or bounded systems. Yin (1994) claims the essence of a case study is that it is an enquiry of real-life context. The case study research approach is contextual and interpretive, asking how people specifically act in a concrete field of action, why they do so, and how the situations observed may be explained (Kyburz-Graber, 2004). The case study researcher observes the characteristics of the case, the purpose being to probe deeply and analyse intensively the multifarious phenomena in the case with the view of establishing inferences about the broader context from which the case derives (Cohen & Manion,

1994). The purpose of the multi-site case study research design was to inform practice around approaches to working with representations and applications of indigenous ways of knowing of local communities. As such, case studies can be considered as theory-seeking (Bassegy, 1999). Bassegy (1999) refers to the generalisation derived from theory-seeking case studies as 'fuzzy generalisations' on the basis that, although case studies are studies of singularities, it is possible that these propositions can be tentatively offered as a useful way forward. Sayer (2000) argues that intensive research (as in case studies) "... seeks out substantial relations of connection and situates practices within wider contexts, thereby illuminating part-whole relationships" (p. 22).

All the case studies described above involved interactions between communities' ways of knowing and those of modern institutions. At such interfaces, modern institutions bring in their own views and perspectives and ways of knowing or expertise (propositional knowledge) embodied and reflected in representations and applications of IK. The communities that are engaged in the projects also have their own views, experiences and ways of knowing (situated knowledge). The interactive engagements between modern institutions and communities may result in tensions and/or synergies in the knowledge sharing and generation processes. I was interested in explaining how power/knowledge relationships at the interface between institutional and community ways of knowing are likely to impact on how indigenous (local) knowledge is applied and valued. Bauman (1992) posits this type of research in a postmodernist orientation (in its broadest sociological sense), where the role of academics (intellectuals) is less to dictate standards and laws than to facilitate communication between diverse traditions cultures, practices, values and beliefs between and within societies. In each case study, analysis of project documents and/or policies was undertaken as well as interviews done with institutional and community participants.

3.7.2.1 Modern Institution/Community Interfaces and Critical Realism

As mentioned in 3.7.2 above, the intention in the second phase of the research was to investigate the interactions at the interface between local

(indigenous) communities and modern institutions in the context of representations and applications of IK. Modern institutions may or may not share the same perspectives as those of local communities around a project. Modern research, education and development institutions have institutional structures and systems in which individuals belonging to the institution are enabled and constrained in their agency. These structures and systems are in the form of leadership hierarchies, accumulated institutional/scientific expertise and *habitus* (Bourdieu et al., 1994), documentation, job descriptions, and institutional policies and project terms of reference. Institutional researchers work within institutional policy frameworks and required project outcomes. These give them authority to carry out research within communities, yet at the same time they cannot work outside their mandate. Communities on the other hand have community structures and systems in the form of loosely structured traditional leadership, cultural norms, traditions and beliefs, patterns of practice and intergenerational ways of knowing that constrain and enable individual agency within the community. How the individual agents will act (causal powers), at community and institution interfaces, is influenced by the context from which they operate (Sayer, 2000) and their knowledge bases. As argued earlier, **critical realism** (Archer et al., 1998; Bhaskar, 1978; Collier, 1994; Sayer, 2000) provides a useful orientation to interpreting the above situations. This can provide ontological depth to the analysis of power/knowledge relationships.

As mentioned earlier in this chapter, there are two key features of critical realism, **stratification** and **emergence** (Sayer, 2000). Critical realism ontology alludes to the **stratified nature of reality** (stratified ontology), characterised by the real (whatever exists, that is objects), the actual (events, that is what happens if and when powers are activated) and the empirical (what exists and causal explanations) (see Section 3.4 above). What this implies is that knowledge about reality is not fully reducible to the real object itself (the object of study, in this case the plant, is unchanged by what we know or do not know about it). This provides a useful vantage point for this study considering that community knowledge and practices and ways of knowing on indigenous plants, for example, are not necessarily congruent with

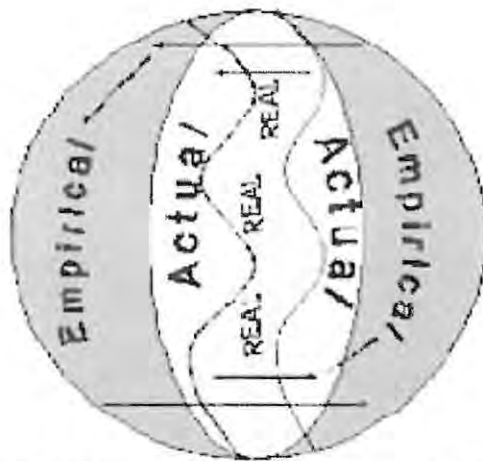
those of modern institutions also working on indigenous plants initiatives with/in these communities. They are rather disparately formed (pluralist) representations of reality historically informed by observations, experiences and practices. What critical realism brings out is that the ways of knowing of scientific institutions are not necessarily exhaustive and neither are the ways of knowing of local communities. In critical realism there is not the dualistic opposition of either/or that usually arises between indigenous and western ways of knowing in terms of knowing reality. Critical realism overcomes this dualism by positing indigenous and western ways of knowing as both/and perspectives of the real (see representation in Figure 3a below).

Sayer (2000) states that:

Critical realism argues that the world is characterised by **emergence**, that is situations in which the conjunction of two or more features or aspects gives rise to new phenomena which have properties which are irreducible to those of their constituents, even though the latter are necessary for their existence (my emphasis).

(p. 12)

In the social world, from a critical realist perspective, interdependence exists between peoples and institutions who in turn causally affect one another and the systems in which they exist. When **causal powers** are activated the results are contingent on other conditions, that is they have the possibility of both intended and unintended outcomes (Sayer, 2000). For communities and institutions such conditions include knowledge and experiences accumulated over time. In this research the **emergent situations** that arise from the power-knowledge relations in community and modern institution interactions were investigated, as a means to develop ontologically situated explanations. As mentioned above, this is necessary to move beyond a dualistic oppositional discourse of Western and Indigenous knowledge.



Modern Institution
 (Western/scientific/
 propositional
 knowledge)

Community
 (Local/situated knowledge)

Figure 3a: A realist representation of the modern institution and community interface

3.7.2.2 Realism in Social Settings (Social Realism): Culture/Structure and Agency

Archer (1998) points to the enabling and constraining nature of social contexts to individuals in stating that "... it is part and parcel of daily experience to feel both free and enchained, capable of shaping our own future and yet confronted by towering, seemingly impersonal, constraints" (p. x). In this case individuals and the pre-existing social context (culture and structure) are interdependent. Archer argues that individuals are born into a pre-existing social context which constrains and enables their action. Also, through their actions (as causal agents), individuals create the social context (without individuals there is no social reality). However, the resultant social structure (emergent property), which is more than the individuals, has some autonomy in its own right. Such structures may exert a causal influence over individuals. However, this means that social structures only condition, but do not necessarily determine the activity (agency) of individuals.

In this research Archer's **analytical dualism** (see Section 3.5.1) was used as a methodological device for studying representations and applications of plant-based IK at community and modern institution interfaces. Analytical dualism operates as a dissecting instrument for distinguishing between the orderly or conflictual relations pertaining between groups of actors (the degree of social/cultural integration (**SC**)) from the orderly or contradictory relations prevailing between parts of the social/cultural structure (degree of system integration, that is the cultural system (**CS**)). This was particularly useful in this research as it deepened the analysis of power/knowledge relations derived through genealogical analysis, and enabled analysis of structure and agency relationships as these related to representations and applications of plant-based IK within and between community and modern institutions and their emergent implications (expression of agency and its impact on existing structures).

3.7.3 Methods

As indicated above, the first phase of the research involved a genealogy of selected plant-based IK representations in the field of environmental education. This involved collection and analysis of documents to identify power/knowledge relationships, continuities and discontinuities. The second phase was an investigation of plant-based IK representations and applications at the community and modern institution interfaces. This involved collection and analysis of documents as well as interviews and observations. These methods are further elaborated in the table below.

Table 3.1: Research phases and associated methodologies and data collection methods

Phase	Methodology	Methods
1 Historically oriented investigation of representations of plant-based IK in southern African environmental education	Genealogy Historical literature review of IK research trends and IK application/representation Analysis of power/knowledge	Scoping of available literature and document analysis of selected samples of text recording IK research (1960s to present) (15 samples, five from each stream of text: anthropology, ethnobotany)

	relationships, continuities and discontinuities surrounding selected representations of plant-based IK in environmental education in southern Africa, using strategies of decent and emergence (after Foucault, 1979).	and environmental education)
2 Case studies of community/institutional interactions related to the representations and applications of plant-based IK	<p>Analytical Dualism to analyse the interplay of structure/culture and agency in community and institutional contexts and their interface</p> <p>Genealogical analysis of power/knowledge relationships that arise in representations and applications of plant-based IK at the community/institutional interfaces.</p> <p>Analytical dualism was used to deepen and extend the insights gained from the genealogical analysis.</p>	<p>Document analysis of institutional policy and project documents (for each of the three cases involving representations and applications of plant-based IK in environmental education: medicinal plants case study, cultural plant poster genesis and cultural plant poster application)</p> <p>Unstructured interviews with institutional researchers (for each of the three cases)</p> <p>Unstructured Individual interviews with community members</p> <p>Unstructured focus group interviews with community members (in each of the three case sites) and/or Unstructured focus group interviews with educators and learners around applications of plant-based IK representations (in each of the case sites)</p> <p>Observations of learning processes around the applications of IK representations (e.g. the use of the poster) in each of the three case sites).</p>

3.7.3.1 Phase 1

For the genealogy, an analysis of 15 samples of plant-based IK texts as primary data sources was made (Sifuna, 1995). In selection of the texts my

primary criteria was those texts that had representations of plant-based indigenous knowledge. Fifteen texts (five of each type) were chosen to keep the analysis of texts within manageable range given the limited time for the research. For the anthropological texts this involved selection of titles that had an inclination to botany, such as the use of the terms 'foraging' (Lee, 1979), 'ecology' (Scudder, 1962), 'ethnobotany' (Rodin, 1985), 'bio-cultural diversity' (Cocks, 2006a) and the land (nyika) (Reynolds & Cousins, 1989). With botany texts, I focused on the inclusion of plant uses in the text. This was quite evident in texts with titles like *People's Plants* (Van Wyk & Gericke, 2000), *Food from the Veld* (Fox & Young, 1982), *Medicinal and Poisonous Plants of southern an eastern Africa* (Watt & Breyer Brandwijk, 1962) and *A Rhodesian Botanical Dictionary of African and English Plant Names* (Wild, 1972). I chose the remaining botanical text, *Trees of Southern Africa* (Coates Palgrave, 1977) in order to read into the text for plant uses and also because of my familiarity with it as popular reference text. My choice of environmental education texts was based on tracing historical developments in representational approaches within a single regional environmental education resource publication institution, Share-Net. This was primarily done to make it easier to trace any changes over time within a single and regionally recognised environmental education learning resource material production institution. I also chose one environmental education research publication (Asafo Adjei, 2004) to balance it with my choice of a research publication in anthropology (Cocks, 2006b).

3.7.3.2 Phase 2

Three cases were selected for phase two of the research. The selection of the cases was primarily driven by two aspects. Firstly, I chose cases that focused on indigenous plant uses because of my botanical background and familiarity with plant-based research. Secondly, the chosen cases were those that were easily accessible to me as the researcher, taking into consideration the need to minimise transport costs. Participants interviewed in the case studies were selected based on their availability and willingness to participate in the research. Since my interviews were indepth, the number of participants interviewed in each case was small. However efforts were made to get

representation from both the community and the modern institution involved in each case.

Part A) In the medicinal plants conservation project case study a genealogical analysis was done of the plant-based IK representations and applications generated at the modern development institute and community interface (see Chapter 5). Individual interviews were done with three researchers from the community development institution at their offices and a focus group was done with four traditional health practitioners at their meeting venue. In addition, participant observations were undertaken during several workshops and meetings for the project during 2007. Participant observations enabled me to interact directly with the participants and to have my role known by the participants (LeCompte & Priessle, 1993). Data was validated through member checking with the interviewed persons and triangulation of observation notes with meeting and workshop minutes.

Part Bi). In the genealogy of the poster, an analysis of literature and documentation was done. This was accompanied by unstructured interviews with institutional personnel (two researchers and two designers) and community members (12 members). Here my interest was to find out how the idea of the poster emerged and why there was an emphasis on cultural plants. It was also to determine the intended application of the poster. Individual interviews were used. All interviews involved unstructured open-ended questions. Unstructured interviews are not completely unstructured in that the interviewer has in mind a general topic and may want to ask specific questions. However there is no predetermined sequence of questions or specific wording (Schurink, 1998). Open ended-questions avoid restricting participants' answers and give respondents control over what they wish to say and how they wish to say it (Irwin, 1999). They enable the informants to express their opinions and perspectives freely and also allow for the capture of the unexpected. Member checking was used to validate individual interview data.

Part Bii). In the case studies of the application of the poster within education contexts, participant observations and unstructured interviews using open-ended questions were used in data gathering. Participant observations of educational engagements around the poster were to be made. However, due to logistical problems, these were not possible and I relied on narratives from the educators and observations of material resources produced during these engagements. Six visits were made to the educators during the course of the year 2007. Genealogy was used to analyse the IK applications in three school/community contexts (see Chapter 6).

3.7.4 Data Analysis

Content analysis (Henning et al., 2004; De Vos, 2003; Cohen et al., 2003) was used as a first step in analysing interview data and documents. Here my focus was on selecting those parts of the texts that contained plant-based knowledge. This assisted with 'sorting' of the data for further analysis through the use of genealogical analysis, analytical dualism and morphogenesis as described in the methodology sections above (Sections 3.3.1, 3.5.1 and 3.5.2 respectively).

3.7.4a) Genealogical analysis

In the genealogical analysis I focused on descent and emergence, that is various institutional strategies of representation, the resultant representations and the effects of those representations.

In analysing **descent** I looked at continuities and discontinuities. These were revealed through strategies of representation and the resultant representations. By **strategies or techniques of representation** I am referring to disciplinary and institutional methods of presenting or ordering statements and how these become normalised, regularised and repeatable practices. These include such aspects as categorising, hierarchising, statistical validation, observational evidence, comparisons and verification by reference to documented evidence. Also considered were the discontinuities, that is those aspects that did not conform to the representational strategies. By **the resultant representation** I am referring to the discourse emerging

from the use of these representational strategies. These include comparative, contextual, decontextualised, selective, numerical/statistical, stereotyped/normalised, utilitarian, deliberative, paradoxical and/or hierarchical representations.

In analysing **emergence** I considered power/knowledge relationships resulting from the effect of the representations. By **effect of the representation** I am referring to the power/knowledge effects or relations (subject positions) that these representational statements specify on the non-discursive subjects, that is the relation between the sayable and the visible. These include inclusions and exclusions, silencing, othering, primitivisation, scientisation and appropriation that these representational statements produce (bring into play).

3.7.4b) Morphogenetic analysis

Archer's morphogenesis/morphostasis was used to investigate changes over time. Here I focused on whether or not there were any changes in representational forms from time one period (T1) to the next (T2) and the causal/agential factors (power/knowledge relationships) influencing the type of representations and applications.

3.7.5 Validity and Truth

Validity is concerned with the justification of knowledge claims (Kvale, 1989). It involves a continual questioning of the subject matter investigated. It embraces four criteria of truth, correspondence, coherence (consistency) and pragmatic utility (relating truth of a knowledge statement to practical consequences) (ibid.). I tried to take account of these aspects of validity in dealing with the data. All analytical statements and conclusions were made with reference to the data and study contexts. I also made efforts to reflect continuously on my own subjectivity and the power/knowledge nexus in which I was working, including my influence as a researcher from a modern institution. Methodological and data source triangulation was also employed (Maxwell, 1996). This meant continual reference to my selected methodological approaches to maintain theoretical validity and verifying interview data with participants respectively. Critical realists argue strongly for

reflexivity in research, given the ultimate fallibility of 'truth' and knowledge. Reflexivity, according to Bourdieu (2004) should not be reduced to narcissism on the part of the researcher, but should extend to an examination of the *social conditions of possibility* of the research. This involved being reflexive of the effects and limits of the research in a given social context (i.e. the field of environmental education in southern Africa at this time in history) (see Chapter 7).

3.7.6 Ethical Considerations

The following considerations were taken into account to address ethical concerns in this research (Cohen et al., 2003; Newman, 2000; Strydom in De Vos, 2003):

- i) seeking prior informed consent;
- ii) obtaining access and acceptance;
- iii) avoiding possibility of emotional harm to respondents;
- iv) avoiding violation of privacy, ensuring anonymity of respondents and confidentiality of information; and
- v) avoiding deception of respondents through misrepresentation.

Participation in the research was voluntary. The participants in this research were briefed of the purpose of the research. I was about to abandon the case study on the Medicinal Plant Project because of the resistance to the research by members of the institution. This was because they felt my focus on power/knowledge relations would strain their relationship with the traditional healers as the timing of my research coincided with the early phase of the project when relations were still unstable and the institution was making efforts to establish rapport with the traditional healers. I only proceeded with this case study after the institution consented following further discussions that made them understand the focus of my research was not to stir up discontent but to reveal underlying power/knowledge relations and their implications on the project. Access to individuals and institutions involved in the research was negotiated with the participants. Only those who accepted and were available were involved in the research. To maintain privacy, the names of the participants and the institutions involved have been withheld.

This includes the exclusion of institutional documents referred to in the study in the reference list. I have made efforts to accurately record what was said by respondents. This was verified through member-checking with the participants.

3.8 Conclusion

In this chapter I outlined the theoretical framework I used to guide this study, that is Michel Foucault's genealogical analysis and Margaret Archer's morphogenetic/morphostasis approach. I have argued for my choice of these theoretical lenses and pointed out major criticisms of the selected theories and looked at how these theories can be related. I have also presented my research design and methods, explaining how the research took place.

The following chapter, Chapter 4 is the first research phase comprising a genealogical analysis of indigenous knowledge representation and applications in selected anthropological, (ethno)botanical and environmental education texts.

CHAPTER 4: IK REPRESENTATION IN SELECTED TEXTS IN SOUTHERN AFRICA

4.1 Introduction

The starting point of critical elaboration is the consciousness of what one really is, and is 'knowing thyself' as a product of the historical process to date, which has deposited in you an infinity of traces, without leaving an inventory...therefore it is imperative at the outset to compile this inventory.

(Said quoting Gramsci in *Orientalism*, 1979, p. 25)

This chapter is the first research phase of the study which is a genealogical analysis of textual representations. Here I analyse the representations of plant-based indigenous knowledge in southern Africa in publications from three main disciplines: anthropology, botany and environmental education (conservation education in earlier texts) covering the period 1960-2007. These sources or publications are chronologically arranged in Table 4.1 below. It should be noted that this selection is neither exhaustive nor comprehensive, as there are many other similar publications that have not been analysed. I have not used publications emerging directly from environment-related disciplines in formal education because, due to our colonial legacy, indigenous knowledges have been excluded from formal education which is characterised by the hegemony of Western scientific discourses. Indigenous knowledges therefore hardly feature in such publications. Also environmental education has existed mainly as an informal education discipline. However, while these selected publications, particularly those from anthropology and ethnobotany, might not be considered as educational material in the strict formal sense, to me they are educational in that they are intended to inform, and thus educate the reader. Indeed these publications provide the bridge between scientific research and the public, bringing to the fore relations between people and plants in the environment. They are also reference materials for formal education processes.

The primary the role of this analysis is to make an analytical 'inventory' of and problematise these (institutionalised) modes of representation through a lens of power/knowledge relationships. It involves shifting the gaze from "those studied" to "those who study" in an effort to expose the power/knowledge relations at the interface between the representer and the represented. The overall aim is to create a rupture that brings to the fore (allows a re-emergence of) local knowledges that have been relegated to the margins by hegemonic processes of Western scientific discourses. Gutto refers to this process as:

...confronting, with a view to correcting and departing from, hegemonic knowledge and knowledge systems that are predicated on racist paradigms that have deliberately and otherwise distorted, and continue to distort, the reality of who Africans are.

(2006, p. 306)

This chapter also attempts to trace whether, and if so how, anthropology, (ethno)botany and environmental education publications have changed through time in the way they represent indigenous people and their knowledges.

Table 4.1: List of publications analysed for their representation of indigenous knowledge

Anthropological Sources	Botanical Sources	Educational Sources
1) Scudder, T. (1962). <i>The Ecology of the Gwembe Tonga</i> . Manchester: Manchester University Press.	1) Watt, J.M. & Breyer Brandwijk, M.G. (1962). <i>The medicinal and poisonous plants of southern and eastern Africa</i> . Edinburgh & London: E.S. Livingstone.	1) Tainton, N. (ed.). (1992). <i>Hands-On: Grassland Life</i> . Howick: Share-Net.
2) Lee, R.B. (1979). <i>The !Kung San: men, women and work in a foraging society</i> . Cambridge: Cambridge University Press.	2) Wild, H. (1972). <i>A Rhodesian Botanical Dictionary of African and English plant names. Revised and enlarged by Beigel, H.M. and Mavi, S.</i> Salisbury: Government Printer.	2) Kee, B. & Nichols, G. (1993). <i>Hands-On: East Coast Dune Plants</i> . Howick: Share-Net.
3) Rodin, R.J. (1985). <i>The Ethnobotany of Kwanyama Ovambos</i> .	3) Palgrave K.C. (1977). <i>Trees of Southern Africa</i> . Cape Town &	3) Kotze, D. (1996). <i>Wetlands and People</i> . Howick: Share-Net.

Monographs in systematic botany from the Missouri Botanical Garden Volume 9.	Johannesburg: Struik Publishers.	
4) Reynolds, P. & Cousins, C.C. (1989). <i>Lwaano lwanyika: Tonga Book of the Earth</i> . Harare: Colleen Crawford Cousins in association with Save the Children Fund (UK).	4) Fox, F.W. & Young, E. N. (1982). <i>Food from the Veld: Edible Wild Plants of southern Africa</i> . Craighall: Delta Book (Pty) Ltd.	4) Shava, S. (2000). <i>Tales of Indigenous Trees of Zimbabwe</i> . Howick: Share-Net.
5) Cocks, M. (2006). <i>Wild Plant Resources and Cultural Practices in Rural and Urban households in South Africa: Implications for Biocultural Diversity Conservation</i> . PhD thesis, Wageningen University, Wageningen, The Netherlands.	5) Van Wyk, B.E. & Gericke, N. (2000). <i>People's Plants</i> . Pretoria: Briza Publications.	5) Asafo-Adjei, R. (2004). <i>From imifino to umfuno. A case study foregrounding indigenous agricultural knowledge in school-based curriculum development</i> . Unpublished master's of Education thesis, Rhodes University, Grahamstown, South Africa.

4.2 Methodology

I have used Michel Foucault's genealogy (see Chapter 3) as the vantage point to look at indigenous knowledge representations. In this analysis I have considered the following questions:

- i) Who is making the representation (externalised or self-representation) and for what purposes?
- ii) What form, mode or type of representation is made, that is: the techniques or strategies of representation (including comparative binaries, contextual, decontextualised, selective, numerical/statistical, stereotyped/normalised, utilitarian, deliberative, paradoxical, or hierarchical representations)?
- iii) What power/knowledge effects result from making the representation (appropriation, inclusion, exclusion, silencing, domination, normalisation, primitivisation)?

Margaret Archer's morphogenetic analysis (1988, 1995) is used as a theoretical vantage point to map changes (their occurrence or non-

occurrence) over time in the representation of indigenous knowledge in the discourse of the selected disciplines above and to try and identify the causal agents for these changes (see Chapter 3).

4.3 Analysis of texts

The texts analysed are situated in a historical timeline (temporal chronology) characterised by socio-political activities which may influence shifts in representations in the southern African geographical context. These are elaborated in the analysis of texts that follows below. These activities are summarised in the table below.

Table 4.2: Historical timeline of key socio-political events in southern Africa

Period	Historical and socio-political activities
1960s	<p>This period is characterised by colonial occupation/conquest and the dominance of colonial scientific institutions. Linked to colonialism is the development of exploitative economic processes associated with rapid industrialisation, mining, agriculture and related urbanisation of the local populations. However, the period is also characterised by early struggles for independence from colonialism signified by the beginning of independent states in the region. These include:</p> <ul style="list-style-type: none"> • Independence of DRC in 1960 (from Belgium) • Independence of Madagascar in 1960 (from France) • Dissolution of the Federation of Rhodesia and Nyasaland (a self-governing British Colony established in 1963 comprising Southern Rhodesia-now Zimbabwe, Northern Rhodesia-now Zambia and Nyasaland-now Malawi) at the end of 1963 with the independence of Malawi in 1964 and Zambia in 1964 from Britain. • Independence of Tanzania in 1964 (from Britain) • Independence of Botswana in 1966 (from Britain) • Independence of Lesotho in 1966 (from Britain) • Independence of Swaziland in 1968 (from Britain) • Independence of Mauritius in 1968 (from Britain)
1970s	<p>The continued quest for independence is marked by the independence of Angola (from Portugal) and Mozambique in 1975 (from Portugal). The newly independent states support the liberation struggles of the non-independent states.</p>
1980s	<p>The support for the liberation struggle by independent states results in the independence of Zimbabwe in 1980 (from Britain). In this period the Southern African Development Co-ordination Conference (SADCC) in 1980, now the Southern African Development Community (SADC) is established.</p>

1990s	Continued efforts for liberation result in the independence of Namibia in 1990 (from South Africa who took it from Germany during World War 1). SADC is officially established in 1992. The last country to be liberated, South Africa attains independence in 1994 (from the Apartheid Union of South Africa comprising the British and Dutch, which later formed the Republic of South Africa in 1948 and instituted apartheid.)
2000s	All countries in southern Africa now independent and stronger voices of indigenous people emerge and continue to grow in strength (since the 1960s).

4.3.1 Anthropological texts

Overview: Summarily, the anthropological publications analysed are case studies of local communities in singular contexts. They are thick text descriptions of these communities which strive for 'accurate' representation. As a result of this contextual focus, there is great attention on the accuracy of local (vernacular) plant names in the text. However, these local plant names are second in priority to botanical plant names.

What is also common among the anthropological publications is the lack of identity of local individuals represented in photographic illustrations. Here these nameless individuals seem only to serve the purpose of demonstrating a particular activity. An exception is *Lwaano Lwanyika* by Reynolds & Cousins (1989) where most of the photographic illustrations have names of the persons in the photographs.

In general the anthropological texts are guided by a theory of linear evolution of human development which has the basis that those communities that heavily rely on natural resources (hunting and gathering) signify 'primitivity' while agrarian communities signify 'advancement' (see Lee, 1992; Anderson, 1998; Smith, 1999). All the selected studies chose isolated/secluded 'primitive' rural communities as their research focus, an exception being the more recent study on *Wild Plant Resources and Cultural Practices in Rural and Urban Households in South Africa* by Cocks (2006b) which also has a focus on indigenous communities in urban areas.

Another related feature of the anthropological studies is a reliance on botanical nomenclature and taxonomic classification, which take precedence over indigenous plant names and classifications. An exception is the more recent text *Lwaano Lwanyika* (Reynolds & Cousins, 1989) where local names dominate in the main text. However, this text also relies on botanical identification and classification.

A descriptive analysis of the selected individual texts now follows.

4.3.1.1 Scudder, T. (1962). *The Ecology of the Gwembe Tonga*. Manchester: Manchester University Press.

4.3.1.1a) Institution: This study was sponsored by the Federation Government of Rhodesia and Nyasaland (now Malawi, Zambia and Zimbabwe) prior to the resettlement of the Gwembe Tonga communities to pave way for the construction of the Kariba Dam on the Zambezi river flood plains where these communities were settled at the time of the study. This positions this text during the period of colonial domination of these countries where decision-making processes that affected local communities were in the hands of the colonial institutions, hence the commissioning of this study by the federal government. The aim of the study was to produce a baseline survey of the human ecology of the area, mainly to assess their livelihood sustenance strategies, which was then used to justify the removal of the local communities from the Gwembe Valley. In calling this an ecology study, the community is dehumanised into an object for scientific study, in a process similar to a scientist studying the ecology of plants and animals. This therefore places the studied community into an evolutionary hierarchical level below that of the researcher, a level equated to animals and plants.

4.3.1.1b) Representation of Indigenous Knowledge: The focus on plant-based indigenous knowledge in the text falls in the chapter '*Other aspects of the subsistence economy*' under the section on **gathering** (Scudder, 1962, p. 201-214). By referring to the livelihood sustenance of the Gwembe Tonga as a 'subsistence economy', the researcher reformulates these practices to fit the

modern market economy for comparative purposes, thereby detaching them from the contextualised local community understandings of these activities. The sources of information on plants are usually clearly indicated in the text, mainly with reference to the context (locality from which the information is derived). Most of the information is however synthesised into the text by the author as indicated below.

Commenting on the role of wild leafy vegetables in the diet Scudder states:

While agricultural relishes (especially cucurbits) may dominate during certain months of the year, frequent checks on what Valley families were eating in the River regions indicated that gathering activities supplied the main source of relish during the 1956-7. Indeed, for three Mazulu Village households for which we have the most data..., gathering supplied relish on more days than did agriculture, fishing and hunting combined.

(p. 201)

Here the role of wild leafy vegetables is scientifically verified by the statistical frequency of their consumption in comparison to agricultural (cultivated) relishes, fishing and hunting.

Commenting on the preparation process of wild leafy vegetables as relish and its effect on nutrient content, Scudder states the following:

While prolonged cooking may decrease the protein value of relishes and destroy their vitamin content, other Valley Tonga techniques associated with relish preparation probably increase their food value. This applies especially to the custom of cooking vegetable relishes in a solution of ashes or salt, the latter being extracted by filtration from the ashes of dung and certain plants or gathered up at mineral springs...While the ashes' or the salt's alkalinity may destroy much of the vitamin B1 and C in the leaves, both techniques soften fibres which otherwise would be indigestible... They also add their mineral content to the food.

(p. 203)

The nutritional content of the food is thus deliberated upon based on scientific standards and knowledge.

Scudder also makes mention of the collection and drying of (wild leafy vegetable) relishes for later use in the dry season (p. 203).

Scudder noted that in contrast to leafy vegetables, fruits were usually eaten between meals, with some being popular to people of all ages when in season (p. 207). This reveals that he is making a comparison with how meals are normally structured in his own culture, therefore implying an alternative practice is an abnormality.

In reference to the nutritional contribution of favourite fruits of the Valley Tonga, *Sclerocarya birrea* (*Sclerocarya caffra* subsp. *birrea* - marula) and *Phyllogeton discolor* (*Berchemia discolor* - pink ivory), Scudder states:

Although greater importance of these two fruits in the diet may be primarily a matter of taste, appearance and relative abundance, it is not impossible that the Valley Tonga have somehow learned to emphasize those fruits which nutritionally speaking are the best for them.

(p. 209)

This signifies that he does not consider the Gwembe Tonga to have knowledge on the nutritional value of these fruits and that their choice for them is rather guided by different criteria: taste, appearance and abundance. Comparatively it is him, as the nutritionally informed other, who thus realises that these fruits are best for them.

With regards to famine food plants Scudder states the following:

Always an important source of vitamins and minerals in the Tonga diet, wild food plants also serve as a cereal substitute during hunger and famine periods. Prior to the development of more efficient famine relief measures of the past twenty-five years, Government Officers on tour in the Gwembe frequently reported that crop failure forced the Valley Tonga to live off wild roots, fruits and grasses for months at a time between the exhaustion of their grain supplies and the next rains harvest.

(pp. 210-211)

Here the author shows his bias towards a belief in agriculture as a primary source of food provision. He therefore hierarchically places gathering as

secondary source of food, a 'cereal substitute' that is mainly important during famines. This statement is contradictory to his earlier observation that wild food plants are a main source of food.

That Scudder doubts the authenticity of these reports is evident as he follows up this statement with the following:

While I believe that a number of these reports are overly optimistic about the ability of wild produce alone to support an agricultural population for extended periods of time without widespread malnutrition and starvation, it cannot be denied that time and again crop failure has led to intensive exploitation of the rich flora of the Valley.

(p. 211)

This portrayal of the Valley Tonga as an agrarian society is in stark contrast to his earlier statement on page 201 where he claims a heavy reliance of the Valley Tonga on gathered relishes.

Commenting on famine foods requiring extensive preparation such as the beans of *Lonchocarpus capassa* and *Xeroderris stuhlmanii* (*Ostryoderris stuhlmanii*), Scudder stated:

...the use of these beans, along with other foods requiring extensive preparation, indicates that the problem of survival within the Valley has forced the Valley Tonga to make extensive use of their plant resources.

(pp. 213-214)

This indicates his belief that the Valley Tonga have been **forced** into this adaptation to the **harsh** Zambezi Valley environment, implying maybe they would have lived otherwise given the opportunity. It is surprising that, against this seemingly 'harsh landscape' to the researcher, the Gwembe Tonga were long-term inhabitants of the valley at the time of this study, dating to way back before 1860 (p. 25), indicating their adaptation to this environment, an aspect which is characterised by their varied livelihood strategies.

On wild grass cereals Scudder believes they are used to **bridge the famine gaps** between harvests as well as **to conserve cultivated grain harvests** as indicated in the statement below:

...these wild grasses are valued for their grain which is prepared as porridge (insima). Since most species ripen before any cultivated rainy season cereal with the exception of **kaile** maize, their maturation may bring to a close hunger and famine periods arising from exhaustion of grain stored after the preceding rains and/or dry season harvests. Even if these stores are ample to last until the new crop is ready, some Valley Tonga harvest (and occasionally store) wild grasses in order to conserve their agricultural resources against future stress periods.

(p. 214)

This again reveals a perception of the Gwembe Tonga as a predominantly agrarian society relying heavily on cultivated produce with other livelihood sustenance activities being designated a marginal role. This perception is most likely inspired by an anthropological belief of a linear human evolutionary sequence in which primitive migratory hunter-gathering societies are believed to gradually evolve into advanced sedentary agrarian societies. It selectively prioritises, and therefore subsumes, the multiple subsistence activities - gathering, fishing, hunting, including agriculture, revealed in this study that were represented in the livelihood means of the Gwembe Tonga.

4.3.1.2 Lee, R.B. (1979). *The !Kung San: Men, Women and Work in a Foraging Society*. Cambridge: Cambridge University Press.

4.3.1.2a) Institution: This is an anthropological research account of an "ecological and historical" study of the !Kung San of Botswana done under the auspices of the University of California, Berkeley . The purpose of this study was to look at a "**contemporary hunting and gathering and gathering society from an evolutionary perspective**" (p. xvii) (my emphasis). This implies it was study aimed at looking at an 'isolated/secluded community' that was 'evolutionary primitive'. This reflects an idealised anthropological stereotype that believes in 'exotic untouched' communities and fails to take cognisance of external interactions of local communities. The very implication of human beings as 'foragers', as presented in the title, to me reduces them to the level of animals. Paradoxically, the same study claims to address the following:

How were we to avoid the implicit racism and biological reductionism of earlier anthropological work on the subject? Many nineteenth century

writers had treated contemporary “savages” as “living fossils” or “missing links”, an approach that had come to be thoroughly discredited.

(p. xvii)

The author claims to address this through the ecological approach because

...through it we could explore comparatively the continuities and discontinuities in subsistence, energetics, spatial organisation, group structure and demography without doing violence to the absolutely crucial recognition of human culture.

(p. xvii)

However, this is still a study of (an ‘ecology’ of) the ‘other’ and therefore does not differ much from earlier anthropological work. And having a detached scientific (ecological) view of researching the community seems to me to do more harm than the ‘implicit racism’ and ‘biological reductionism’ of earlier anthropological work in that the community are treated as ‘objects’ (rather than participants in research) of scientific study and speculation. In other words the author seems to be perpetrating and reinforcing the same ills of earlier anthropology that he claims his study has addressed by hierarchising, organising, and statistically (demographically) analysing the community. There is also no consideration for the impacts of the intrusive nature of the study itself on these peoples.

The author further tries to justify this approach to the study by claiming that:

The hunting and gathering way of life was disappearing rapidly, and many valuable research opportunities had already been lost by failure to collect concrete data on material existence of these peoples.

(p. xviii)

The urgency seems to be to document the life of hunter-gatherers before they ‘disappear’, in this case this disappearance reflecting the inevitable integration into the modernised world. Paradoxically, no concern seems to be shown for identifying and addressing the factors contributing to this disappearance.

4.3.1.2b) Representation of Indigenous Knowledge: The mention of plant-based indigenous knowledge is covered to a limited extent in Chapter 5 which focuses on “Technology and Organisation of Production”. The title of the

chapter reflects the impacts of techniques of science in restructuring, codifying, re-organising the local knowledge to transform it into scientific (anthropological) discourse. In this chapter the author records plants used for making implements used by the community. These include the digging stick of which the author says:

The digging stick is 100 to 140cm (3.5 to 4.5ft) long and about 20mm (0.75in.) in diameter. It is cut from the smooth, straight stalk of **Grewia flava** or **Dichrostachys cinerea**, peeled, and smoothed; the end is sharpened to a wedge-shaped point.

(p.123)

Here scientific representational technologies of measurement are used to create a visualisation of the digging stick by specifying its dimensions.

Under hunting tools the author mentions:

The hunting bow is made from a carefully chosen flexible shaft of the bush **Grewia flava** or **Grewia bicolor**. (p. 129)

The hunting arrow has a main shaft about 35 to 40 cm in length made from the stem of the perennial grass, **Phragmites australis**. (p. 129)

The quiver is made from smooth, thick bark of the stiff roots of **Acacia herbeclada** or **Acacia tortilis**. (p. 135)

Here, in addition to measurement, the characterisations of the hunting tools are specified in scientific terms: flexible, thick, stiff; bush, perennial grass. The primacy of botanical names is shown by their preference in place of local names which are excluded.

The bulk of the information on plant use falls under Chapter 6 which is "An Inventory of Plant Resources". In making an 'inventory' of plant 'resources' the author is quantifying the local use of plants in modern economic terms. Here the author notes:

The !Kung are superb botanists and naturalists, with an intimate knowledge of their natural environment. Over 200 species of plants are known and named by them (see Appendix B), and of these a surprisingly high proportion is considered by the !Kung to be edible.

(p. 158)

The !Kung are thus compared to foreign professionals characteristic of the researcher's society. What have been excluded here are the local terms by which the !Kung identify themselves.

The main emphasis of this section and the accompanying table is the 'foraging' aspect of the !Kung San, that is their knowledge and use of wild food plants. On these wild food plants used as food the author states:

It is evident that the !Kung have a remarkably broad subsistence base, including 29 species of fruits, nuts and berries; 41 species of roots and bulbs; 18 species of edible gum; and a variety of beans, melons, leafy greens, and other plants. Close examination however shows that the Dobe !Kung are highly selective of their food habits. Only 14 of the 105 species constitute almost three-quarters of the calories in the vegetable diet, and one species alone, the mongongo, accounts for nearly half the total.

(p. 159)

Here the food plants have been categorised into food groups familiar to the author: 'fruits', 'nuts and berries', 'roots', 'edible gum'. They have also been quantified numerically and statistically analysed.

On the importance of the mongongo (*Ricinodendron rautanenii*), of which both the flesh and the nut are used as food, the author makes a comparative claim that:

The mongongo (fruit and nut) is in class by itself. All the Dobe !Kung agree it is their most important vegetable food. It is superabundant, found near all water holes, and available in all months of the year; it is easy to collect, tasty, and highly nutritious. Only meat rivals the mongongo as the most desirable food of the !Kung.

(p. 168)

A whole chapter after this chapter, Chapter 7, is dedicated to the mongongo its ecology, distribution, seasonal occurrence of fruit and its use by the !Kung San.

4.3.1.3 Rodin, R.J. (1985). *The Ethnobotany of Kwanyama Ovambos*. Monographs in systematic botany from the Missouri Botanical Garden, Volume 9.

4.3.1.3a) Institution: This study was undertaken under the auspices of the University of California, Berkely. The study is an ethnobotanical study specifically targeted “to study the Kwanyama, one of the segregated tribes of the Ovambos of Bantu linguistic affiliation.” (p. 1) This selection of isolated exotic communities seems to have been the traditional norm of anthropological research (Cocks, 2006b).

As in most anthropological accounts in this study, emphasis is also placed on the role of botanical institutions and systems as an authority in this publication. Rodin acknowledges the National Herbarium of Botanical Research Institute in Pretoria, the Bolus Herbarium of the University of Cape Town, the S.W.A. Herbarium, Windhoek, and the Botanische Staatssammlung in Munich, Germany in the identification of his herbarium collections (dried plant specimens). Their role is also evident in the wide distribution of herbarium specimens (that is dissemination of botanical knowledge) to various herbaria. This reflects the prioritisation of scientific institutions in the study.

Of the African informants the author says: “Many Africans assisted with information of whom only a few can be mentioned here....” (p. 2). This exclusion emphasises their inferior position in the hierarchy of authority. The few that are mentioned are people with respectable offices such as reverends, customs officials and the district headman, for example: “Since we were staying in the district of Headman Gabriel Katanga, we met him, exchanged gifts, and were welcomed to work in his district” (p. 2).

In my reading, this selective targeting of the headman was done to ease the researcher’s acceptance to work in his district, considering his authoritative position. The rest of local informants remained anonymous and uncredited.

4.3.1.3b) Representation of Indigenous Knowledge: With regard to Kwanyama plant names in the body of the text Rodin states that:

In the body of the monograph it will be noted that a number of plants, such as some members of the sedge family (Cyperaceae), have Kwanyama names but that no uses are known to many of them. We do not know whether all these plants were once utilized, and hence named, or whether they were given names in spite of the fact that they had no known use. Levi-Strauss (1966) has stated that **primitives** classify plants not just because they are utilised but because they bring conceptual order to their world. I strongly suspect that is true of many plants known in this tribe which are not used but which have Kwanyama names.

(p. 8, my emphasis)

Three things come to light with this statement. Firstly, that local people cannot be an authority of their own knowledge since, instead of asking them why this was so (why they name plants which they have no use for), the researcher instead sought an explanation from a renowned anthropological researcher who could make an authoritative knowledge claim on such tribes. Secondly, that the author was making a utilitarian judgement in which he deemed that every plant that is named by locals should have a related use. The findings however prove otherwise and thus baffle him. Thirdly, that the community under study was seen to be primitive compared to that of the researcher, as has also been confirmed by the Levi-Strauss statement (in the above quote) about primitives.

In reference to the family settlement Rodin states:

Each Ovambo unit family lives within a kraal ... Within the palisaded walls of the kraal are number of huts. The outer walls and passageways within are constructed of straight, sharp-pointed poles buried in the ground at the base. The upper parts of these poles are tied together with bark of the mopane tree, **Colophospermum mopane (omufyati)**. The young trees or tree limbs of this species are most desirable, because the wood is termite resistant. Other resistant species considered desirable are **Acacia erubescens (okadilangohono)**, **Combretum mechowianum**, **Terminalia sericea (omulunga)** and **Diospyros lycioides (osimumu)**. Others, which are not termite resistant, are less desirable because they must be replaced every two or three years.

(p. 8)

Besides the approbation of the local community logic of using durable plant species for making walls, what stands out in this passage is the comparison of family settlements with 'kraals'. The use of this bracketed terminology to me is a reduction of humans to animals. Since animals such as cattle live in kraals, this dehumanises and relegates these Ovambo communities to the hierarchy of primitive societies. This reference to kraals might also be an indication of a comparison of these Ovambo structures to kraals in the culture of the author.

Rodin then goes on to describe the use of plants to make implements used in the home and for hunting, fishing, rituals and ceremonial occasions. However the main mention of plant-based indigenous knowledge falls under Chapter 3 which focuses on "Plants in the Kwanyama Culture". Under the section on Carved Wood, Rodin for the first time makes mention of a local individual in the main text when he states that:

An active carver, Gabriel Hidengwa, explained the process of carving to me as follows: His favourite wood is **Commiphora africana** and **C. angolensis** (both called **omboo**), but he uses also **Peltophorum africanum** (**omupalala**), **Berchemia discolor** (**omuve**), **Albizia anthelmintica** (**omunghete**), and **Ricinodendron rautanenii** (**omunghete**). He collects his own wood, and the omboo designated for cups and buckets must be cured in the sun for three months, being turned over everyday. The bark is not removed until the carving begins.
(p. 23)

This use of an individual's name might be because this individual is a specialist in his field, who attracted the attention of the author. Botanical names are given priority over local names, the latter being bracketed, showing a hierarchical domination of scientific discourse.

Talking about spoons Rodin claims that:

Wooden spoons of a very simple design are used in stirring porridge and cooking vegetables in the kraal. **Because all food is eaten with fingers, there has been little development of such eating utensil as spoons and forks.**

(p. 26, my emphasis)

The last sentence in this statement indicates a comparison of the local culture to the author's western culture which places the local culture hierarchically below that of the author as it indirectly implies the locals are 'yet to evolve' their eating culture to that of the west of using spoons and forks. The author continues to make comparisons (relational links) to his culture in other parts of the text such as referring to traditional alcoholic beverages by the Western terms 'wines' and 'brandies' (pp. 36-37). A similar comparison is made in the following paragraph:

Body powders, similar to talcum powder in European cultures, are made by drying and grinding to a powder twigs of **Hemizygia bracteosa** (**oshive**) of flowers or **Croton gratissimus** (**obango**). These pleasantly scented powders are then rubbed on the body as deodorants.

(p. 38)

Here the author compares powders made by locals to talcum powder and deodorants in his own culture. This comparison could have been an attempt by the author to make the culture of the Kwanyama Ovambos accessible to Western readers for which the text was targeted.

The section on Plants in the Kwanyama culture is followed by a Taxonomic Arrangement of Plants and Their Uses in Chapter 4. This is the main section of the book. Here botanical nomenclature and taxonomic classification take precedence, as do descriptions of the plants. Kwanyama names are found and plant uses are included where available. Lastly, there is an appendix of Kwanyama Plant Uses, in which the plants are categorised according to their use.

4.3.1.4 Reynolds, P. & Cousins, C.C. (1989). *Lwaano Iwanyika: Tonga Book of the Earth*. Harare: Colleen Crawford Cousins in association with Save the Children Fund (UK).

4.3.1.4a) Institution: The production of this text was funded by Ford Foundation and Save the Children Fund (UK). It was produced nine years after the independence of Zimbabwe, an aspect that seems to influence the

type of representations in the text. Whilst Reynolds and Cousins are the lead authors, the material in the book gives voices and identity to the Zambezi Valley Tonga people that it draws from, including children in the area. Unlike most anthropological studies that are targeted for external readers this book is unique in that it is intended for Tonga children and youth. The book draws from earlier anthropologists that had researched the Zambezi Valley Tonga such as Elizabeth Colson, Thayer Scudder, Barrie Reynolds and Ladislav Holy. Also consulted was a renowned botanist, Bob Drummond, in the compilation of a comprehensive plant list, giving their Tonga and scientific names and their uses. This shows that scientific authority is still prioritised in the production of anthropological representations. However, due acknowledgement is given to the local contributors to this product. The book therefore combines both the consultation of outsider 'experts' and, to large extent, local people. Its educational purpose is to provide a story of the Tonga people and their livelihoods to the Tonga community, in particular the youth. However, here the story is told using the voices of the local people. In this aspect it differs from the general trend of other anthropological studies in that it gives voice and identity to the local people and in that its intended audience is the local community being studied (i.e. it is not for foreign/external consumption).

4.3.1.4b) Representation of Indigenous Knowledge: Plant-based indigenous knowledge is first mentioned under the section on Technology. In the text priority is given to Tonga names accompanied by common English names, with scientific names accessible through a reference number in the main text that leads to the scientific name in the Appendix on the Flora of the Zambezi Valley at the end of the book. For example, in talking about basket-making the following paragraph states:

Runari has sold about five baskets to tourists, for \$12 each. She herself owns five baskets – four small ones and a big one. While **mapokwe** (355) - **ilala** palm-still grows freely, the basket makers' **matete** – reeds – no longer grow in Mola. Runari used to go by bus to cut reeds at Nebiri, but since the bus stopped running because of the bad road between Mola and Siakobvu she has no reliable supply.

(p. 118, emphasis original)

Here it is also evident that though the text is written in the authors' words, the narrative is evidently from the local person whose name is given. The priority of local (Tonga) names in a book is unusual and might have been influenced by the intended audience: this book is specifically developed for use by locals, in particular Tonga children and youth. Most anthropological texts are not intended for consumption by the people who are represented but for an external exotic audience. Unlike most anthropological accounts in which the author is the narrator completely representing the other, here the individuals from the community being represented are given space and allowed to have voice which appears in local riddles, children's art and narratives, thereby producing a (negotiated) shared vision of reality in the final textual account.

The main section on plant-based indigenous knowledge is under the section on 'Resources' in the subsection on 'Gathering' (pp. 199-202). This section covers indigenous relishes, fruits and other edible plants. The local names are prioritised over botanical names, showing the emphasis and consideration made to make the book accessible to the local reader. Here the author states at one point that:

Time and again **crop failure** led to intensive exploitation of the rich flora of the Valley. Women and girls gathered famine foods **to feed their families between exhaustion of their grain supplies and the next rain harvest.** (My emphasis)

The seeds of these plants were soaked, boiled, pounded and made into a porridge:

chikowakowa (93), **chinamalambwa** (94), **soswe** (197), **sonkwe** (229), **mukololo** (392), **chamuzeze** (445), **mukaseza** (446), **mulungwe** (505), **musonde** (527), **musika** (552), **musikili** (571); **impunga** (581), **mpunga** (582), **mutundulu** (600)." (emphasis original)
(p. 201)

A focus on famine foods seems to have been derived from an earlier work by Thayer Scudder, referred to in the book, as is the bias that shows the dominance of agriculture (the emphasis on crop failure) over alternative means of livelihood sustenance: gathering, hunting, fishing. The local people are perceived to 'fill the gap' between harvests with a reliance on wild food plants.

4.3.1.5 Cocks, M. (2006). *Wild Plant Resources and Cultural Practices in Rural and Urban Households in South Africa: Implications for Bio-cultural Diversity Conservation*. PhD thesis, Wageningen University, Wageningen, The Netherlands.

4.3.1.5a) Institution: This study is a Doctor of Philosophy thesis from Wageningen University, Wageningen, The Netherlands but it was conducted in the Eastern Cape of South Africa. The study falls in the post-colonial era of South Africa. This study focuses on bio-cultural diversity, specifically realising the “inextricable link between biological and cultural diversity” (Cocks, 2006b, p. 6), an aspect that the author argues has been, until recently, neglected in biodiversity conservation processes; how cultural plant use can threaten biodiversity; and how cultural plant use can be harnessed for biodiversity conservation purposes. The author also points out that culture is retained even within urban settings and that there is need therefore to redefine indigenous identity and culture.

In defining the problem, the author argues:

...the terms ‘indigenous’, ‘traditional’ and ‘local’ people have become embedded in the discourse of bio-cultural diversity. Nonetheless, the precise interpretations of the terms ‘indigenous’, ‘traditional’ and ‘local’ are problematic in many parts of the world.

(p. 6)

She supports this claim by contending that:

Similar to the term ‘indigenous’, it is important to recognize that the term ‘local communities’ should not be interpreted as referring only to traditional communities with static lifestyles, and to acknowledge that these communities may be dynamic in response to changing rural conditions, and hence may change their cultural practices and their perspectives on the importance of natural resources and biodiversity...

(p. 7)

Here the author is pointing to the need to break from idealised anthropological stereotypes of reading local communities as static.

On the relevance of the study to management of biodiversity in South Africa the author states:

Currently within South Africa, the predominant focus within literature is on the role is on the utilitarian functions of biodiversity...and very little attention has been given to the cultural values of biodiversity and their relevance in respect to biodiversity conservation. A study on bio-cultural diversity in South Africa can therefore not only contribute towards a better scientific understanding of the dynamic dimensions of this concept, but may also offer new ideas on how to further stimulate community-based conservation in South Africa.

(p. 9)

This statement points to the prevalence of utilitarian representations of biodiversity use and the need to go beyond these and also look at cultural uses of biodiversity.

The study mainly comprises independent papers that form the chapters of the thesis. These are analysed below.

4.3.1.5b) Representation of Indigenous Knowledge

4.3.1.5.bi) *Chapter 2: Bio-cultural diversity: moving beyond the realm of indigenous and local people*

What is notable at the beginning of the chapter is a picture symbolising/portraying the ritual burning of incense in which the individual in the picture is not identified (p. 21). This signifies the considered importance of the practice represented over the person in the picture, a seemingly normalised form of representation in most of the anthropological texts analysed in this study.

In this chapter the author notes the introduction of the term bio-cultural diversity to denote the 'inextricable link' between biological and cultural diversity. However she contends that:

Although the term [bio-cultural diversity] is being used increasingly, there has been little critical reflection on what the term precisely refers

to. It is argued that the concept is particularly used with reference to 'indigenous traditional' people, but that there is scope for extending the concept within bio-cultural discourse.

(p. 21)

This reflects that the term bio-cultural diversity has been used with a limited scope that does not capture the reality of the lived context of indigenous people.

Speaking on plant conservation by indigenous people, the author states:

Examples of how 'indigenous' and 'local' people around the world have protected both individual trees and entire habitats have led to the interest in linking biodiversity to human diversity.

(p. 22)

This shows an awakening of modern science to the role of indigenous people in biodiversity conservation, a domain that had been dominated by scientific institutions and discourses.

With regards to cultural use of plants in South Africa, the author notes:

Case studies in South Africa that describe 'traditional' cultural practices and activities which are still being performed in communities that have experienced social, economic and political upheaval as a result of the resettlement policy implemented by the former apartheid government...

(p. 27)

This is indicative of the resilience of traditional culture against an unfavourable climate of modernity and colonial domination and imposition.

She proceeds to give examples of evidence to support this above contention in the following case studies:

- 1) Cocks et al. (in press) describe the significant role that wild resources play in the construction and maintenance of cultural artefacts within peri-urban households. Vast quantities [sic] of woody materials are collected annually by male members of the households for the maintenance of a kraal (p. 28).
- 2) In another study in South Africa it was observed that urban residents still prefer using traditional grass brooms over industrially manufactured brooms because of the cultural significance that is attached to the use of these brooms, e.g. as wedding presents, and for their ability to offer

households' protection from lightning attributed to sorcery (Cocks & Dold, 2004) (p. 28).

The author then argues that:

... the concept of culture must be understood as a dynamic process of transcultural exchange with constant rearticulations of traditional resulting in the persistence of certain cultural practices amongst any group of people...even people who have migrated to urban or peri-urban areas and have become involved in modern economic sectors still to varying degrees maintain certain cultural practices, including the use of wild resources for maintaining a sense of well-being and identity. Thus the theory of bio-cultural diversity should extend the term 'indigenous' and 'local people' to include more varied social groups.
(p. 29)

What the author is trying to point to is that people do not necessarily lose their indigenous identity by relocating to urban areas, as is evidenced by the retention of cultural practices and links to rural origins by amaXhosa people in the paper. This reflects the resistance of local communities to normalisation, generalisation and standardisation by the tools of science.

4.3.1.5.bii) *Chapter 3: The significance of biodiversity to rural households in the Eastern Cape province of South Africa*

In this chapter the author contends that "Few studies have investigated the utilitarian and cultural roles of forests and trees in an integrated manner" and that "...little attention has been given to the role of biodiversity in local communities living under non-traditional conditions" (p. 39).

The author proceeds to group selectively local plant uses into nine main categories: kraal material, fuel wood, material for rituals, fencing material, wild fruits, *igoqo*, traditional medicines, timber and wild vegetables. Coding and categorising local knowledge is a process by which local knowledge is re-organised and transformed into scientific representational discourse.

Under Kraal Material the author writes:

Of the 19 species selected, the dominant three species are [sic] for poles are **Ptaeroxylon obliquum**, **Olea europea** subsp. **africana** and **Pappea capensis** and for branches **Pappea capensis**, **Coddia rudis** and **Ehretia rigida**.

(p. 46)

Here the information is numerically represented to make it scientifically verifiable.

The author also makes a culturally informed observation that: "The kraal is foremost an important venue to host traditional rituals and is where family members can communicate directly with their ancestors" (p. 46).

For Fuel wood she states:

The number of species selected for fuel wood purposes featured as the second highest after medicinal plants. Of the 26 species selected, the dominant species were **Ptaeroxylon obliquum**, **Acacia karoo** and **Olea europea** subsp. **africana**.

(p. 47)

This again shows her reliance on numerical representations to scientifically validate her findings.

Under Materials for Rituals a similar numerical representation is made:

Only 16 species were selected for ritual purposes. Notably **Olea europea** subsp. **africana** and **Ptaeroxylon obliquum** are culturally significant because these two species are used as a plate or platter on which a sacrificed animal carcass is placed in traditional ceremonies.

(p. 47)

She also makes the cultural observation that:

Rituals are performed only on specific occasions during the year, predominantly in December and June/July. Rituals invariably involved the slaughtering of an animal, either an ox or a goat, for the ancestors. The host family invites extended members of the family, neighbours and friends to attend and large quantities of food and traditional beer are prepared.

(p. 47)

With Fencing Material she observes:

Of the 11 species selected, the dominant three are: **Ptaeroxylon obliquum**, **Olea europea** subsp. **Africana** and **Schotia afra**, these species are selected because of their durability and straightness.

(p. 47)

Under Wild Fruits she notes:

The most common species of the 18 collected was the prickly pear – **Opuntia ficus-indica**, followed by **Harpephyllum caffrum**, **Dovyalis lucida** and **Scutia myrtina**.

(p. 47)

She also observes that: "Of the 18 species, one **Convolvus saggitatus** – is tuber, eaten raw but called a fruit by the people of Woodlands" (p. 48).

On the *Igoqo* she states:

Only 15 species are selected for maintaining an *igoqo* compared to 26 species for fuel wood, again highlighting species-specific selection for cultural requirements. The four dominant species collected were: **Acacia karoo**, **Ptaeroxylon obliquum**, and **Olea europea** subsp. **africana**, revealing a large overlap between species selected for ritual purposes and those used in an *igoqo*. Only one species differed between the two-resource categories - **Peronia incana**, which was selected for ritual purposes only.

(p. 48)

In all the above quotes, the information is numerically justified and hierarchised.

The author also makes the cultural observation that:

The *igoqo* is also an important venue for women who congregate around it to talk about household matters...A middle-aged woman described her *igoqo* as providing her with dignity because it signified her status within her community.

(p. 48)

On Traditional Medicines she reports:

In total 55 species were selected for medicinal purposes; this is the highest number in any resource use category. These traditional

medicines are not only involved in the prevention and cure of health problems, but also in the purging and cleansing fo the body. Purgatives are administered routinely as a preventive health measure, as it is believed that relief is only to be found through purging and cleansing the body...The importance of such culturally oriented medicinal uses is demonstrated by the fact that of the three dominant medicinal species (i.e. **Bulbine latifolia**, **Dioscorea sylvatica** and **Ballota africana**) two are used for such purposes. *Bulbine latifolia* is used as a purgative to cleanse blood. **Dioscorea sylvatica** is used as a body wash to ward off evil. **Ballota africana** is used to treat coughs and fevers.

(p. 49)

Under Timber she states: "A total of 16 species were selected for timber purposes. The three commonest species are: **Ptaeroxylon obliquum**, **Acalypha glabrata** and **Ehritia rigida**" (p. 49).

For Wild Vegetables she records that: "Of the 12 species selected, the dominant three are *Solanum retroflexum*, *Sonchus oleraceus* and *Amaranthus hybridus*, all exotics" (p. 49).

Again here statistical data is used to verify and hierarchise the findings, transforming them into the discourse of science.

She also observes that:

Women and young children are responsible for the collection of wild vegetables – commonly found around the homestead, in fallow fields and in disturbed areas. They are either boiled in water and served as a vegetable, or mixed and cooked with other foods such as maize. All vegetable species are annual wild weeds and are, therefore, not available throughout the year.

(p. 49)

Here she makes the cultural observation that the collection of wild vegetables is the domain of women and children. She also notes that all the vegetable species are considered weeds in modern agriculture.

In all plants listed in the above categories, the use of botanical plant names in the text is the norm for the plants used by the local communities, indicating the prioritisation and dominance of Western scientific discourse over local names. The only exception is the use of the isiXhosa term *igoqo* within the main text to signify an important traditional practice associated with woman. Another notable difference is the lack of fit between traditional categories and

those selected by the author, exemplified by the inclusion of the edible tuber of *Convolvus sagittatus* under the category of fruits used by local communities. This probably indicates that all wild food plants eaten raw may locally be classified as 'fruits'. The cultural significance of the plants (and gendered roles) is highlighted under the different categories, specifically under the kraal, *igoqo*, material for rituals and traditional medicines.

In conclusion the author argues that:

This study demonstrates that we have yet to understand fully the complete role and values associated with the diversity of natural vegetation in a given locality and its importance in the cultural fabric of local communities.

(p. 51)

This statement is supported by the following:

This study also reveals that the distinction between utilitarian and cultural uses of wild plant species is not absolute, but relative. In several cases the utilitarian uses of plant resources are tied up with strong cultural values.

(p. 51)

Here the author is arguing for the importance of studying the cultural role/use of indigenous plants by local communities. Also the Western science distinction of cultural plant uses from utilitarian plant uses does not fit the local community culture as plants can be both cultural and utilitarian.

On a concluding conservation note, the author argues that:

The important cultural value attributed to many plant species does not mean that their use is sustainable. Members of the Woodlands community indicated that at least 30 different plant species were becoming increasingly difficult to find. Of these, the five most frequently mentioned were all of cultural importance – *Olea europae* subsp. *africana* (28), *Ptaeroxylon obliquum* (27), *Pappea capense* (21), *Cassine aethiopica* (17) and *Sonchus afra* (6). This indicates that cultural practices in the research area are threatened by the loss of biodiversity and, conversely, the cultural value attributed to many plant species could be used as an argument to support the conservation of biodiversity.

(pp.51-52)

The last statement is a paradoxical one in suggesting that the very practices that are threatening plant biodiversity could protect it. This is however possibly feasible in that local communities may be encouraged to participate in plant conservation that sustains their cultural practices, indicating a changing politics of inclusion in the Western scientific conservation discourse.

4.3.1.5.biii) *Chapter 4: Seeing the wood for the trees: the role of woody resources for the construction of gender specific household cultural artefacts in non-traditional communities in the Eastern Cape, South Africa.*

In this chapter the author makes the claim that:

There is a growing wealth of data capturing the direct-use values of environment and recognition of forests and wild resources as representing 'the poor man's overcoat'. This focus has however resulted in an emphasis on the utilitarian values of wild resources for rural livelihoods and has for the most part overlooked their cultural values.

(p. 63)

Here she points to the way the emphasis of scientific research on utilitarian uses of plants excludes the cultural use which is also important.

She states the purpose of the paper as follows:

The aim of this paper is to demonstrate the cultural significance of wild harvested plant resources for the maintenance of two gender specific cultural artefacts for amaXhosa people in South Africa, to assess the persistence of these practices in rapidly modernizing communities.

(p. 63)

Here she is alluding to the cultural role of plants that is often neglected in the scientific analysis of natural resource use by local communities. The two cultural artefacts are **ubuhlanti**: the cattle kraal and **igoqo**: the 'fuel' wood stockpile. These cultural aspects are frequently mentioned in the text, a selective representational prioritisation. On the former, the author states that: "Various anthropologists have documented that these cattle enclosures are important cultural as well as practical artefacts" (p. 64) and that "rituals invariably involve the slaughter of a domestic animal, usually an ox or goat..."

(p. 65). Here the author verifies her observation by reference to other anthropological authorities.

On the construction of **ubuhlanthi** she observes that:

Typically, a single erect wooden pole (*ixhanthi*), usually from the *umnquma* tree (***Olea europaea*** subsp. ***africana***), is a permanent fixture in the centre of the enclosure to serve as an anchor for the sacrificial animal.

(p. 65)

Here a numerical and positional representation of the object of study is made, and the material from which it is made is also scientifically identified.

On the latter (**igoqo**) she makes the cultural observation that "married women attach great cultural value to their **amagoqo** (plural) as its is considered to be where the female ancestors reside" (p. 65) and that "furthermore an **igoqo** is also an important social venue for women and provides the women of the household with dignity because it signifies their status within the community..." (p. 65).

On **ubuhlanti**, the author found that in the six villages where the study was undertaken: "...79% of the households own and maintain an **ubuhlanti**. Of these households only 47% (n=375) own livestock, demonstrating that **ubuhlanti** are not just a livestock enclosure" (p. 68). Here again the author uses a statistically verified representation to validate her findings.

On the shape of *ubuhlanti* the author notes:

There are two main types of **ubuhlanti** that are different in shape. The shape is determined by the ethnic identity of the family. **Mfengu's ubuhlanti** are square in shaped [sic]...whereas those of the **amaXhosa** are round in shape.

(p. 68)

The author here is making a cultural observation on how the dimension (shape) of the *ubuhlanti* identifies the ethnicity of the household.

Among the rituals performed in the **ubuhlanti** the author lists **ukubuyisa**, **ukukhapa**, **imbeleko**, **intambo** and **ubukwetha**, all of which require the sacrifice of a beast. Statistically, the author notes that most of the households owning ubuhlanti are male-headed signifying this as place as the domain of men, with the richer households owning more **ubuhlanti** than poorer households.

On the **igoqo**, the study found that:

Forty percent of the households owned an **igoqo**. There are two main types of **igoqo**, which are different in shape. The shape is determined by the ethnic identity of the family. **Mfengu** women construct **amagoqo** vertically..., whereas those of **amaXhosa** women are staked horizontally. Occasionally a homestead will feature both types of **amagoqo** to show that the family is part **Mfengu** and part **Xhosa**.

(p. 72)

This shows again the statistical verification representational strategy of the author.

In the construction of these two cultural artefacts the author observes:

For the construction of **ubuhlanti** two types of plant material are needed, i.e. poles forming the upright frame and branches for packing between the poles. For poles 49 species were used, preferred species included: **Ptaeroxylon obliquum...**, **Acacia mearnsii...** and **Olea europaea** subsp. **africana...** Branches are tightly packed between the poles to form the walls of the ubuhlanti...; the preferred species are **Codia rudis...**, **Acacia mearnsii...** and **Pappea capensis...**

(p. 74)

For the construction and maintenance of the **igoqo** on the stem wood is used. ...In total 49 species were recorded as being selected, the main ones being **Acacia karoo...**, **Olea europaea** subsp. **africana...** and **Gymnospora capitata....**

(p. 75)

Here scientific identity of the species takes precedence over local names, which have been excluded in the text. The author also uses numerical verification of the information. There is therefore use of two hierarchical strategies of representation: linguistic and numerical.

In conclusion, the author writes: "The findings of the study also demonstrate that the direct-use values of wild plants do not only relate to utilitarian uses for physical needs, but also to the fulfilment of important cultural functions" (p. 77). Here the author is again pointing to the need to go beyond utilitarian uses of plants to consider also cultural uses. In claiming that the study 'demonstrates' the author is alluding to the scientific certainty of her work.

What this study reveals is the value of two gendered cultural artefacts important for ritual purposes within the studied communities that have to be maintained through intensive harvesting of selected woody plant material in the wild and suggests the need to develop an awareness in biodiversity conservation programmes of the link between cultural and biodiversity conservation.

4.3.1.5biv) *Chapter 5: 'Rich man poor man' – inter-household and community factors influencing the use of wild plants resources amongst rural households in South Africa*

In this chapter the author reiterates her statement on the "intertwined nature of biological and cultural diversity". The study aims to understand the role of Non-Timber Forest Products (NTFPs) in the livelihoods of six rural villages (covering 1 015 households) and the influence of wealth, gender and access to natural resources on the use of NTFPs.

On the cultural value of plants the author states that:

Most studies [on] use of NTFPs focus on uses for food (fruits and vegetables), health (medicinal products) and energy (fuel wood). Recent studies have demonstrated that in addition biodiversity products are often used for ritual and spiritual purposes...

(p. 85)

Here the author indicates the scientific certainty and validity of the recent studies mentioned.

Under methods the author mentions:

Field trips were undertaken with household members to gather plant specimens and household knowledge over a diverse range of species within each community. The specimens were identified at the Selmar Schonland Herbarium (GRA) in Grahamstown and vouchers were deposited here for future reference...Plant species names follow Germishuizen and Meyer (2003). Where it was not possible to collect fertile specimens botanical names for these species were sourced from Dold and Cocks (1999).

(p. 87)

The method outlined above reveals that although the knowledge on the uses of plants was derived from local people who have their own identification system, botanical names take precedence and the information has to be processed and codified into scientific discourse and seen through the eyes of science. The reliance on botanical institutions for identification purposes signifies how Western knowledge discourses support each other to make a combined hegemonic onslaught on local knowledges which subjugates and excludes their representation within mainstream knowledge discourses.

On the use of wild plant species, the author observed:

All households within all the villages used wild plants for their domestic needs, collecting them personally, or buying them from informal markets operating within each of the villages...In total 243 plant species were recorded as being used within all six villages, only 14 of the species were exotic...Some species were used for a number of different purposes, such as *Olea europaea* subsp. *africana* and *Ptaeroxylon obliquum* which were used for the maintenance of kraals and **amagoqo**, for fuel wood, rituals, fencing, medicinal and construction purposes.

(p. 89)

Here the author statistically and numerically validates the evidence gathered.

This statistical validation representation strategy is also indicated on the influence of household wealth on wild plant use:

The wealth of the household only influenced significantly the use of four of the 11 resource use categories significantly, viz. rituals, kraals, thaching and **igoqo** material...

(p. 91)

These influences were described statistically as follows:

A significant difference in mean quantities of material used was found between wealthy and poor households for the maintenance of kraal..., with the wealthy households collecting a mean amount of 945 kg (\pm 889.9) compared to 598 kg (\pm 579.2) collected by poor households. A significant difference was also found in the mean quantities of medicinal plant material utilized per household..., with poorer households collecting the mean amount of 4.2 kg (\pm 5.5) per annum in contrast to 1.9 (\pm 2.5) by wealthy households. A statistically significant result was also found between wealth and the use of timber... with the richer households using more construction timber than the poor households.

(pp. 91-92)

On the influence of gender the author writes:

In addition to the influence of wealth, the gender of the household head was also found to influence wild plant use. Significant relationships were found regarding the use of kraal material, thatching material, medicinal plant material and the making of traditional sticks. Regarding the use of kraal material, sticks and medicines, significantly more male headed households used these. For example households owning a kraal (**ubuhlanti**) were predominantly male headed (58%, n=461). In contrast amongst households without an ubuhlanti, a greater proportion were female headed (66%). This is because an **ubuhlanti** is foremost a sacred temple for the male lineage of the homestead to communicate with their ancestors and receive their blessings and protection.

(p. 92)

Here again statistical validation is employed.

From the above the author notes that: "These findings clearly demonstrate the important role that gender plays in the cultural use of natural resources as well as the persistence of cultural practices amongst modernized communities..."

(p. 92). This indicates the verifiable scientific certainty of the findings.

The author concludes that:

At an inter-household level an increase in the financial status of households did not result in a decrease in the use of natural resources nor in the quantity of material used as wealthier households continued to utilize natural resources that [they] had either collected or had purchased from local vendors.

(p. 102)

This again shows the use of statistical data to validate the findings.

In this chapter we see the significance of cultural plant use in the local Xhosa communities and the resilience of such practices, in spite of other influences that negates them such as wealth or modernisation.

4.3.1.5bv) *Chapter 6: A new broom sweeps clean: the economic and cultural value of grass brooms in the Eastern Cape Province, South Africa*

Like most of the chapters in the study, this chapter has at its beginning nameless faces of women making brooms for sale, signifying the valuation of the process and not the people engaged in the process. This is likely to be an influence of scientific research ethics that allows the representation of individuals but does not encourage the revelation of their identity. In this way the individuals represented in the photographs become passive generalisable objects of scientific study.

This chapter reiterates the linkage between culture and plant biodiversity, that is the cultural value of plants, this time focusing on “the cultural functions of grass brooms in urban areas in South Africa and the impact of their trade on the income generation in rural areas” (p. 113).

On the cultural role of plants in urban areas, the author states that: “Cocks and Wiersum (2003) for instance, show that wild harvested plant material and derived products can still hold a strong cultural value within rural and urban livelihoods” (p. 113). This reveals the validating authority of the researchers.

The author also cites that:

For instance, in a study in the Eastern Cape it was found that 61% of the purchases of indigenous plant medicines were used for protection against evil spirits, 23% for good luck, and 10% for removing poison inflicted through sorcery or cleansing the blood...

(p. 113)

This reveals the statistical validation of the information.

Commenting on the rural-urban cultural and resource flows the author writes:

The commercialisation of natural resources is a growing phenomenon with recent studies now investigating rural-urban links...In South Africa, much attention has been given to the flow of cash and remittances from urban to rural areas, however, far less acknowledged is the reverse flow of goods and culture to urban areas...and the significance of NTFPs to cultural diversity.

(p. 114)

On the gendered use of grass brooms in the Nelson Mandela Metropole the author observes: "Eighty-four percent of grass broom buyers were female while only 16% were male..." (p. 116).

On the cultural significance of grass brooms, the author states:

Seventy percent of the broom purchasers recorded in this study bought the broom as a wedding gift for a family member; furthermore an equal proportion of the buyers has also received a broom as a gift at their own wedding. The traditional ceremonial presenting of the the broom is called **ukutyiswa amasi**...The broom is symbolic in the Xhosa culture and symbolises respect to the ancestral faith in the newlyweds' home, irrespective of religious affiliation, economic status and geographical location.

(p. 117)

In the above quotes the author again relies on statistical validation of the information.

With regard to broom preference between the long-handled broom adopted from European culture and the small broom of traditional Xhosa origin for cultural purposes, the author writes:

A large majority (72%) of those who purchased a broom for cultural purposes indicated that the presence of the small broom (**umtshayelo wesandle**) in the home served to protect the inhabitants from lightning, most often attributed to sorcery...

(p. 117)

Another cultural use of the small broom is also stated as follows:

A similar proportion of the respondents (72%) who purchased a broom for cultural purposes also reported that a grass broom is used to apply protective medicines in and around the homestead. The ritual in which an infusion of various plant materials is splashed or sprayed on the

floor, walls and roof is called **ukutshiza**...This ritual cleansing or purification ensures the good health of the inhabitants. The small broom used in this ritual is not used for cleaning.

(p. 117)

In both the above quotes the information is statistically verified and observed practices are recorded.

On the influence of education, origin, economic status and age on use of grass brooms, the author observed:

The cultural importance of brooms decreased with higher levels of education. Families originating from the former homeland regions were significantly more likely to use brooms for cultural purposes than [sic] those families from the former Republic of South Africa. Economic status (expressed by means of housing type) was significant, with people in lower economic groups likely to purchase brooms for cultural purposes. Older people tended to buy brooms for cultural purposes than [sic] for cleaning.

(p. 118)

This indicates that, based on statistical evidence, cultural use of grass brooms is more entrenched in the more uneducated, traditional, poor, and elderly people.

On the material used for the production of grass brooms, the author states:

The grass brooms referred to in this study are made from **Cymbopogon validus** (Stapf) Stapf ex Burt Davy), an aromatic tufted perennial reaching 2.4m high that is widespread and common throughout the eastern regions of South Africa (Van Outshoorn 1992). The Xhosa name for this species is **Irwashu**.

(p. 119)

The significance of the authority of botanical classification is indicated here by the emphasis on the authorities responsible for the identification of this species, both the current and earlier authority (Stapf) Stapf ex Burt Davy). The authority on the distribution of this species is similarly identified (Van Outshoorn 1992). For the local name we are only told the Xhosa name for this species without similar authoritative details, regardless of their long-term relationship, use and identification of this plant species. This is indicative of

the normalisation of the hegemony of scientific authority and discourse over local systems of naming and classification.

With regard to marketing the author notes:

Grass brooms are seldom sold within Mxhalanga but the producers travel extensively to sell them – indicating a strong rural-urban linkage. Sale localities include Alice, Cathcart, East London, King William's Town, NMM, Queenstown and Stutterheim...

(p. 119)

This wide geographical coverage of marketing also indicates the broad cultural extent of the use of grass brooms in the province. This reveals that the traditional broom culture is resilient as it is able to survive in modernised urban environments.

On the economic value of grass brooms to local producers, the author found:

Approximately 7,200 large brooms and 1,400 small brooms are produced in Mxhalanga per year. The average price for large broom is \$1.40 and \$0.49 for a small broom. In total the thirty-one producers interviewed gross \$10,800 per year. This equates to approximately \$350 per producer per year. The expenses incurred by the broom producers' amount to approximately \$110 per year. These costs include transportation to and from the harvesting site, permit fees to harvest the grass, the cost of harvesting saplings to produce the handle, accommodation and transportation costs to and from the urban areas. This consequently results in a net profit of \$240 a year per producer.

(p. 119)

Here the economic value of the broom is mathematically determined and represented in a foreign currency, United States dollars, signifying the intended audience for the publication is not the local communities but external readers. The production rates of the different brooms have been numerically quantified. The production quantity of large brooms compared to small brooms could be indicative of two things. On one hand it could imply that the cultural uses have been overtaken by utilitarian uses of brooms as the former broom is only utilitarian. On the other hand it could mean that small brooms, because they are mainly used only for cultural and not utilitarian purposes, last longer.

The author concludes this paper by emphasising the cultural significance of grass brooms amongst Xhosa people within urban settings in stating:

This example of grass brooms demonstrates that the use of wild plant products is not restricted to rural utilitarian use, but constitutes an important element in the performance and conservation of cultural practices and traditions. Fifty nine percent of the buyers of grass brooms in the urban centre did so for cultural purposes. This indicates that many households living in urban centres still adhere to their cultural norms and practices and rely, to some degree, on NTFPs to fulfil these functions. The predominance of women purchasing grass brooms suggests that these fall within the women's domain. The extent to which urban people still adhere to such cultural practices is complex and is influenced by variables such as family origin, economic status, level of education and age.

(p. 120)

The statistical verification is also evident in this quotation as is the scientific certainty, the demonstrated truth claim that the verification method provides. The evidence of that urban Xhosa people 'still adhere' to traditional culture in urban settings shows its implied unexpected resilience to the author against a background of urbanisation and modernity.

4.3.1.5bvi) *Chapter 7: Cultural significance of biodiversity: the role of medicinal plants in urban African cultural practices in the Eastern Cape, South Africa*

Here, the author again reiterates the significance of the 'inextricable link' between biological and cultural diversity and the role it can play in biodiversity conservation. The study was a survey on the urban use of medicinal plants in the Eastern Cape Province, covering King William's Town, Port Elizabeth, Queenstown, Uitenhage and East London.

With regard to cultural sustenance, the author argues: "...increased urbanization does not necessarily imply a loss of traditional cultural values related to biodiversity use" (p125). This reveals that traditional culture is still being represented despite the negative influences of urbanisation and modernity on the local communities.

The author also adds that:

...those who use the concept of bio-cultural diversity must fully understand the relationship between humans and the environment including the way people use the resources available to them from a biological diverse environment.

(p. 126)

This indicates that there is a problem in the way bio-cultural diversity is represented.

On the use of medicinal plants in urban contexts and the significance of this study she states:

We do not yet fully understand the reasons for the continuing use of wild plants in urban areas in southern Africa. Many studies have documented the economic value of the trade in medicinal plants within urban contexts (Cocks et al. 2004; Dold and Cocks 2002; Mander 1998; Williams et al. 2000) and the problematic relation to biodiversity through unsustainable harvesting (Cunningham 1991, 1997; Dold and Cocks 2002). However, there has not been much reflection on why urban South Africans continue to purchase 'medicinal plants' on such a massive scale...There are a few qualitative accounts of the continued adherence to culturally inspired uses of medicinal plants (Hammond-Tooke 1989; Hutchings 1989), but there have been no quantitative analyses of such usage among the Xhosa living in cities. This research begins to qualify and quantify **ameyeza** plants used in an urban context.

(p. 126)

Here we see the dominance of scientific researchers and institutions in the study of a local phenomenon and the role that science then plays in controlling local practices. It is scientific institutions which study and document local knowledge. However we also see the puzzlement of science with aspects it cannot explain, normalise, generalise and standardise, in this case exemplified by the continued representation of local culture even within urban settings, an aspect of indigenous knowledge resilience/resistance in the least expected places.

In defining the term **ameyeza** the author states:

In the medical and anthropological literature, the term **ameyeza** is usually translated simply as 'medicinal plant' in relation to the treatment

of physical ailments and their respective causes. We however suggest that **amayeza** refers to well-being and healing practices in the broadest sense of the word, including non-physical, spiritual, ritual, and religious functions, which helps the reason for its importance in non-traditional setting.

(p. 126)

Here a comparison is being made between the modern medical and anthropological definition of medicinal plants and the definition within the local Xhosa communities.

Elaborating on the definition of the term **amayeza** the author writes:

Directly translated, **amayeza yesiXhosa** means 'Xhosa medicines' and comprises plant-based medicines for both physical illness recognized by Western biomedicine and afflictions recognized by Xhosa people as being caused by the supernatural...

(p. 128)

Describing the broader cultural role of medicinal plants amongst Xhosa people the author states:

For Xhosa people, good health, disease, success or misfortune are seldom considered to be chance occurrences, but are often the result of active intervention by individuals or the ancestors (**izinyanya**)...Indigenous South Africans take measures to protect themselves by strengthening their own resistance and that of their family members to withstand harm...Certain forms of ritual purification such as a ritual body wash (**ukuhlamba ngeyeza**), use of a purgative (**ukugaba** and **ukucima**), spraying (**ukutshiza**), fumigating (**ukugxotha**) or a steam treatment (**ukufutha**) as counteractive and protective measures often involve the use of plant material...Some illnesses (**ukufa kwamaXhosa**) are perceived as only being treated with traditional Xhosa medicine (**amayeza yesiXhosa**) are perceived as only being treated with traditional Xhosa medicine (**amayeza esiXhosa**), although symptoms may be relieved simultaneously with patent medicines...

(p. 128)

The author here is making a comparative representation that qualifies traditional medicine (**amayeza**) and reveals how it differs from the narrow definition of Western science, which confines medicine only to the physical realm, by embracing the spiritual realm. Also evident in the last quote is a

linguistic hierarchy in which English terms have precedence over local names (which are bracketed), reducing the latter to a lower level.

Commenting on the role medicinal plant species traded in urban markets the author notes:

The 60 most frequently traded plant species in urban markets...Analysis of their uses reveals that 52 of species were sold for more than one use. Of these, 49 were found to have non-physical functions with 27 being used exclusively to treat **ukufa kwamaXhosa** related ailments and afflictions. Forty were used to treat 33 physical ailments.

(p. 129)

This statistically verified information reveals that the majority of medicines are used for culturally spiritual purposes. In this way local knowledge and culture is transformed into the discourse of science: statistical discourse.

In concluding this study the author writes:

Although it is widely acknowledged that some urban indigenous Africans make use of traditional medicine, the urban household survey revealed that as many as 67% of urban dwellers in the study site used **amayeza** during a one-year period. The majority of the 64 amayeza plants used by these households addressed non-physical afflictions. Due to the large diversity of plant species required for non-physical purposes, many of these plants had to be purchased at informal medicinal plant markets supplying the urban market. Clearly urban dwellers, particularly those from poor households, are prepared to spend cash to obtain these resources. This demonstrates that elements of traditional world views related to health care and well being are still strongly adhered to in urban areas.

(p. 132)

What this statistically validated information indicates is that despite urbanisation and availability of modern medicine that by implication will impact on this cultural practice, the practice of using medicinal plants is still thriving.

On a conservation note, the author states: "Dold and Cocks (2002) found that 93% of the amayeza species traded in the Eastern Cape are harvested unsustainably" (p. 132).

She suggests that:

Conservationists need to be made aware not only of the link between loss of the natural habitat and cultural practices, but also of the options for incorporating cultural values in novel biodiversity conservation approaches. It is believed that the implementation of such educational campaigns would have far greater success than [sic] species-focused conservation approaches, which are perceived to benefit only the elite and not the ordinary person in the street.

(p.133)

It is evident from this statement above that conservation is a Western science domain to be done by Western trained scientists and not an activity that can be successfully undertaken by actively engaging local communities who in this case have to take a subordinate role in biodiversity conservation issues. It is apparently the voice of Western science that dominates conservation discourses. There is however ambivalence by the author, who on the one hand is emphasising the significance of cultural practices to biodiversity conservation and on the other, not acknowledging the agency of indigenous communities have had, or suggesting the possible roles that they can still play, in conservation that seems to come through most of the chapters. Furthermore, the author works within and augments her work with representational technologies of Western science that include statistical evidence, comparative analysis, hierarchical representations, historical (documented) evidence and culturally framed representations. What is intriguing to science is how local people have managed to sustain their cultural practices that rely so heavily on wild plant resources, and whether we cannot learn from them and work with them as active and not passive participants in biodiversity conservation efforts. This is in an environment dominated by Western knowledge discourses, where local communities lack the formal representational voice but are still nonetheless able to represent their culture through practice. This shows how local communities are defying/resisting normalisation that arises through scientific techniques of surveillance.

4.3.1.5.bvii) *Chapter 8: The significance of natural resources to urban households: implications for bio-cultural diversity in South Africa*

In this chapter the author claims:

There is a well documented and growing demand for wild resources in urban areas in South Africa demonstrating that not only rural but also urban people value diversity...

(p. 147)

Here the author relies on historical evidence to support her claim.

On the aim of the paper the author states:

This paper reports on the use and significance of wild plants for urban households under different socio-economic conditions in South Africa...In a survey in two urban centres in the Eastern Cape Province it was found that almost 78% of the volumes of used wild plant material is used for a variety of cultural practices.

(p.147)

The information here is verified through statistical analysis.

On wild plant uses in urban areas the author notes:

Recent studies show that significant quantities of wild plant products are used in urban areas by consumers, notably in the form of medicinal plant products ...Wild plant products are also used for a variety of other purposes by urban people, for instance in the form of wines and jams...and wood carvings...

(p.147)

Here she uses historical evidence to support her claim.

With regards to the influence of urbanisation on culture the author argues from documented evidence that:

It has often been assumed that increased impacts of urban lifestyle would entail a loss of traditional cultural values, and that the traditional use of wild plants would gradually fade out. However, recent data indicate that this is not necessarily the case.

(p. 148)

Here the discourse of science, evidence from recorded data, is used to justify a scientific claim.

On rural-urban cultural links the author notes:

... many urban dwellers remain in close contact with their ancestral rural homes for generations where they partake in cultural festivities and ceremonies featuring the use of wild resources...

(p. 149)

This is therefore an observational record of local culture.

On the findings of the survey on use of wild resources by urban households in King William's Town and East London the author states:

Despite representing a wide range of urban socio-economic conditions, 99% of the total households surveyed made use of wild plant species for one use or another. These were collected or, purchased within the urban centre and/or collected and utilized at the rural home of origin as 42% of the urban households retained strong contact with their rural home of origin.

(p.151)

Here her claim is once again validated by statistical evidence, creating a numerically hierarchical representation.

Also, based on statistical verification of utilitarian uses of wild food plants, the author noted that:

Wild fruits represented the highest utilitarian resource use category, with 65% ...of households citing a single plants species (**Opuntia ficus-indica**). Of these households, only 5% collected their own wild fruit compared to 95% who purchased these from the street vendors.

(p. 156)

Thirty-five percent (n=107) of the households made use of wild resource material for fuel wood purposes... The majority, 82%, purchased fuel wood from vendors in their neighbourhood. Only 16% collected their own fuel wood from surrounding natural vegetation. Two percent both collected and purchased their fuel wood. Although five species were mentioned, **Acacia karoo** and **Acacia mearnsii** were the most frequently used.

(p. 157)

Under cultural use of wild resources the author states:

Sixty four percent of the households used wild plants for **amayeza** purposes...Of the 292 use occurrences recorded, forty seven percent were used to fulfil cultural needs. This is because amongst the **amaXhosa** illness and disease are commonly attributes to either natural or supernatural causes with the idea of 'contamination' entering from both the physical and spiritual plane... Sixty percent of the amayeza plants utilized were purchased from various vendors such as herbal street trader, herbal stores and traditional healers. The remaining 40% were collected by household member either from their garden, the surrounding vegetation or when they visited rural areas.

(p. 157)

Material for use in rituals was the third most commonly cited wild resources category, 56%...The most commonly used species cited for ritual purposes included **Olea europea** subsp. **africana** and **Ptaeroxylon obliquum**.

(p. 158)

Fifty three percent of the urban households contributed towards the maintenance of a kraal...Of the households who maintained a kraal, 82% were located at the rural family home. The remaining 18%, having no rural home, constructed a temporary kraal within their urban homestead yard...Twenty five species were cited, the most common being **Acacia karoo**, **Coddia rudis** and **Ptaeroxylon obliquum**.

(p. 159)

Forty two percent of urban households owned a traditional grass broom – **umtshayela**...Several species were cited as being used to produce a broom: **Cymbopogon validus**, **Cyperus** sp. and **Phoenix reclinata**.

(p. 159)

Twenty seven percent of the urban households contributed towards the maintenance of an **igoqo**...The three most common species collected included: **Acacia karoo**, **Rhus dentata** and **Tarchonanthus camphoratus**.

(p. 160)

Again here the information in the above quotes is backed by statistical evidence. The various plant uses are codified and transformed from local knowledge into the discourse of science.

Based on statistical evidence, the author observes that:

The continued use of wild resources remained high amongst urban households with 99% still utilizing these resources...The high cultural

value attached to natural resources was further demonstrated by the fact that the cultural types of use were not restricted to the poor household only.

(p. 164)

On the rural-urban link the author notes:

...urban dwellers' ability to sustain cultural practices is largely facilitated by the increase in rural to urban linkages and the diversification in rural livelihood strategies.

(p. 164)

She also argues that:

...the flow of culture and wild resources is not simply from the rural areas to meet the demands in the urban centres but that there is also a reverse flow from the urban areas to the rural areas. Urban dwellers return to their ancestral homes with cash and invest time and effort in the maintenance of the family kraal and **igoqo** and hosting of rituals.

(p. 165)

This reveals how the modern cash economy of urban settings is being harnessed to sustain traditional cultures, thereby defying/resisting the forces of modernity.

In conclusion the author argues:

...the concept of culture must be understood as a dynamic process of trans-cultural exchange with constant re-articulations of tradition resulting in the persistence of certain cultural practices amongst groups of people.

(p. 165)

What this chapter reveals is the resilience of local people that enables them to retain and sustain their plant-based cultural practices against a background of changing environments. This is despite the local communities' lack of representational voice in formal mainstream discourses.

Overall, it is evident from this study that indigenous knowledges and practices transcend the traditional divide between urban and rural settings, indicating a bridge existing between indigenous people in urban and rural contexts who are connected by their cultural beliefs and practices which are in these cases

exemplified by the uses of plant biodiversity. This shows that despite the lack of representational voice, local communities are still able to represent their culture through practice. What is also quite evident is the use by the author of institutionalised Western science representational techniques such as statistical validation, documental evidence, comparative analysis and recorded observation (culturally framed representations) to support her statements and to give the findings the necessary scientific certainty: a demonstrable truth claim.

The author emphasises the 'inextricable link' between biological and cultural diversity in her summary:

This study has however clearly demonstrated that peoples' culture has continued to survive even if in an altered form and, more importantly, in terms of this study, that biodiversity continues to fulfil an intricate role in peoples' cultural practices. The dynamic nature of the relationship between biodiversity and culture is thus demonstrated.

(p. 181)

Based on representations verified and validated by science, through various institutional techniques, she is therefore justifiably able to make the truth claim above which establishes her as an authority and extends the power of disciplinary discourse. In this process what is evident is how institutional and disciplinary techniques/techniques of representation are used to transform the knowledge of local communities into the knowledge discourse of a scientific discipline by recording, codifying, hierarchising, comparing and statistically verifying this knowledge. In this process the discourse of science silences the voice of local knowledge by replacing it. What therefore dominates is the scientific 'regime of truth'; what recedes is the link to the local community context and the voices of the local people. The knowledge is thus detached from the context and people from which it is obtained. It is no longer the people telling their story but the scientist telling the story of the other through the tools of science.

The researcher also concludes that:

The enduring cultural value of wild plants reported in this study has two important implications in respect to biodiversity conservation. On the one hand, it may result in increased pressures and even result in overexploitation and hence biodiversity loss...On the other hand...the cultural values could also be used as an argument to stimulate biodiversity conservation by local communities.

(p. 176)

What this statement implies is that biodiversity conservation is not an intrinsic capability of local communities and is therefore something that has to be 'stimulated' in them by the scientific institution. However, what has been excluded here is the possibility of the capacity to conserve plants of cultural importance by local communities. What has also been left out is a consideration of other factors that impinge on biodiversity loss, such as the politico-historical context in southern Africa which has resulted in indigenous communities being forcibly removed from their original lands and relocated en masse in marginal, non-productive and resource-poor environments. The population pressure coupled with a strong reliance on biodiversity resources as the mainstay of livelihood sustenance has exacerbated the negative impact on the biodiversity of these fragile environments. Such colonial experiences have "left the bulk of our people in dire poverty and without much option but to continue to contribute to the impoverishment of biodiversity that has been inflicted on generations living in the last century" (Matowanyika, 1994, p. 143). There is seemingly a blind spot in the author's work similar to the one she points out in conservationists about their limited perspective on biodiversity that neglects linkages between biodiversity and culture. The author's work has focused on the knowledge of cultural plant uses of local communities; it does not extend to nor reflect their indigenous knowledges and practices on plant biodiversity conservation, taking cognisance of the evidence that cultural plant use practices (together with the plants in question) have survived over a long period to date. This realm/element of local knowledges has been excluded/neglected and needs to be similarly investigated, and also why those traditional conservation methods are proving to be ineffective in the current context. This exclusion stems from the representational techniques that the author is using which rely on and validate the representational discourses emanating from scientific institutions.

4.3.2 (Ethno)Botanical Publications

Overview: The botanical texts chosen are all syntheses/treatises of ethnobotanical knowledge in southern Africa. They differ from the anthropological publications in that they cover plant use from a broader geographical context and in that they do not focus on individual local communities. (This is not by intended design from my part). As a result, they have a tendency to make generalised and thus decontextualised representations of plant uses by indigenous people. Also common among them is lack of attention to detail, characterised by a general lack of accuracy of local plant names. An exception is Wild's revised version of "A Rhodesian Botanical Dictionary of African and English Plant Names". There is more accuracy in the plant names here for three reasons. Firstly, the book is intended for the user to arrive at the scientific name through the 'vernacular' name; this therefore gives local names precedence and hence the necessary accuracy. Secondly, there is an emphasis on asking for repeated pronunciation of names by the locals in identifying plants that is required of the person using the dictionary (presumably that person is an outside researcher). In this way the accuracy of the local pronunciation is prioritised, but this is for the sake of the outsider rather than from respect for the local person or plant name. Thirdly, in the revision and expansion of the book, one of the key authors, Stephen Mavi, was an indigenous person and therefore ensured that the names in his language were accurate. Therefore, not surprisingly, there is more accuracy in the Shona names within the text.

In these botanical texts botanical nomenclature and taxonomic classification generally take precedence over local names and local plant classification systems. This therefore relegates local language names to a second order hierarchy. A detailed analysis of the selected texts is given below.

4.3.2.1 Watt, J.M. & Breyer Brandwijk, M.G. 1962. *The Medicinal and Poisonous plants of Southern and Eastern Africa*. Edinburgh & London: E.S. Livingstone.

4.3.2.1a) Institution:

This publication was supported by the University of Witwatersrand, the South African Institute for Medical Research and Johannesburg Chamber of Mines. From this one can assume that the authors are scientific researchers, and from the medical detail in the text, one can assume that the researchers are medical scientists.

The role of botanical institutions was important in the publication for guidance on nomenclature and provision of illustrative material as the authors acknowledge the Division of Botany of the Union (of South Africa)'s Department of Agriculture, revealing the colonial historical period and context in which the study was framed.

The publication is exceptional among the ethnobotanical publications studied in its acknowledgment given to the general public of Southern and East Africa for "their patient and valuable assistance", implying the contribution of local medicinal plant knowledge by indigenous communities. However this is a generalised acknowledgement and leaves one to wonder about the recognition of and benefit sharing with those individual people consulted about traditional medicinal plant use. One can presume that the authors feel they have considered this aspect as they dedicate their work to the "progress of science" in Southern and Eastern Africa and it is therefore for the 'common good' of everyone.

The publication's purpose was to document the mass of popular plant remedies from Eastern and Southern Africa before this 'disappeared' from "the advancing tide of civilization and its synthetic medicines" (p. vii). This indicates that the authors had predicted the inevitable eradication and replacement of local knowledge under the onslaught of science and

modernity. The text was primarily intended to educate the Western scientific and settler community about these medicinal and poisonous plants, as the authors state: "We hope...that the medical practitioner, the pharmacist, the missionary, the forensic worker and the scientist will find it of value in their several spheres" (p. vii). This shows the appropriation of local medicinal plant knowledge for the benefit of settler populations and professionals.

4.3.2.1b) Representation of Indigenous Knowledge: What is a notable exception in this book in comparison to most botanical texts of this period and beyond is that, in the main text, reference is made throughout the book to the tribes which use the medicinal plants, with details given as to how the plant is used in the recorded cultures. Instead of a focus on only utilitarian applications, the authors take pains to meticulously detail the local communities to which the uses are ascribed. This could be an influence from anthropology. These uses are juxtaposed with scientific details on the chemical properties of the various plants and experimentation done on animals using some of these plants (mainly to test their toxicity). Some examples, which vary between specific tribes and country generalisations, are as follows:

The Masai use **Baleria mucronata** Lindau as a snake bite remedy as follows: the thorn is used to prick around the wounds in order to permit the sucking out or pressing of blood; to fumigate the person by holding over the hot embers upon which the twigs of the plant and sheep wool have been strewn. A decoction of the stem and of the root is an emetic. The foliage is fed by the Masai to small stock. The Zulu administer a root decoction of a plant, prob. **Baleria ovata** E.Mey. ex Nees. by mouth or as an enema for relief of a condition characterised by painful nodules under the skin.

(p. 2)

Boophone disticha Herb. in addition to being poisonous, is used medicinally. The Xhosa use the dry scale of the bulb as an outer dressing after circumcision and as an application to boils. The bulb has also been a Xhosa remedy for red-water in cattle. The Manyika apply the scale locally for the relief of urticaria and burns. They also grow the plant outside their huts as a charm for evil dreams, to bring good luck and to bring rain. It is also thought to keep the 'mudzimu' away after death.

(p. 23)

Adenium multiflorum Klotzsch. is used as a fish poison in Portuguese East Africa and in the North Eastern Transvaal.

(p. 79)

The seed of **Strophanthus kombe** Oliv., which is found in Mozambique, Northern Rhodesia, Nyasaland and Tanganyika, has been used as an arrow poison and the fruit as a spear poison. The plant has also been used medicinally in Mozambique.

(p. 104)

Kigelia pinnata DC. is a common tree in Southern Africa. The Tonga apply the powdered fruit as a dressing to ulcers while the Zulu are also said to use the tree medicinally. The Luvale rub pieces of the fruit over the body of a baby to make it fatter but believe that its application to the head results in the development of hydrocephalus. They also rub the breasts of lactating women with pieces of the fruit in order to increase the flow of milk. The ripe fruit is not edible but is purgative. In Nyasaland, in times of scarcity, natives roast and eat the seed.

(p. 143)

What is apparent in the book is the prominence given to scientific plant names and botanical authorities, with local vernacular names being excluded and relegated to the margins, only making an appearance in the index section at the end of the book. This indicates that the text is not destined for the local communities from which its knowledge is appropriated. Rather, it is for the botanically literate community of scientist and missionaries. In this way the local knowledge is codified and classified into scientific discourse. Under **Kigelia pinnata**, a comparative representation is made between the local people and settler communities in the claim that "natives roast and eat the seed".

Of the index and its subordinate relation to scientific nomenclature, the authors state that:

The index and relevant appendices have been prepared with great care so that any information may be traced through the botanical name (current, synonymous or obsolete) and through English, Afrikaans or vernacular names of the plant. Botanical research is constantly improving the accuracy of plant naming and we have done our utmost to give modern acceptance nomenclature.

(p. ix)

This again reflects the precedence given to scientific discourse over local taxonomy. It reflects the scientific bias of the authors in their quest to conform to the norms and standards of modern botanical nomenclature. In the process they promote the hegemony of scientific discourse over local knowledge and support/empower the scientific institutions.

The authors record all the different medicinal plant uses, which include local spiritual applications. This reflects their role as scientists to record indiscriminately and make available the different medicinal and poisonous plant uses. This is different from the scepticism on spiritual uses of plants as displayed by scientific authors such as Coates Palgrave (1977). In this way they portray this knowledge as it is applied in local communities without any prejudiced biases. However they are at times not specific about medicinal plant uses as is the case with ***Strophanthus kombe***'s use in Mozambique above. This is, however, very infrequent, indicating the authors' lack of attention to detail.

4.3.2.2 Wild, H. (1972). *A Rhodesian Botanical Dictionary of African and English Plant Names*. Revised and enlarged by Beigel, H.M. & Mavi, S. Salisbury: Government Printer.

4.3.2.2a) Institution: This publication was commissioned by the National Herbarium, Department of Research and Specialist Services, Ministry of Agriculture. Its educational purpose was to aid the user to arrive at a botanical name of a plant from its common name. This implies it was intended for amateur botanists, plant naturalists and related researchers. However the text is seemingly intended for non-native users, an aspect that can be related to its historical positioning with the colonial period as it was published in 1972 when Harare was then called Salisbury. This exclusion of local communities implies they are not looked upon or intended to be researchers. An indication of its intended educational purpose for non-native users can be read from the following statement:

The rural African is good field botanist because throughout his life he makes use of plants which grow around him: as toys when he is a child, and for food, building materials, medicine and traditional purposes when he is mature. He thus learns the local names and the uses of a goodly proportion of the flora. **Where he knows the name of the plant in which you are interested ask him to repeat it several times till you are satisfied that you can look it up in the list of common names.** ...Having found the name in the common-name list, it is then possible to find the botanical equivalent plus information in the body of the book.
(p. viii, my emphasis)

Here the external researchers are urged to seek accuracy of local pronunciations which will aid them to appropriate local botanical knowledge and subsequently convert it into scientific discourse by making reference to the botanical dictionary as a scientific tool in the process of local knowledge transformation. Paradoxically, the rural African is here knowledgeable compared to the exotic field botanist.

4.3.2.2b) Representation of Indigenous Knowledge

An alphabetic list of "common" native plant names is given at the beginning of the book and next to it is given the botanical name(s). This gives priority to local plant names, inverting the usual representation evident in the other botanical texts analysed in this study. However, within the main text of the dictionary this order is reversed and botanical names are given priority, revealing the hierarchical dominance of modern botanical nomenclature. The local names are therefore important as a pointer to the scientific name. In the main text the scientific description of the plant which aids in its identity takes precedence over information on local plant use, indicating the bias of the dictionary towards proper scientific identification of the plants. The knowledge on the uses of the plants is put down without reference as to where this knowledge derives from, making it a decontextualised and generalised representation. This is exemplified below.

Under **Adansonia digitata** [*baobab*; C *muuyu* (v); N *umkhomo* (v); W *mbuyu*; T *mubuyu*; H *muwu*] information on use is given as:

Pith surrounding the seeds contains tartaric acid; its faintly acid taste makes it refreshing to chew or to drink with water added. The pith has

high ascorbic acid (vitamin C content). Squares of bark of +- 1m sides are cut and its fibres made into a strong rope...

(p. 84)

The use of **Asparagus larycinus** [*asparagus*; C *rukato* (gv), *ruringari/e*; N *umjibila* (g); H *kwangulatio*] is written as: "Used medicinally in the care of new born infants" (p. 98).

On *Azanza garckeana* [*tree hisbiscus*, *snort apple*, *quarters*; C *mutohwe* (v), *mugurura/u*; N *uxakuxaku* (v), *caglacagla*; T *munengo*; H *chipahlani*], the use is given as: "Pulp around seeds is edible" (p. 99).

Under the entry **Bysocarpus orientalis** [E *chidzimamuriro*, *chapanza*, *musunzu/i*], the use is given as: "Roots provide a remedy for stomach troubles; bark a remedy for colds" (p. 110).

This decontextualization reflects that the information on the use of the plant is considered more important to the reader than the knowledge on where the plant is so used. An exception to the above is the way the use is written under **Cassine matabelica** [C *murunganyama* (g); N *umgugudu* (v), *umbazankesu* (g), *ixolo*] where the use is written as: "Wood is used in Matabeleland for carving spoons". However this sentence is soon followed by the norm "The roots are a source of yellow dye" (p. 117).

4.3.2.3 Palgrave K.C. (1977). *Trees of Southern Africa*. Cape Town & Johannesburg: Struik Publishers.

4.3.2.3a) Institution: While this is mainly the work of an individual, there is indication of a strong link to botanical institutions in southern Africa in the production of the publication, showing the priority given to scientific discourse. Institutions mentioned in the acknowledgements are the Botanical Research Institute in Pretoria, the Compton Herbarium in Cape Town and the National Herbarium in Salisbury. The arrangement of the book according to botanical classification into plant families and genus and species, the use of botanical (plant) identification keys, and the use of botanical nomenclature (names) and authorities all indicate an adherence to the discipline of modern botany.

The educational purpose of the book is to describe and illustrate all indigenous trees of southern Africa in a language that is "easily understood by the layman" (p. 11). However, it is presumed that the so-called laymen should be able to identify and name trees using their botanical names. This reflects that the book is not intended for the local communities but for the botanically-literate settlers. This reflects the historical context of the text as this publication falls within the colonial era in southern Africa which explains the exclusion of the non-scientific indigenous communities from use of the text.

4.3.2.3b) Representation of Indigenous Knowledge: The reference to indigenous knowledge on plants begins in the introduction under a section termed "Medicinal and poisonous uses of trees" (p. 14). Here Palgrave claims:

To **simple people** the world over, folklore, superstition and fear of the unknown are part of everyday life and this is no different in Africa. To the rural African peoples, medicine means far more than the drug to cure disease; it means also poison to kill an enemy, the charm to ensure a safe journey, or witchcraft and magic with their influences, both good and evil.

(p. 14, my emphasis)

This is an indication that the author has a belief that African medicine has mainly magico-spiritual properties and thus should be viewed with scepticism and also that it is inferior compared to Western medicine. This view is generally extended to local peoples elsewhere, who have comparatively been judged as 'simple'.

Palgrave continues this claim in the same section in stating:

Even with the advance of western medicine and the establishment of dispensaries and clinics in rural areas, many African herbalists and witchdoctors continue to flourish, having set themselves up in peaceful opposition to their modern counterparts, or even in a complementary capacity, and drawing their custom from people impatient with the slow treatment they receive in the hospitals. **Witchdoctors frequently interweave their medical treatments with magic** – and this certainly is not confined to Africa.

(pp.14-15, my emphasis)

This is an indication of the author's generalisation of African traditional medicine that he considered hierarchically inferior compared to western medicine, hence his resultant scepticism. The non-understood aspects of traditional medical practice are ascribed the term 'magical' and this has been generalised to all non-western practices of medicine, a process of western science's exclusion of local knowledge that it cannot normalise and standardise into scientific discourse. What is interesting here is the noted resilience of this traditional medicine against the hegemony of the 'more advanced' Western medicine, symbolising its cultural significance to indigenous peoples and its parallel co-existence with modern medicine.

In concluding this section, Palgrave again shows his scepticism of the effectiveness of traditional medicine by mentioning that:

The various medical uses of trees which are described in this book have been **culled** from many sources, **it must be emphasised that no claims are made as to their effectiveness.**

(p. 15, my emphasis)

The 'culling' from multiple sources indicates the very decontextualised nature of this appropriated information as it is a second order representation, that is a representation of a representation.

With regards to the exclusion of common 'vernacular' names (as opposed to English and Afrikaans names, which in this case are to be considered as non-vernacular), Palgrave mentions that:

After considerable thought and discussion it was decided to omit all African vernacular names. Over the area covered by this book the number of languages and dialects is so vast that the list of names becomes unmanageable. Furthermore, the task of checking all these in their own areas would be near impossible.

(p. 16)

While the leaving out of vernacular names is being justified against the background of the multitude of errors on these names in similar books (due to the difficulties that arise in checking these names), this exclusion has its repercussions in that it limits the scope of the audience that can easily access

this book to botanists, amateur botanists, and English and Afrikaans speakers for whom common names are made available in the book. Indeed the book seems to be targeted at these users. Information on plant use by local communities seems to be thrown in for additional interest as musings for entertaining the mind of the non-African on the odd cultures of the local peoples (as is evidenced in the story referred to below on the borassus palm that was believed to house the spirit of Magoeba).

The main mention of plant-based indigenous knowledge in the text falls under the individual plant species entries that make up the core text of the book. Here plant-based indigenous knowledge follows after (accompanies) detailed descriptions of the plants and their distributions as additional information, reflecting the hierarchical priority of scientific knowledge. Although Palgrave has concerned himself with indigenous medicinal plant uses in the introduction, the indigenous plant uses under the plant species entries cover a broader range. These include food and beverages, craftware and ornamental, medicinal as well as utility items. For example under the entry for the Borassus palm *Borassus aethiopum* Palgrave mentions:

Like Hyphaene, the **sap is used to make wine** and though the **fruit is edible** it is not much relished. In East Africa, however, the fruit is often eaten as are the young plants, **the stem of which yield a type of starch**. In Mocambique this tree serves yet another purpose, for here **people use the trunk for making their dugout canoes**.

(p. 69, my emphasis)

Listed above are four different uses of the same plant (beverage, fruit, starch source, and utility purpose), which are included as generalised knowledge on the plant despite the fact that these knowledges are drawn from several contexts. Added to these uses is a piece of folklore:

There is a plaque on the road between Tzaneen and Leysdorp in the northern Transvaal which marks the spot where a well-known specimen of borrasus palm once stood. It was believed that within the swelling on its trunk the spirit of Magoeba, the last chief of the Batlou tribe, was entrapped after he had been brutally murdered by the Swazis at the end of the last century. Only when the palm died were the local people satisfied that Magoeba's spirit had at last been released, though by that time his tribe was virtually extinct. (p. 69)

It appears this piece was added in as a curiosity for the reader and it serves to validate the magico-mystical beliefs of the African indicated earlier in the introduction of the book. This is also the case in the entry on the Cape fig *Ficus capensis*:

Several African folk-remedies make use of the Cape fig: burns and septic conjunctivitis are treated with an application of its latex and an infusion from its leaves and bark is administered to cows if their milk production is considered inadequate. Indeed, widely separated tribes ascribe considerable magical powers to the Cape fig, particularly in East Africa where, through many generations, certain trees have been regarded as sacred shrines and symbolic of **Earth** and **Forest**, the two great divinities of productivity. Sacrifices, usually of goats, are made at these trees to appease ancestral spirits, to bring rain, to relieve famine, and to ensure rich harvest. The heavily clustered fruits suggest fecundity and are used in a variety of ways to promote both human fertility and an abundance of crops. Moreover to eat the first fruits is believed to safeguard the welfare of the tribe and of the entire area in which it grows.

(p. 105, original emphasis)

Interestingly and paradoxically, against this background of strong scepticism, some indigenous knowledge on medicinal uses of plants is unquestioningly accepted, and therefore assertively represented. For example the entry under the bitter aloe *Aloe ferox*: "...the drug, Cape aloes, which is obtained from them is an effective laxative" (p. 80).

Plant-based indigenous knowledge on uses of plants under the species entries is variably represented. In certain instances mention is made of the contextual source of the knowledge as in the case below on the mountain bush aloe *Aloe aborescens*: "In the eastern Cape and Transkei this plant is frequently used for hedges..." (p. 76).

This representational form is usually used with reference to medicinal or other specific uses. However in some instances, such as is usually the case with the use of the plants as food, no mention is made as to the source of the information. An example is the following entry under the forest celtis *Celtis gomphophylla*: "It is said that Africans hang pieces of bark in their huts to guard against snakes, and certainly trees are sometimes found with strips of the bark torn away" (p. 97).

4.3.2.4 Fox, F.W. & Young, E. N. (1982). *Food from the Veld: Edible Wild Plants of Southern Africa*. Craighall: Delta Books.

4.3.2.4a) Institution: The work of these two authors draws heavily on botanical institutions. Acknowledgements are made to people from the National Botanical Institute, Pretoria and the Department of Botany, University of Witwatersrand, Johannesburg. The book was written for the purpose of educating the reader of wild food plants of southern Africa as is evident in the title *Food from the Veld*. Its intention is "...from the scientific angle to compile as complete a record as we could of plants indigenous to southern Africa that have been reliably reported to be edible" (p. 15). This reflects the scientific orientation/bias of the authors.

The authors claimed that at the time of writing:

At present this considerable body of traditional knowledge is scattered in various publications; bringing it together might help to ensure that it would not be forgotten. This could happen as such knowledge is no longer of relevance to the urban black population and is already tending to be forgotten, ignored or despised in the rural areas.

(p. 15, my emphasis)

The scattered nature of traditional knowledge prior to the publication implies that the book draws from various appropriations of local knowledges on plant uses. This reveals that the text is therefore a second order representation and therefore decontextualised. The authors justify their appropriation of this knowledge by claiming that their documentation ensured that it would not be forgotten, the assumption being that the text is the holder and protector of this knowledge. They do not however specify to whom it would be forgotten: to them as researchers, to possible entrepreneurs who can apply the knowledge or to local populations? They also do not specify to what purpose this documented knowledge will be applied and by whom. The authors also make a generalised, yet unverified, judgemental decision on behalf of urban and rural local populations that this knowledge is no longer of relevance to urban populations and that it is already tending to be forgotten, ignored or despised in rural context. This statement serves to justify their work in producing this

book and yet is disputable even by western science standards, as there is scientific evidence of continued use of plant by indigenous communities even in urban settings (Cocks, 2006b).

With regards to the scope of the book, the authors state that:

Most of our information refers to the Nguni and Sotho peoples living in South Africa; but we also consulted reports of a similar nature emanating from Botswana, Lesotho, Malawi, Mozambique, Zambia and Zimbabwe. We did this not only for the additional edible plants that were mentioned, but because they so often confirmed our findings and proved how extensively many of these plants are used.

(p. 16)

This statement is ambivalent in that indicates the generalised scope of the text and at the same the limited scope of the authors' own research (among the Nguni and Sotho). This could be the reason for the lack of accurate representation of indigenous names that feature in the text. It also indicates the practice/technique of justifying the authors' research based on documented evidence from other scientific reports/sources.

4.3.2.4b) Representation of Indigenous Knowledge: Fox describes how his interest in indigenous food plants started as follows:

I first became aware that blacks make such an extensive use of wild plants in their diet when, in 1936, I **was sent by the Chamber of Mines to study the nutritional situation in the Transkei**. My interest was aroused when I noticed women picking leaves in the veld and carrying considerable amounts back to their homes: it soon became clear that this was done regularly and that leaves and young shoots of other plants were being gathered from cultivated lands. The value of such an addition to a diet composed so largely of maize products was obvious.

(p. 13, my emphasis)

This reflects the use of the scientific technique of surveillance in observing the culture of the other and drawing from these observations representational appropriations of local knowledges.

Referring to the limited use of known food plants the authors state:

Strange as it may seem the number of plants actually used as food in the developed countries is but a handful of those known to be edible. Thus Wehmeyer (1969) has observed that barely 150 of the approximately 500 000 flowering plants in the world are internationally recognised as food plants; and nearly all were **discovered by primitive man**.

(p. 22, my emphasis)

It is interesting to note that this extensive use of wild/indigenous food plants is associated with "primitivity" rather than a culturally embedded alternative means of livelihood sustenance. The author is therefore making a comparison which hierarchically categorises the local communities as inferior to the modern wo/men and yet paradoxically accrediting the former with the discovery of food plants that are associated with modern wo/men. He also demonstrates regret for the lost food plant diversity in his own culture, a diversity which is still existent in the culture of the 'other'.

Regarding 'black knowledge of field botany' the authors write:

Small boys, no doubt, soon learn what they can and cannot eat when out in the veld; later when herding, this knowledge would grow rapidly. Similarly girls as they helped their mothers to tend gardens would be taught the traditional knowledge about plants and their uses. However it was acquired, there is not doubt that blacks possessed a great deal of information as to how plants can be used either for food or for medicine.

(p. 25)

Here black people are compared to white people. They are also represented as the generalised other. The above statement is complemented with 'tributes' from a variety of researchers working amongst local (black) communities on plant-based indigenous knowledge of such communities. However, no similar tribute is given to local community members contributing their knowledge to this text.

The main part of the text is a list of edible food plants. These are arranged following taxonomic classification and botanical nomenclature. Descriptions of the plants take precedence over the uses under each plant species entry. Common names are given where available as are the uses. In a good number of cases common names are attributed to the incorrect language and

are incorrectly spelt. This indicates the carelessness of these representations of local names compared to modern botanical names, signifying their secondary importance to the latter. For example under the entry on the marula *Sclerocarya birrea* (p. 79), one of the Shona names given is *marula* which is word non-existent in Shona vocabulary. In the same entry the Shona name for the tree is wrongly spelt *mufura* and *mufuna* in Shona instead of *mupfura*. Some of the Ndebele names given such as *umkano* are non-existent. The same is observed under the entry on *Voandzeia subterranea* on page 223. Here the Ndebele names are given as *ditlao* or *ditloo* which are actually Sotho, Tswana or Peddie names and not Ndebele. The plant is called *indlubu* in Ndebele. Another example is the Zulu names given to *Dovyalis* species. These have been variably named *umqakalo* and *umkokolo* (pages 228 and 229 respectively). The actual Zulu name is *umqokolo*.

4.3.2.5 Van Wyk, B.E. & Gericke, N. (2000). *People's plants*. Pretoria: Briza Publications.

4.3.2.5a) Institution: This is a post-independence publication in South Africa. While this book is a product of the authors, there is indication of a strong link to a botanical institution, in this case the National Botanical Institute of South Africa and its herbaria and libraries. This book is a synthesis of cumulative representations of indigenous plant knowledges in southern Africa from earlier ethnobotanical work in southern Africa, which has been enriched by field work and personal sources. It is therefore in reality a representation of representations and is thus highly decontextualised. The book is educationally intended as an illustrated guide that gives a broad overview of indigenous plant use in southern Africa. The book is categorised into sections of plant uses: Foods and Drinks, Health and Beauty, and Skills and Crafts, with each section being further subdivided into subtopics. These categories fragment and convert the local knowledges into organised and codified scientific discourse.

4.3.2.5b) Representation of Indigenous Knowledge: In their introduction the authors decry that:

In the last few decades the region has seen great changes in access to modern health care and education, shifts of populations from rural to urban areas, changes from subsistence farming to cash crop production, migrant labour, and unprecedented environmental degradation. **These changes in the socio-cultural and environmental landscapes have severely eroded the indigenous knowledge base.** The study of use of plants by local people, or ethnobotany, is still a relatively underdeveloped discipline in southern Africa, and **knowledge of indigenous plant use in the region needs urgent scientific documentation** before it is irretrievably lost to future generations.

(p8, my emphasis)

In making the claim that indigenous knowledge is being eroded, the authors provide a justification for their documentation of this knowledge for the benefit of future generations. This documentation for the good of humankind appears to be a common rhetoric in the ethnobotanical texts studied, justifying their appropriation of local community knowledge (see Fox & Young, 1982 above, for example).

The authors claim that the purpose of the book is “primarily to **raise awareness on the role plants play in people's everyday lives** by illustrating some of the most common and interesting traditional uses of plants...” (p8, my emphasis). This is a generalised goal for the good of all.

They also state that:

We hope to **stimulate ongoing scientific documentation of indigenous knowledge** for future generations, and most importantly, the **application and beneficiation of this knowledge** as instruments for sustainable development in the region.

(p8, my emphasis)

This indicates that it is justifiable for science to appropriate indigenous knowledge for the benefit of future generations and for sustainable development. This also reveals that the authors are employing the relevant scientific rhetoric/discourse: ‘sustainable development’ of the time as a representational technique to justify their work.

With regards to benefit sharing the authors suggest that:

Innovative mechanisms need to be created to **ensure that impoverished rural communities can share directly in the benefits** arising from the commercialisation of this profound knowledge.”

(p. 8)

Again here the current scientific discourse of ‘benefit sharing’ is employed. This also indicates that the authors consider the knowledge of local communities as a commercial resource, a modern market economy representation.

The authors note that:

A new era has already dawned in southern Africa. Unique **collaborations are being forged** between government departments, science councils, universities, local communities, traditional healers, farmers and entrepreneurs. **The first natural products are already appearing** on the local and international markets.

(p. 8, my emphasis)

This again reflects the perception of local knowledge as an economic commodity. This is verified by the evidence of natural products on the market.

What is noted above is the strong emphasis on the urgent need to document indigenous knowledge in southern Africa, which is being severely eroded by changes in the socio-cultural and environmental landscapes. However, this documentation, according to the authors, has to be **scientific documentation** and therefore a scientific representation. The authors focus on the **application** of this knowledge and mention the **need for benefit sharing** to ensure that impoverished rural communities share directly in the commercialisation of their knowledge and of sustainable development arising from the use of indigenous knowledge. What is not said is the new influence of the modern market in steering the direction of research towards local knowledge appropriation for economic benefit. What is also not evident is whether what the authors are advocating - benefit sharing- has been put into action in the development of this publication which appropriates knowledges on plant use from local communities (or if the authors are paying mere lip-service).

The bulk of indigenous knowledge represented in this book falls under the categorised sections: Foods and Drinks, Health and Beauty, and Skills and Crafts.

While this book is intended to be an ethnobotanical guide on the use of plants by indigenous communities, little consideration and effort has been made to check the accuracy of common name entries in the book. The text is fraught with these errors which are too numerous to note individually. Indeed the inclusion of local names appears to be an add-on, more of a half-baked project. An example is the local names for maize on page 16. The Shona name for maize, *chibahwe* has been given as the Sotho name, and a wrong name, *godli*, has been given as the Shona name. In a number of instances common names for indigenous plants have been left out altogether when there actually are local names. These include such glaring omissions of local (vernacular) names on entries of common and popular fruit trees among local communities *Diospyros mespiliformis*, *Dovyalis caffra*, *Englerophytum magalimontanum*, *Ficus sycamorus*, *Flacourtia indica* and *Garcinia livingstonei* on a single page (page 42). This reflects the lack of representational accuracy of local names that is even applied to popular fruit trees which would definitely have names among the local populations. It also shows that the local names are of secondary priority to scientific names, despite the book being intended to raise awareness among local people. This could be an influence of the book being a second order representation: a representation of representations.

What is also evident is the apparent lack of recognition of individuals used in photographs. With the exception of a few individuals such as the maize seller on page 17 and the man handling *ghaap* on page 75, there is a silence on the identity of most of the individuals used in the book. These individuals therefore only serve to demonstrate the collection, preparation or use of the plants illustrated.

4.3.3 Environmental Education texts

Overview: The orientation in the earlier environmental education texts is characterised by a focus on the biophysical environment as exemplified in the texts *Hands-On: Grassland Life* and *Hands-On: East Coast Dune Plants*. This reflects an influence of the conservation era which had an emphasis on the non-human environment. These earlier publications reflect a bias towards scientific discourse. The local knowledge represented is generalised, decontextualised and utilitarian. The latter period texts such as *Tales of Indigenous Trees of Zimbabwe* have a bias on local communities and their knowledge, an influence of a paradigmatic shift in environmental education towards social issues, particularly social justice, in the post-colonial period. These latter publications are biased towards cultural knowledge. The local knowledge in these texts is specific and contextualised.

4.3.3.1 Tainton, N. (ed). (1992). *Hands-On: Grassland Life*. Howick: Share-Net.

4.3.3.1a) Institution: This book was compiled by the Umgeni Valley Project as part of the Hands-On series intended to help people “learn more about plants and animals that share our environment”, indicating the dominance of the conservation ethic in the period the publication was produced. It is produced as part of the *Share-Net People, Places and Publications for Environmental Education* project. The text’s educational purpose is teaching the value of grasses, particularly their utilitarian importance in human survival (including the provision of humankind with staple foods such as cereal crops) and their ecological value within ecosystems and as indicators for assessing ecosystem change. The discourse is therefore scientific and the focus is on the dissemination of scientific information to raise conservation awareness.

4.3.3.1b) Representation of Indigenous Knowledge: Indigenous knowledge on grasses is included in the information given on the different grasses discussed in the text. Here it falls mainly under common names given and the uses of the grasses.

The language of the local names given is not specified, but presumably they are Zulu as Umgeni Valley is within the KwaZulu-Natal area. For example, on page 1 the indigenous language name *iNsinde* is given for the scientific name *Themeda trianda*. Interestingly common names are given precedence to scientific names as shown in the examples below. This could indicate that it was intended for learners who might not be familiar with botanical discourse. However scientific descriptions of the plants and ecological distribution precede the plant uses, showing that scientific discourse is prioritised.

Under Thatch Grass, iNtunga, *Hyparrhenia hirta*, the use is given as: "It is used extensively for thatching" (p. 7). Similarly, under Giant Turpentine Grass, uQunga, *Cymbopogon validus*, the use is given as: "Used for thatching" (p. 8). This shows that these uses are generalised and decontextualised.

For the Spanish Reed, *Arundo donax*, the local language name is not given. However the uses are given as:

The stems are used to build shelters and fences. They are also used for making fishing rods, baskets, musical instruments (e.g. whistles) and a variety of toys.

(p. 14)

For all the local plant uses no direct mention is made of who specifically uses the grasses, making the uses generalised, decontextualised and utilitarian representations.

4.3.3.2 Kee, B. & Nichols, G. (1993). *Hands-On: East Coast Dune Plants*. Howick: Share-Net.

4.3.3.2a) Institution: This is a field guide with the educational purpose of teaching dune ecology with an emphasis on dune plant communities. It is produced as part of the resources under the *Share-Net People, Places and Publications for Environmental Education* project. The main focus of this text is on identifying features of the plants. Descriptions are provided of their

growth habit, flowers, flowering times and fruits, reflecting the emphasis on scientific knowledge.

4.3.3.2b) Representation of Indigenous Knowledge: Local plant names follow after botanical names, indicating that scientific nomenclature has priority over local names. Plant uses occur under the section on 'fruits' or the 'did you know' section of some of the plants, showing priority of scientific information.

Under *Carpobrotus dimidiatus*, hottentot's-fig (p. 7), for which there is no Zulu name, the uses are given as follows:

The fruit is edible and has been used to make jams and syrups.

It is well known for its sap which can be used to soothe blue bottle stings.

For *Carissa macrocarpa*, Large Num-num, Grootnoemnoem (Afrikaans), amaThungulu (Zulu) the use is given as: "The fruit is red when ripe and is delicious to eat" (p. 8).

For *Chrysanthemoides monilifera*, Bush-tick Berry, Bietou (Afrikaans), iTholonja, iKhupuyana (Zulu) the uses are given as:

The tiny black berries (which are unusual for Compositae) are eaten by people and birds. (p. 13)

This plant has medicinal value. (p. 13)

For *Mimusopsis caffra*, Coastal Red Milkwood, Kusrooinmelkhout (Afrikaans), umhaayihayi, Amasetole, umThunzi, umKhakhayi (Zulu) there is no recognition of the fact that this plant has fruit eaten by humans. Instead we are told that: "The large reddish orange fruit is about 2cm long and is eaten by birds and fruit bats" (p. 16). As this is a popular edible fruit in local communities, this could reflect lack of local community consultation in developing the text.

Local plant uses represented in this text are fairly generalised and utilitarian, without specific reference to who uses them. The closest link to who uses the plants is the statement under *Strelitzia Nicolai*, Natal Wild Banana, Natalse Wildepiesang (Afrikaans), isiGceba, inKamanga: "The seeds are traditionally used as food" (p. 18). Even for this entry, no direct mention is made of who traditionally uses this plant's seeds as food.

4.3.3.3 Kotze, D. (1996). *Wetlands and People*. Howick: Share-Net.

4.3.3.3a) Institution: This booklet is part of a series sponsored by the Department of Environmental Affairs and Tourism, South Africa, with the aim of improving wetland management. It was produced as part of the *Share-Net People, Places and Publications for Environmental Education project*. Its educational purpose is to assist extension workers and learners in the understanding the functioning, values (direct and indirect benefits) and management of wetlands, indicating the text's scientific conservation goal.

4.3.3.3b) Representation of Indigenous Knowledge: Indigenous plant use knowledge falls under the section on direct benefits of wetlands.

Under the section on **Fibre for Construction and Handcraft Production** it is stated:

Wetland plants have been used for thousands of years, providing valued materials for products such as mats, baskets and paper (produced from papyrus, which is a sedge). There are several species which are used extensively for making handcrafts in South Africa, such as *Juncus kraussii* (iNcema), and the sedges *Cyperus latifolius* (iKhwane) and *C. textilis* (iMisis). The common reed (***Phragmites australis***) is used for construction purposes. Some wetland plants are also collected for medicines.

(pp. 8-9)

In the above paragraph the local plant uses represented are generalised and the local names used (which are in Zulu) are not placed in context. If the intention was to cover the whole of South Africa then there would be need to include local names representing the different languages. There is also an

assumption that all users (including learners) will be familiar with botanical names. Botanical names are given priority over common names, reflecting their hierarchical dominance.

The section on **Drainage and production of Crops and Planted Pastures** also mentions local plant use:

Traditional cultivation practices, which are more sensitive to the functioning of wetland, include:

*planting crops (e.g. madumbes) which are tolerant of waterlogging, minimizing the need to drain.

(p.17)

Again here no mention is made as to which culture traditionally plants 'madumbes' or from which language this name derives.

4.3.3.4 Shava, S. (2000). *Tales of Indigenous Trees of Zimbabwe*. Howick: Share-Net.

4.3.3.4a) Institution: This book was produced through Share-Net as part of the Indigenous Knowledge Series. This series coincides with the post-colonial period in southern Africa that has been characterised by the emergence and growth of indigenous voices in education. In the text I emphasised the role of stories as a medium for conveying indigenous knowledge education. There is also a particular slant on plant conservation as I highlight the conservation ethic/messages carried by these stories.

4.3.3.4b) Representation of Indigenous Knowledge: Under each plant story, the local names are given. However botanical/.scientific names take precedence over the local names. In the text I indicate the myth within the stories by writing in third person. Examples include the following quotes:

It is said that in the past the gods permitted trees to grow as big as they could as long as they did not grow past the clouds. (p. 2)

In the past it was believed that God spoke to people through trees. (p. 6)

It is said that in the past when a newly wed man set off to a site to build his home he would take with him a truncheon from the 'mubvumira' tree. (p. 7)

This shows ambiguity on my part as the author, a means of protecting myself from ridicule in the dominantly Western world, where myth is viewed with scepticism by modern science. However, it also reflects that these are shared circulating narratives within the community, that is they are not 'my' stories but 'our' stories.

I also specify the ecological/conservation ethic in each story that supports the use of these stories as an environmental education tool and justifies the use of these myths. Examples include the following statements.

On the rain tree being believed to break up the family I (the author) wrote:

The myth was so created because people used the above phenomenon (attack by the frog hopper causing the tree to release droplets like rain) in the tree as a sign for them to prepare their lands for the next growing season.

(p. 5)

On why the tree without a name no longer gives people food during droughts I (the author) said:

People claim that the reason why the tree no longer provides food upon now is because some people got greedy and carried away the remaining food making the gods very angry that they decided not to provide food anymore.

(p .6)

On why newly married young man plant truncheons of the 'mubvumira' when they choose a new site for their home I (the author) wrote:

The growing of the truncheon was a soil fertility indicator showing the suitability of the site for agricultural purposes, which were the livelihood of the people.

(p. 7)

The conservation messages can however also be viewed as an attempt to justify indigenous knowledge by conforming to Western science standards. However, the similarity with modern conservation discourse allows for

validation of indigenous knowledge, a process referred to as 'reciprocal valorisation' (Hountondjii, 1997; Odora Hoppers, 2001). It should be noted however that cultural story representations dominate the text.

4.3.3.5 Asafo-Adjei, R. (2004). *From imifino to umfuno. A case study foregrounding indigenous agricultural knowledge in school-based curriculum development.* Unpublished master's of Education thesis, Rhodes University, Grahamstown, South Africa.

4.3.3.5a) Institution: This is a master's thesis in Environmental Education produced at Rhodes University whose main research aim was to investigate how knowledge of wild indigenous vegetables can be mobilised in the agricultural science curriculum within the Eastern Cape of South Africa in accordance with the Department of Education's call for the integration of Indigenous Knowledge into education curricula. This indicates a curriculum shift that seeks to address issues of representation, social justice and equity in the post-apartheid era in South Africa.

4.3.3.5b) Representation of Indigenous Knowledge: The researcher begins by quoting from Fox & Young:

...there are more than 1000 indigenous food plants in southern Africa alone. Despite this rich diversity in indigenous food plant species in southern Africa, only a few are cultivated (planted, looked after and cared for) and used as food.

(p. 15)

This statement is a statistically verified justification to support the study.

Further commenting on this lack of focus on indigenous food plants to justify his research, the author quotes:

Shava (2000) observed that despite the large number of indigenous food plants known, much of the research on indigenous knowledge is in the area of plants of medicinal importance or herbal medicine, with very little research on indigenous plants as food. Shava (2000:20) saw this as a knowledge gap that needs urgent attention.

(p. 16)

Here documentary evidence is used as justification to support the author's work.

Focusing on the plants researched in the study, the author states:

The three vegetables food plants studied are **Utyuthu** also known as **Imbuya** or **Unomdlomboyi**, **Imbikicane** or **Imbicicane**...and **Ihlaba** also known as **Irhawu** or **Irhabe**. **Utyuthu** is *Amaranthus thunbergii* and **Imbuya** or **Unomdlomboyi** is *Amaranthus Hybridus*. The **amaXhosa** have the same name for the two plant species.
(p. 47)

What is evident here is the prioritisation of local names over scientific names, a linguistic hierarchisation strategy that reverses the norm in scientific texts which has been observed with anthropological and ethnobotanical texts in the study.

The main section covering plant knowledge is Chapter 4, entitled *Learners, Community Members and Indigenous Agricultural Knowledge* (pp. 47-71).

On the frequency of eating indigenous leafy vegetables within the local community, the author noted that: "Mrs. S, Mrs. D, Ms. N and Mrs. L said they had eaten **utyuthu** regularly when they were young" (p. 51). This signifies a cultural change over time that is influenced by modernity.

On the preferences between indigenous and exotic vegetables the author notes the stigma attached to indigenous vegetables:

Eating cabbage symbolized status or class in the village. They who ate **imifino** felt they were poor and had always wished for the day they would become teachers or nurses and stop eating **imifino**.
(p. 52)

This economic representation reflects the shift in the community to the modern economy and where gathering from the wild instead of buying vegetables is associated with poverty, thereby marginalising this cultural use of plants.

On the frequency of preparation of indigenous vegetables within the local homes the author when speaking to one of the respondents says:

I asked Mrs. N if she would like to prepare the plants [**imifino**] as food for her children to eat. She replied 'Mm, I never tried, I never tried.' I probed further if there was any reason. She said, 'I have no reason. I have no reason for that. Maybe it is because I do not have time to and weed and pick these weeds back home!

(pp. 52-53)

Here the modernist concern with time has impacted on local culture.

On another respondent speaking on preparing *imifino* the author states:

She said, "we haven't got time because you don't just get it at one place. You have to go round. You get one here, you pick it up. You go again, again and again. That should be done by people who are not working...and when you come back, you have to wash it. There is a lot of work."

(p. 53).

The above comments indicate that collection and preparation of *imifino* is considered a time consuming process. The last respondent above, Mrs D, said she eats *imifino* if it is prepared (p. 53).

Speaking of another pair of respondents, the author says:

Mr. and Mrs. M.M. said they know **utyuthu** very well and eat it even now. They said that Mrs. M.M had prepared it in the morning of the day they were interviewed. Mr. M.M. admitted that he eats **imifino** without any shame.

(p. 53)

This reflects the consumption of wild leafy vegetables by a man despite its cultural stigmatisation in the community.

Contrary to Mr M.M eating *imifino* the author mentions one respondent speaking about men eating *imifino*: "Mrs. D. is a **Hlubi**. She said **amaHlubi** males would never eat **imifino** no matter how it is prepared" (p. 79). This reflects the sustenance of the cultural belief that a man should not eat *imifino*.

From another respondent on preparing *imifino* in the home, the author states:

Mrs. M. knows **utyuthu** plant and had eaten it when she was young. She said, after one attempt to prepare **utyuthu** for the family to eat, she has never tried it again because they (the family) would not eat it.
(p. 54)

This indicates the dietary change to a modern diet in the home and the neglect of the traditional diet.

On the perceived relevance of teaching indigenous plant knowledge in agriculture, the author states: "Community members who were interviewed also agreed that indigenous agricultural knowledge should be taught in the curriculum" (p. 69). This reflects the local relevance of these plants in the people's culture and the need for its representation in formal education that is dominated by western knowledge.

Quoting Mr. M.M. on the above, the author says:

He stressed the need to know especially about vegetables. 'Look at the rate of hunger, the rate of poverty in our country!... A second reason to teach learners about indigenous food plants...is for learners to identify good plants from bad plants. There are bad plants that grow from the garden. I once heard from television that some kids plucked some plants and ate raw as they are, thinking (plants) are these mushrooms...and the children died...You know people are hungry but there are plants around them...But the plants cannot talk to them to say we are your food.'

(pp. 69-70)

This shows that *imifino* have value in providing food for local communities and the perceived need for their continued representation in the local diet.

Still commenting on the relevance of indigenous agricultural knowledge to the curriculum the author quotes Mrs. N:

I think that it should be developed in the curriculum...What if we didn't have these cabbages and spinach? What if? We would go back to indigenous plants...If you don't have money to buy, then we shall be compelled to prepare these types of feeds [foods].

(p. 70)

This reflects the need to represent local knowledge on plants in the curriculum as they have a role providing nutrition in the community.

On the economic value of wild leafy vegetables, the author writes:

It is interesting to note that, even though *imfino* appears to be associated with the 'poor' some attach an economic value to it, and would even buy **imifino**. Mrs L. described how in her hometown, Sterkspruit, if one is in a taxi, hawkers would come shouting '**utyuthu, utyuthu** R2,50.

(p. 78)

This reveals the changing value of indigenous leafy vegetables, that is their representation as commercial commodities.

Summing up the chapter, the author states:

...in the community, there were instances where people were 'looking after' the indigenous vegetable food plants (**imifino**)...These plants appeared to hold different value for different people, and it seemed that not everyone was interested in eating these plants, due mainly to cultural myths and economic changes.

(p. 71)

This reflects the ambivalence in the community over wild leafy vegetables, with some people considering them valuable while others have been influenced by modernism and neglect and devalue them.

Overall, indigenous knowledge representations in the text are contextualised and embedded in the deliberative dialogue of the author and the participants. What comes through here is the prominence of participants' voices in the text which is used to authenticate the author's statements. The text is therefore polyphonic and gives representational voice to local community participants. This makes this text different from the majority of the texts studied in that it is not only the voice of the author representing the other in the text.

4.4. Discussion of analysis of representations of plant-based indigenous knowledge

4.4.1 Anthropological representations of indigenous knowledge on plant use

Anthropological publications analysed in this paper are representations of 'the other', which are characterised by seeking to represent knowledge and culture of isolated communities. These representations have the results of 'othering' and silencing the voices of local communities. As Smith puts it: "Of all the disciplines, anthropology is the one most closely associated with the study of the other and with defining primitivism" (1999, p. 66). That these communities are considered 'primitive' or 'less developed' than that of the author, who now has the privileged position to place such communities under his/her gaze from a detached vantage point and be the voice of authority on their way of life, is signified by such words in the titles to the studies as 'an ecology' (Scudder, 1962) or 'foraging society' (Lee, 1979), terms that are applied to the non-human aspects of nature and to animals respectively in science. These terms have a denigrating and dehumanising effect on indigenous communities, an aspect that they are contesting. As Smith argues: "We did not ask, need or want to be discovered by Europe" (1999, p. 24). Unfortunately as indigenous peoples are the (mis)represented, they have no say as to how they are defined as they are 'the represented other' who remain dependent and voiceless. What is also questionable is the extent of the perceived isolation/segregation of such communities as, even prior to the colonisation by the west there have been wars, migration and trade amongst communities in southern Africa. As Semali & Kincheloe put it:

The premise that indigenous peoples were isolated from the rest of the world until European conquest and colonisation is a myth that must be buried along with other manifestations of essentialist purity.
(1999, p.22)

The voicelessness of local community contributors in these studies is exemplified by Rodin (1985, p. 2) when he refers to an African informant by saying: "Many Africans assisted with information of whom only a few can be

mentioned here..." This indicates that the choice of who gets or does not get mentioned is solely the prerogative of the anthropological author, in this case the privilege is to non-indigenous people or those few indigenous people that are in authority. This voicelessness of the indigenes is also signified by a usual lack of identity of individuals in photographic illustrations within these publications where they demonstrate a particular practice.

An exception to the above norm in anthropological texts is the discourse in the more recent text *Lwaano Lwanyika* (Reynolds & Cousins, 1989) where individual voices and art are given space throughout the text. Also included in this publication is the identity of individuals in photographs. This book is also unique in that its intended audience is the local community under study. Most anthropological/ethnographic accounts reviewed here are written for consumption by an external and/or exotic audience.

Lee (1979) mentions that he was looking for a "contemporary hunting and gathering society from an evolutionary perspective" (p. xviii). The assigning of indigenous communities as 'primitive' and Western other as more developed on the grounds of a linear theory of evolution denies that there can be alternative lines of human development. Even within the theory of evolution there has been adaptive radiation leading to speciation. If this is translated to humankind it implies that there are multiple lines of human evolution or development that do not necessarily follow the Western norms and morals, as is revealed from history where so many lines of human development are evident.

Puzzled by how the Kwanyama could assign names to plants that they do not use, Rodin (1985) states that:

In the body of the monograph it will be noted that a number of plants, such as some members of the sedge family (Cyperaceae), have Kwanyama names but that no uses are known to many of them. We do not know whether all these plants were once utilized, and hence named, or whether they were given names in spite of the fact that they had no known use. Levi-Strauss (1966) has stated that **primitives** classify plants not just because they are utilised but because they bring conceptual order to their

world. I strongly suspect that is true of many plants known in this tribe which are not used but which have Kwanyama names.

(p. 8, my emphasis)

Three things come to light from this statement. Firstly, that local people cannot be an authority of their own knowledge for, instead of asking them, the author sought explanation from another anthropological authority, a scientific authority who can make knowledge claims representing such tribes. Secondly, that the community under study is considered 'primitive' compared to that of the researcher. Thirdly, that there is an existing indigenous system of classifying plants that is not discernable to the author or the sought authority, Levi Strauss, who both have a preconceived notion, probably stemming from earlier anthropological accounts, that indigenous people only name plants that they use.

In the various modes of representation of indigenous knowledge on plant use (including comparative, hierarchical, categorised, generalised, decontextualised, historically validated, and statistically verified representations) the anthropologists promote and sustain the hegemony of Western science disciplines by referring to and producing Western scientific discourses (see Nader, 1996). This can be exemplified by the heavy emphasis on scientific identification and classification by modern botanical institutions in all the anthropological texts studied. In these publications the anthropology discipline supports the botany discipline. Smith argues that "Western disciplines are as much implicated in each other as they are in imperialism" (1999, p.11). All the publications studied have acknowledgements to botanical institutions that helped in the 'identification' of the indigenous plants used by local communities. Botanical nomenclature and botanical classification take precedence and are the norm in the documentation of local knowledge on plant use. These particular kinds of representation reveal a process of decontextualisation of indigenous knowledge and its codification into the widening discourse of botany (scientific knowledge) that is then generalisable and accessible to a wider, botanically-literate Western audience through numerical verification and linguistic

hierarchisation strategies. In making the knowledge familiar and accessible to the Western world it is also in the process being made unfamiliar and inaccessible to the local community audience. What this implies is that the communities which are studied were to a large extent unable to access and to know what was written or studied of them, and thus to contest it. It also signifies a neglect, discarding or exclusion of indigenous classification systems as wider systems of reference were developed.

The more recent study by Cocks is a notable exception to the selected texts in its emphasis on local culture in that it focuses on what she calls the 'inextricable link' between biological and cultural diversity, mainly bringing to the fore the fact that cultural activities are not restricted to exotic traditional rural environments that most anthropologists tend to focus on but are actively practised within peri-urban and urban settings. She therefore challenges traditional anthropological definitions of the terms indigenous, traditional and culture. However, despite this focus on culture, this text also reflects the same representational approaches as the other anthropological texts in that the voice of the local community is still silenced. It is therefore a representation of the other. Like the other anthropologists, Cocks also persistently uses the representational tools, mechanisms and strategies of Western science (anthropology) such as statistical verification, documental evidence, linguistic and numerical hierarchisation, categorisation, recorded observations and comparative analysis to verify her representations. This process transforms local knowledge into scientific discourse, thereby subsuming local knowledge and silencing local voices. She also draws on other scientific disciplines, mainly botany, to name plants, a process that privileges scientific discourses.

Cocks suggests that traditional species-based models of conservation could be enhanced if they pay attention to the link between diversity and culture. While the author notes the resilience of cultural practices to the onslaught of colonisation and modernity, she is however ambivalent on this conservation role of culture as well as the related conservation role of local communities as she indicates that cultural use of biodiversity could be harnessed for conservation purposes and that it also can negatively impact on biodiversity

conservation. The latter aspect might be coming from not fully articulating other variables (contingent factors) such as the historical inequalities in resource access that arose from colonial domination of the majority of black communities which resulted in their relocation to overpopulated marginal resource-poor environments. There is also the issue of increasing population pressure on still limited resources in rural African community contexts. Another key aspect which has been excluded/overlooked is whether indigenous communities lack knowledge on and practices of biodiversity conservation, given their long-term use of plant for cultural purpose and if this knowledge is not relevant for biodiversity conservation efforts today.

A general feature of the anthropological texts studied is that they make very little reference to the researchers and their involvement in the research. Instead of putting into perspective the dialogues between the researchers and the researched, they are unidirectional monologues describing the other. Any references to the researchers/authors and their cultures are hidden, implicit and indirect, producing the intended, seemingly neutral, objectivity of the study. However, "neither the experience nor the interpretive activity of the scientific researcher can be considered innocent" (Clifford, 1983, p. 133). Instead, they are implicated in the power/knowledge struggles as institutional technologies and techniques of representation. Also, as monologues, these representations exclude the voice and deny the authority of the local people being researched to their knowledge. Anthropological accounts turn out to be a 'discovery' of the culture of the other by the external researcher/author who then becomes the authority on the local communities in question. This institutional representation strategy overlooks the collective and collaborative nature of knowledge generation that occurs through dialogic exchanges, a process that makes the resultant knowledge also attributable to the local communities from which it derives. There is need to acknowledge local community contribution through joint authorship and to confront the insulting idea that others know and understand local communities better than they know themselves (Smith, 1999; Dei, 2000).

4.4.2 Botanical representations of indigenous knowledge on plant use

The main aim of the ethno/botanical publications was to comprehensively document indigenous plants and their uses. This documentation is Western scientific documentation characterised by an adherence to traditional botanical representational discourse. This is influenced by the fact that these publications derive from botanists and botanical institutions. It is the botanists who have the authority to name and classify plants.

Watt and Breyer-Brandwijk (1962) state that:

...the folk medicine of indigenous peoples of Southern and Eastern Africa is disappearing before the advancing tide of civilisation and its synthetic medicines. There is little doubt that the greater part of it will have disappeared within measurable time and the recording of it has seemed to us to be not only a matter of urgency but also one of necessity.

(p. vii)

Here they clarify the role of science as that of rescuing the knowledges of indigenous peoples from their unavoidable impending demise.

Fox & Young (1982) claim that their book, *Food From the Veld* was written with the intention to: "...**from a scientific angle** to compile as complete a record as we could of plants indigenous to southern Africa that have been reliably reported to be edible" (p. 15, my emphasis).

Similarly, Van Wyk & Gericke (2000) claim in their introduction to the book *People's Plants* that:

The study of use of plants by local people, or ethnobotany, is still a relatively underdeveloped discipline in southern Africa, and knowledge of indigenous plant use in the region needs **urgent scientific documentation** before it is irretrievably lost to future generations.

(p. 12, my emphasis)

What this implies is that documentation of indigenous knowledge has to be "scientific" in order to be worthwhile. As described earlier above, this involves a process of conversion into botanical discourse, nomenclature and classification systems. In this process the familiar knowledge of the local people is made unfamiliar and inaccessible to them, decontextualised,

generalised and institutionalised. It no longer belongs to the local people, neither is it accessible to them, but is now in the public domain and accessible by whoever is educated in Western botany. Agrawal refers to this archival process as 'ex situ conservation', a process that removes this knowledge from local peoples' lives (Agrawal, 1995). In the process local systems of naming and classifying plants are invalidated, excluded and discarded. What this signifies is that indigenous knowledge of plants, now defined as ethnobotany has a subordinate role to the so-called 'real sciences' such as modern taxonomy or botany to which this knowledge is now made to conform. Semali & Kincheloe (1999) argue that:

Western sciences maintain that much can be learned from a number of ethnosciences including, ethnobotany, ethnopharmacology, ethnomedicine, ethnomusicology, and ethnoastronomy. The concept discursively situates indigenous knowledge systems as ways of knowing that are 'culturally grounded', simultaneously representing Western science as 'not culturally grounded' or transcultural and universal. Thus, in the process of ascribing worth to indigenous knowledge, such analysis implicitly relegates it to a lower order of knowledge production. Also, to speak of indigenous knowledge systems in Western terms such as botany, pharmacology, medicine, etc., is to inadvertently fragment knowledge systems in ways that subvert the holism of indigenous ways of understanding the world.

(p. 21)

In some of the texts there is the evidence of the secondary value of indigenous names. In three of the four publications, common indigenous names are given under the plant entries. However, in all three (more so in the two texts *Food from the Veld* and *People's Plants*) there are errors in the local names. Some names are interchanged or placed in the wrong language, some are misspelt, while in some instances they are omitted for commonly used plants such as fruits. This lack of attention to accuracy of local names might be due to the processes of generalisation, decontextualisation and because some texts are representations of representations.

Another common aspect among the botany publications is the generalisation of plant uses. In this process the local context in which they are used is lost (the general replaces the local).

In a notable exception, in their account Van Wyk & Gericke (2000, p.8) put emphasis on the application of plant-based indigenous knowledge and benefit sharing. In this recent publication, the emphasis on application of indigenous knowledge and benefit sharing indicates a notable shift in concern to consideration of benefits accruing to the local communities who are the source of this knowledge. This conforms to the current discourse of international conventions, such as the Convention on Biological Diversity and the current concerns of many indigenous communities. However, one wonders whether the process of scientific documentation and placing of local knowledge in the public domain, as has been done in their popular book, does not defeat the quest for benefit sharing by making the knowledge free for all, thereby rendering the statements on benefiting local communities to mere rhetoric. From this perspective, this is a paradoxical project.

4.4.3 Conservation and Environmental Education representations of indigenous knowledge on plant use

It should be noted that the environmental education publications are all from South Africa. Their historical location situates them on either side of the juncture which marks the transitional period from apartheid to independence. This explains the relatively sharp contrast in the types of representations, pre- and post-independence, within a very short time span.

In the environmental education representations, one notes a discipline oriented concern with putting the conservation message across in the earlier publications which are heavily influenced by early nature experience perspectives where concern for the environment is believed to derive from close interactions with nature. Tainton and Kee & Nichols' publications fall into this category. Their focus is to educate on the plant diversity and ecology of grasslands and east cost dune ecosystems respectively. Kotze's publication on wetlands has a similar focus, with a slant on the utilitarian benefits to local people of conserving wetlands. In these earlier publications Indigenous Knowledges are an add-on rather than a focus of the publication, with the emphasis being on representation of scientific discourse for conservation awareness purposes.

The more recent publications have a direct focus on indigenous knowledges and are advocating for the recognition and validation of these knowledges and their inclusion within contextualised formal education processes where they were previously excluded. This can be attributable to the recent resuscitation of indigenous knowledges in the post-independent era. Shava (2000) validates the presence of a conservation ethic within tales told of indigenous trees in Zimbabwe. Asafo-Adjei (2004) focuses on developing agricultural curriculum activities that are contextually relevant and which foreground Indigenous Knowledge, an aspect that had been previously excluded within formal education processes.

4.5 Chapter summary

The findings on indigenous knowledge representations from the genealogical analysis are summarised in Table 4.3 below. In relating these representations to the socio-political events, one can see some shifts that occur in the types of representations that emerge towards more locally voiced representation in the post-colonial era. The emergent shifts that are pro-indigenous knowledge are evident in considerations of context (Shava, 2000; Asafo Adjei, 2004; Cocks, 2006), benefit sharing with local communities (Van Wyk & Gericke, 2000), the inclusion and dominance of local voices and narratives (Shava, 2000; Asafo Adjei, 2004).

Period	Socio-cultural context	Publication title and location of study	Type of publication	IK representation	Effects of Representation
1960s	Predominantly colonial era. Dissolution of the Federation of Rhodesia and Nyasaland with the independence of Malawi and Zambia. Independence of DRC, Tanzania, Botswana and the smaller colonies of Lesotho, Swaziland, Mauritius and Madagascar.	<i>Ecology of the Gwembe Tonga</i> . Scudder, T. 1962. Northern Rhodesia (Zambia)	Localised anthropological study on the livelihood sustenance strategies of the Gwembe Valley Tonga community	Contextualised, hierarchised and numerically validated representations inventorying wild food plants used by the local communities.	Othering, silencing, scientisation.
		<i>The Medicinal and Poisonous Plants of Southern and Eastern Africa</i> . Watt, J.M & Breyer-Brandwick, M.G. 1962. Southern Africa.	Ethnobotanical inventory of traditional medicinal plants and poisonous plants of southern and eastern Africa.	Generalised, taxonomically hierarchised and scientised representations with contextual reference to the local communities using the different plants.	Appropriation, othering, silencing, scientisation, appropriation.
1970s	Independence of Angola and Mozambique. Colonial struggle intensifies.	<i>A Rhodesian Botanical Dictionary of African and English Plant Names</i> . Wild, H. Revised and enlarged by Beigel, H.M. & Mavi, S. 1972. Rhodesia (Zimbabwe)	Botanical Inventory of native language plant names of Rhodesia (Zimbabwe).	Generalised, taxonomically hierarchised, and scientised representations of local plant names and their uses appropriated to aid scientific identification.	Othering, silencing, scientisation, appropriation

		<i>Trees of Southern Africa</i> . Palgrave, K.C. 1977. Southern Africa.	Botanical inventory on the identity and distribution of indigenous plants of southern Africa.	Generalised, taxonomically and culturally hierarchised, and decontextualised representations of plant uses by indigenous communities of southern Africa.	Othering, silencing, scientisation, primitivisation
		<i>The !Kung San: Men and Women in a Foraging Society</i> . Lee, R.B. 1979. Botswana.	Localised anthropological study on the lives of the !Kung San community	Contextualised, taxonomically hierarchised, comparatively (culturally) hierarchised, categorised and scientised representations of local plant uses.	Othering, silencing, dehumanisation, scientisation
1980s	Independence of Zimbabwe and formation of SADC.	<i>Food from the Veld: Edible Wild Plants of Southern Africa</i> . Fox, F.W. & Young, E. N. 1982. Southern Africa.	Generalised ethnobotanical inventory of wild food plants of Southern Africa.	Generalised, decontextualised, taxonomically hierarchised and scientised representations of wild food plant use by local communities.	Othering, scientisation, primitivisation, silencing.
		<i>The Ethnobotany of Kwanyama Ovambos</i> . Rodin, R.J. 1985. Need country here	Localised anthropological study of the lives of Ovambo communities in Kwanyama.	Contextualised, taxonomically hierarchised, categorised, numerically verified representation of plant use by local communities.	Othering, silencing, scientisation, dehumanisation.
1990s	Independence of	Lwaano Lwanyika:	Localised anthropological	Contextualised, multivoiced,	Giving space for local

	Namibia and South Africa, marking the total liberation of Southern Africa.	Tonga Book of the Earth. Reynolds, P. & Cousins, C.C. 1991. Zimbabwe.	study of the lives of the Valley Tonga.	artistic and narrative representations of plant uses by local communities.	voices, prioritisation of local language.
		<i>Hands-On: Grassland Life</i> . Tainton, N. (ed.). 1992. South Africa.	Generalised inventory and description of plants occurring in a grassland.	Generalised, decontextualised and scientised representations	Othering, scientisation, silencing.
		<i>Hands-On: East Coast Dune Plants</i> . Kee, B. & Nichols, G. 1993. <i>Wetlands and People</i> . Kotze, D. 1996. South Africa.	Localised inventory and description of coastal dune plants.	Generalised, decontextualised, utilitarian and scientised representations.	Othering, scientisation, silencing.
		<i>Wetlands and People</i> . Kotze, D. 1996.	Generalised inventory and description of wetland plants and their uses in South Africa.	Utilitarian, generalised, decontextualised and scientised representations.	Othering, scientisation, silencing.
2000s	More indigenous voices are heard in all social spheres.	<i>People's Plants</i> . Van Wyk, B.E. & Gericke, N. 2000. Southern Africa.	Inventory of plants used by local communities in southern Africa.	Generalised, decontextualised, utilitarian, hierarchised, categorised representations of indigenous plant uses by local communities in the region.	Othering, scientisation, silencing, appropriation.

		<i>Tales of Indigenous Trees of Zimbabwe.</i> Shava, S. 2000. Zimbabwe.	A collection of local community stories of indigenous plants.	Contextualised, taxonomically hierarchised representations of local Shona community plant stories, ambivalence on scientific validity versus local knowledge narratives.	Dominance of local narrative and conservation ethic.
		<i>From imifino to umfuno: a case study foregrounding indigenous agricultural knowledge in school based curriculum development.</i> Asafo-Adjei, R.T. 2003. South Africa.	Localised study wild leafy vegetables used by a local community in the Eastern Cape.	Contextualised, local voiced representations of indigenous plant uses, deliberation cultural change and community ambivalence on culture versus modernity.	Dominance of local voices, mobilisation/application of local knowledge in education.
		<i>Wild Plant Resources and Cultural Practices in Rural and Urban Households in South Africa: Implications for Bio-cultural diversity Conservation.</i> South Africa. Cocks, M. 2006.	Localised studies of cultural plant uses in the Eastern Cape of southern Africa.	Contextulised, taxonomically, numerically/statisically and categorically hierarchised representations of cultural plant uses by local communities, recognition of culture in relation to science, ambivalence on cultural descriptions and scientific institutional agency versus local knowledge practices revealed.	Othering, scientisation, silencing, ambivalent recognition of culture.

4.6 Conclusion

Modern institutional systems and discourses have a profound influence on the way knowledge is represented by the researchers linked to them. Various representational strategies of the modern institution and its discourse are deployed in the processes of knowledge generation and representation, supporting and producing Western science discourses and regimes of truth while reformulating and transforming indigenous knowledges and silencing local voices. In this process Western science researchers have the power to access and appropriate the representation, hold power over the generation of representation and how it is interpreted, and determine the evidence to support the representation. This process therefore positions science as a self-generative, self-referral and self-validating knowledge system, an aspect that enables its continued hegemonic influence.

For indigenous communities, modern institutions, using their various representational strategies, have the power effects of displacing, excluding, decontextualising, generalising, transforming, silencing and rendering inaccessible to indigenous communities their indigenous knowledge in their representation of this knowledge that is derived from generative processes during the interactions between local communities and modern (Western) institution researchers. Here we realise the power of discourse not only due to its representational character but by always being part of variously constructed 'regimes of truth'.

However, some transformations are emerging, both in the discourse and practice of modern institutions, as is indicated in the more recent publications, towards contextualised, polyphonic forms of representation that are more inclusive and give voice to local communities as well as space for a presence of their knowledges in formal knowledge domains.

I would like to point out here that documentation of indigenous knowledges is essential, considering their continuous loss due to various factors contributing to the disruption of intergenerational knowledge transfer (Warren et al., 1995).

However, in documenting IK, I propose that, as indigenous researchers, we should also be continually alert of how it is represented, for whom we are documenting indigenous knowledge and for whose benefit, and be wary of perpetuating and legitimising appropriation of this knowledge into the dominant Western knowledge system (Hountondji, 1997; Smith, 1999). I also feel there is a need to go beyond documentation. We need to ask ourselves for what purpose are we documenting this knowledge? To avoid the 'museumisation' of indigenous knowledges I think we should also focus on its practical application, currently and in the future, in indigenous peoples' everyday lives and within social institutions that guide and influence us. This is an aspect that is analysed in the next two case studies on interactions at the interface between modern scientific institutions and local communities (Chapter 5 and 6).

The following chapters, 5 and 6, make up the second phase of this research. They are case studies of indigenous knowledge representations and application in community and modern institution interfaces in environmental (conservation) education and community development contexts respectively.

CHAPTER 5: A CASE STUDY OF INDIGENOUS KNOWLEDGE REPRESENTATION AND APPLICATION IN A TRADITIONAL MEDICINAL PLANTS CONSERVATION PROJECT

5.1 Introduction

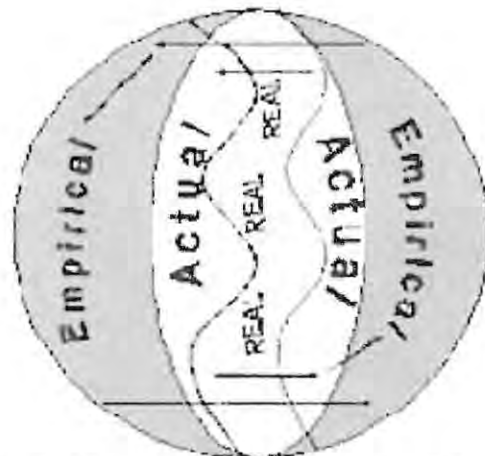
This chapter is the first case study in the second phase of the research that analyses indigenous knowledge representation and application at the interface between a local traditional healer community and a modern institution with a focus on power/knowledge relations. Here I look at these power/knowledge relationships in a medicinal plants conservation project from a Foucauldian genealogical perspective. This allows me to probe the interface between a modern non-profit community development training institution and local traditional health practitioners (LTHPs) in the Eastern Cape Province of South Africa. The main purpose of the case study is to:

- i) Reveal and learn about the power/knowledge relationships between the institution and the Local Traditional Health Practitioners' community of practice in the representation and application of local community knowledge;
- ii) Inform of these relationships and their impacts on the representation and application of indigenous/local community knowledge; and
- iii) Provide recommendations on educational processes to the project and to similar institutions working with indigenous communities with regard to indigenous knowledge representation and application.

5.2 Background to the Traditional Medicinal Plants Conservation Project

Based on a scientifically derived imperative to promote the conservation of medicinal plants, which exists with a broader mandate to conserve indigenous plants of the Eastern Cape bioregion against human impacts, a community development training institution has developed a Traditional Medicinal Plants Conservation Project (hereafter known as the project). The project aims to work with local traditional health practitioners in the Eastern Cape and is developing for this purpose a Traditional Medicinal Plants Conservation Centre (hereafter known as the centre).

The shared reality bringing together the modern community development training institution and the traditional medical practitioners' community is medicinal plants, specifically the concern on the continued availability of indigenous medicinal plant resources. However, this concern is perceived differently by the different stakeholder groups, revealing multiple perspectives of reality that are epistemologically influenced, though these perspectives are evidently interrelated (as they are around the same reality). Figure 5a below reflects the relationships between the modern training institution and the traditional healers' community. Explained from a Critical Realist perspective, there is a real world existing independent of our knowledge of it, that is a reality beyond what we know and experience (Sayer, 2000). This enables one to consider different ways of knowing (from different knowledge systems) as different representations of reality that together can bring a deeper understanding of that stratified reality, what can be referred to as ontological depth. What critical realism brings out is that the ways of knowing of scientific institutions (and their forms of knowledge representation) are not necessarily exhaustive and neither are the ways of knowing of local communities. With critical realism there is not the dualistic opposition of either/or that usually arises between indigenous and western ways of knowing. Critical realism overcomes this dualism by positing indigenous and western ways of knowing as both/and perspectives of the real, thus allowing plural and polyphonic knowledge representations and diverse applications.



**Modern Training
Institution**
(Western/scientific/
propositional
knowledge)

**Local Traditional
Health Practitioners'
Community**
(Local/situated
knowledge)

Figure 5a: A realist representation of the modern institution and community interface in the Traditional Plants Conservation Project

The modern (community development and training) institution draws its symbolic capital from (is informed by) a *Western scientific perspective* on the conservation of the Eastern Cape flora, with a focus on plants threatened/endangered by unsustainable use and over-harvesting for medicinal purposes. The local traditional health practitioners on the other hand are informed by a *cultural perspective*. Their concern is on the diminishing access and availability of medicinal plants that they use culturally as healers and the impact of traders on their practice. The healers see the traders as tarnishing their image by mis-prescribing herbal remedies and trading products that have outlived their shelf life or are considered 'unclean/polluted' due to inattention to or disregard for cultural processes/practices of harvesting medicinal plants which renders medicines harmful or ineffective (Verheijen & Murray, 2006).

In addition to these two key stakeholders, there are other players in the field. These include the Department of Health which has a *Western science perspective* to medicine and is primarily concerned with the provision of safe

healthcare treatment to the general public. To this effect, the Department of Health has formulated the Traditional Health Practitioners Act of 2004, a legislative instrument to control/regulate and standardise the activities of traditional health practitioners. An international organisation interested in indigenous plant gardens is providing funding for the project. This international organisation also has a *Western science perspective* and is mainly focused on promoting biodiversity conservation through supporting indigenous plant gardening initiatives.

5.3 Power/knowledge relationships: positioning stakeholders' interests in the Traditional Medicinal Plants Conservation Project

Power/knowledge relationships in this project are skewed in favour of modern scientific institutions. To examine these relations I will describe the key stakeholders and their interests in the project and how these relations are reflected in representations and applications of indigenous knowledge.

5.3.1 Community development training institution

The community development training institution, as the funded agency, has ownership of the project. It has strategically positioned itself as the centre of all activities in the project. The institution is an established, functional non-governmental organisation with capacity in human, financial and material resources. It has a well established focus and experience in community education and training.

In a poster for the project, the organisation states the mission for its Traditional Medicinal Plants Conservation Centre as follows:

In the context of high HIV/AIDS levels and unsustainable harvesting of indigenous medicinal plants the mission of the [Traditional Medicinal Plants Conservation] Centre is to respect, support and develop traditional health care in the Eastern Cape Province of South Africa in a culturally, economically and environmentally sustainable form through training in appropriate skills and techniques.

This statement reflects the perceived role of the institution in providing the necessary skills and training for the project. The community development training institution has identified, drawing from scientific analysis/research, that there is a problem of unsustainable harvesting of medicinal plants in the Eastern Cape Province. To this effect, the training institution mandated itself to develop the project proposal, source funding and set the goals and objectives for the project. The institution therefore represents medicinal plant harvesting for traditional healthcare as the main culprit for plant biodiversity loss in the province, hence the need to transform the traditional health practitioners' perspective of medicinal plant conservation. It however displays its ambivalence on its perspective of traditional health practice by also recognising the role traditional health practice has in providing health care in the province in a context of HIV/AIDS vulnerability.

The same poster for the project states the key outcome of the project as follows:

The most important and core measurable goal of the project is to establish, through training, sustainable home herb gardens producing indigenous medicinal plants that supply the market.

This reveals the need by the institution to validate its impacts through a scientifically measurable standard, showing evidence of the training institution's scientific bias. What is also revealed is the market orientation of the institute which frames traditional health practice within the modern economy. Traditional health practice is therefore represented as a marketable resource from a modern economic perspective and no consideration is taken of the cultural context in which traditional health practice is situated. Contrary to this view, traditional health practitioners consider themselves as called into the practice by their ancestors to help/serve the community and state that this practice is sacred and does not permit them to market commercially their healing knowledge and remedies. The acknowledgment (payment) of their services is based on the local community economy of cultural reciprocity and is usually in the form of a combination of cash and kind (a bottle of brandy, a goat, lamb, chicken or cow) as spiritually instructed by their ancestors. This

cultural aspect of traditional health practice is therefore ignored/excluded and marginalised and replaced with a modern economic imperative/rationale that commodifies their practice.

With regards to medicinal plant conservation the organisation argues in the same poster that:

Formal and traditional conservation measures have been largely unsuccessful. The current practice of solely harvesting from the wild to supply the market needs to change if medicinal plant species are to be conserved for continued use in traditional health practices and for biodiversity criteria. Indigenous plants will continue to form an important component of primary health care in southern Africa only if raw materials of medicinal plants can be delivered in sustainable quantities. The cultivation of indigenous medicinal plants, in order to prevent the over-utilization of dwindling wild populations, is the most viable way to preserve both our heritage of indigenous botanical knowledge and the plant species that support it.

In this statement the institution makes a value judgement that eschews both formal and traditional conservation practices, which are considered ineffective. By representing their conservation practices as ineffective, the institution places itself in hierarchical position of dominance which gives it the necessary authority to chart the transformative process in medicinal plant conservation. In this way it effectively excludes the voice and usurps the agency of local traditional health practitioners as viable alternatives in conservation initiatives on medicinal plants.

The chosen approach to working with Local Traditional Health Practitioners stated in the project poster is for the intervention and training to be done "in a non-threatening and supportive manner that that is cognisant of cultural norms and gives ownership to all stakeholders". Interestingly however, a member of staff narrated in an interview that in early consultations with traditional health practitioners there was an incident one healer requested a bottle of brandy after having been consulted. The healer had considered the researchers as clients and was seeking the traditional payment to appease his ancestors for the knowledge accessed. However, the community training institution refused to make this payment on the basis that what the institution

was doing through the project was of benefit to traditional healers' practices. In a failure to articulate/recognise the cultural reciprocity required of traditional health practice, the training institution was thereby imposing a Western rationale that denigrated the traditional health practice rationale (the need for appeasement). Not surprisingly, this led to the withdrawal of the traditional healer concerned from the project as he felt he had been violated, insulted and undermined. This approach therefore disrupted the dialogic process that had ensued and revealed an ambivalence of the part of the training institution which claimed to uphold and yet violated cultural norms and values of the traditional health practitioners by privileging scientific rationale. In the process the community training institution also excluded the representation and application of the knowledge related to this traditional medical practice that derives from (is embedded within) the socio-historical context of the traditional healers.

The community training organisation sees the cultivation of medicinal plants as the solution to the decline in medicinal plants owing to threats to local availability through increased demand and harvesting. Traditional healers on the other hand believe that if a medicinal plant is not collected from its natural habitat it loses its healing potency. Despite realising this dilemma, the community development training institution went ahead and determined, prior to consultation with the traditional healers, the path the project was going to take. In the process it refused to acknowledge the value and relevance of the knowledge of the traditional health practitioners and excluded it from its representation and application in the project activities and documents. Engaging with traditional healers was therefore unintentionally a socially engineered process that naively undermined the traditional beliefs that the project purported to uphold in its rhetoric discourse. The knowledge and practices represented within the project are therefore not those of the local traditional health practitioners but those of the community training institution. This effectively silences the voices of the LTHPs and constrains their agency.

The training institution has a cumulative knowledge database on the uses, ecology and conservation status of medicinal plants in the Eastern Cape and

beyond, national and global policies and deliberations on medicinal plants, and technical skills on plant propagation. This is evident in the following statement from an interview with a staff member of the training institution:

...we got documents from, publications from X and Y...of the work they have been doing also, 'cause they have been doing quite a lot of work in this area...medicinal plants and what have you, and they have picked up ones that are, hm, scarce or, you know, ahm, unsustainably harvested with the probability that they're gonna be scarce or endangered in the future...that kind of thing...but we've also been hm, looking at the Red Data list, which is a published thing of the different categories of threatened plants.

This reveals that the project direction is shaped by Western scientific research and discourse, which it uses as a means to validate the objectives of the project. This selective representation of Western scientific knowledge over local knowledge excludes the application of the knowledge of local traditional health practitioners in the broader decision-making processes that guide the project outcomes.

The institution also aims to serve as an information hub as indicated in the following statement from an interview with a member of staff:

Well, yeah, one of the roles that we... would like to play in future is kind of an information conduit ... from... other research, or areas, or kind of what have you, to the people that we are working with. So to that end we've you know... a database of all...research programmes and publications and other projects that can be resources to healers...One of the things we're also trying to ... kind of keep up with what's being done in terms of research.

This acquired scientific knowledge and resources skews power relations in favour of the institution and gives it the necessary clout in negotiations with other stakeholders. The institute is however aware that success of the project is dependent on the traditional health practitioners' willingness to participate and on their acceptance of cultivated medicinal plants as a resource for herbal remedies.

With regards to representation of indigenous knowledge in the project, it is evident that the institution has had in its possession, knowledge on medicinal

plants that had been appropriated and accumulated from the traditional health practitioners into Western science as discussed in Chapter 4. This is then re-represented and disseminated to the LTHPs during project deliberations as decontextualised Western scientific discourse that is used to stimulate instrumentalised agency in local community contexts. This includes research information on the medicinal plant distribution and trade that is used as a justification and basis for the project. What is excluded (not recognised) here is that this re-represented knowledge has its origin in the local traditional health practitioners and is therefore a second order representation, that is 'a representation of a representation'. As a consequence, the institution makes very little direct use of the knowledge possessed by the local traditional health practitioners for educational (training) purposes and instead serves as the main information source for guiding the project. In using this scientised knowledge as their primary source for guiding the project, the training institution is perpetuating the hierarchised hegemony of Western scientific discourse, depriving traditional healers of their voice and independent agency in this institutional setting.

The only evident use of the knowledge of LTHPs in the project was the drawing up of a list of medicinal plants that can be cultivated and the related cultural norms and taboos to be observed in the cultivation training. A staff member of the community training project explains this as follows:

The model that we...kind of started up for the cultivation training that the year before we do cultivation training in an area we go...to that community and explain the project to them... and we invite the traditional healers to come and then we have a more intensive explanation of the project...and then we ask them...for input...as to which plants will be culturally acceptable for us to include in the cultivation training the following year...and...input about how we should conduct ourselves in that community and with the, you know, the training.

From this it is evident that the training is already pre-programmed and the main input of the healers is to ensure acceptability of the training through identifying culturally acceptable plants and providing advice on cultural norms. The medicinal plants' list drawn up by the traditional health practitioners was

found to match plants that had been identified as threatened and/or endangered in Western scientific research reports and therefore validated the project's objectives. Cultural norms and taboos were partially observed by growing the plants as naturally as possible (organic cultivation), without the use of chemicals. An effort was also made to propagate the plants naturally from seeds wherever feasible as opposed to vegetative propagation. This practice draws from scientific conservation practices that advocate for natural plant propagation to enhance genetic diversity within the species.

5.3.2 Local Traditional Health Practitioners

Local Traditional Health Practitioners have mobilised themselves into an affiliate organisation where they share common interests around their traditional medical practice, reflecting a loosely structured community of practice. Wenger defines communities of practice as groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Wenger, 1998). Their shared domain is traditional medicine around which they meet to share ways to protect this cultural practice. Through this emergent structure LTHPs are able to assert themselves against the hegemonic perspectives and prescriptions of modern research institutions and governing systems. As Foucault (1990) claims, "where there is power, there is resistance" (p.95). LTHPs value the sacredness of their medicinal knowledge and practices given to them by their ancestors as indicated in the statement: "*kange sizifunele okhu esikwenzayo, sibizwa njalo sikhuphiwa ngabaphansi*", literally meaning: "this [practicing as traditional healers] was not our desire but a calling from our ancestors, what we do is given to us [in dreams] by our ancestors". They strongly contend that this knowledge and practice should not be divulged to outsiders and see their given role as making this knowledge and healing accessible to the local community members who consult them. The traditional medical practitioners state that they are striving to protect themselves from the onslaught of modern research institutions and entrepreneurs who usurp their knowledge by appropriating it for commercial purposes. Deliberations during project meetings and workshops indicated that they are indeed very wary and critical of any engagement involving the word 'research' because they are aware of

the usual exploitative implications and outcomes that this entails. They state: “*Hayi thina asivani naleli gama le research ngoba basibela ulwazi lwethu ngalo*”, meaning “we don't like this term ‘research’ because it is the way that they steal our knowledge”. LTHPs are also battling against the implications of government policy frameworks that aim to regulate and standardise the practice of traditional medicine.

A key issue with regard to government policy is recognition, particularly the referral systems which works in favour of modern health institutions. Here traditional health practitioners can and do refer patients to Western medical practitioners and institutions where they deem it necessary. However, this referral system does not work reciprocally. This is despite what the traditional healers note as the presence of (spiritually related) ailments that cannot be cured with Western medical practices and are treatable only with traditional medical practices:

Kule into ye ‘referral’, thina sihambisa abantu abalezifo ezilapheka ngedlela yeslungu kumakliniki nasezibedhela. Kantike kukho izifo ezinyangeka ngendlela yesiXhosa kodwa omongikazi nabodokotela abalethi abantu kuthi.

This translates to:

In this referral system, we refer patients who can be better cured by modern medicine to clinics and hospitals. However there are ailments that are not treatable through modern medicine but can be treated traditionally and doctors and nurses do not refer those patients to us.

They are also unhappy about the way the modern health institutions undermine them, particularly how they hierarchically compared to or put below nursing staff undermine them:

Thina soze silinganiswe ngonesi ngoba siyakwazi ukumhola lokhumnyanga umntu onesifo. Kumele silinganiswe nogqirhawasezibebhedlela

This translates to:

We cannot be compared to a nurse as we are capable in our way to diagnose and treat a patient. We are therefore comparably equivalent to a doctor in the modern medical profession.

The only knowledge contribution by traditional health practitioners to the project was compiling a list of medicinal plants that they felt could be cultivated for healing purposes.

Healers seem to have taken upon themselves to play a subordinate and recipient role in their relationship with the community development training institution as they are accepting of the training process being instituted by the modern institution. This is evident in statements from the healers such as "asingxaki nabo, bazosifundisa" literally meaning "we have no problems with people from the community development training institution, they are here to train/educate us". It seems the healers have been normalised through planned workshops and training sessions into receiving training and guidance/direction from the community development training institution on the condition that they would not be expected to divulge their medicinal plant knowledge to the project.

5.3.3 Department of Health

The health department is a formal government institution with an overall regulatory function on health practitioners and practices, including traditional health practitioners (THPs), with a primary focus on safe health delivery. The Department of Health has formulated and implements the Traditional Health Practitioners Act of 2004, whose main aim is to regulate and standardise traditional health practice in terms of Western medical practice. This is indicated in the following statement from the Act:

...to provide a regulatory framework to ensure the efficacy, safety and quality of traditional health care services; to provide for the management and control over registration and training and conduct of practitioners, students and specified categories in the traditional health practitioner profession...

(2005, p 3)

Questions that arise are: How can government standardise cultural medicinal healing practices that are in reality diverse in nature? Who will be providing

training for the practitioners who have traditionally entered the practice arising from a spiritual calling from their ancestors and have acquired their healing knowledge from dreams (*'sikuphiwa nagabaphansi'*)? What kind of training will the government be providing, considering traditional medicine is not a modern scientific medical practice but in the sphere of traditional knowledge and practice that is acquired under a different epistemology?

The Act proceeds to coin and define terms for the traditional healing practice on behalf of the traditional healers, who are then relegated to a subjugated role of being defined, regulated and trained by the modern governing institution. These terms include the following:

"herbalist" means a person who engages in traditional health in traditional health practice and is registered a herbalist under this Act;

"speciality" in relation to any of the categories, includes any particular sphere of extensive knowledge and skill in which a traditional health practitioner specialises;

"student" means a person training to be a traditional health practitioner;

"traditional birth attendant" means a person who engages in traditional health practice and is registered a traditional birth attendant under this act;

"traditional health practice" means the performance of a function, activity, process or service based on traditional philosophy that includes the utilisation of traditional medicine or traditional practice which has as its object –

- a) the maintenance or restoration of physical or mental health or function; or
- b) the diagnosis, treatment or prevention of a physical or mental illness; or
- c) the rehabilitation of a person to enable the person to resume normal functioning within the family or community; or
- d) the physical or mental preparation of an individual for puberty, adulthood, pregnancy, childbirth or death, but excludes the professional activities of a person practising any of the professions contemplated in the Pharmacy Act, 1974 (Act No.53 of 1974), the Health Professions Act, 1974 (Act No. 56 of 1974), the Nursing Act, 1974 (Act No. 50 of 1974), or the Dental Technicians Act, 1979 (Act No. 19 of 1979), and any other activity not based on traditional philosophy;

"traditional health practitioner" means a person registered under this act in one or more of the categories of traditional health practitioners;

"traditional philosophy" means indigenous African techniques, principles, theories, ideologies, beliefs, opinions and customs and uses of traditional medicines communicated from ancestors to descendants or from generations to generations, with or without written

documentation, whether supported by science or not, and which are generally used in traditional health practice;

“**traditional surgeon**” means a person registered as a traditional surgeon under this Act;

“**traditional tutor**” means a person registered under any of the prescribed categories of traditional health practice who has been accredited by the Council to teach traditional health practice or any aspect thereof.

(ibid., pp. 6-8)

In coining the above terms, the health department has therefore assumed the authority to represent traditional health practitioners as the other by defining for them what traditional health practice is and identifying who traditional health practitioners are. In the process it deprived the traditional health practitioners the agency to define their practice and themselves and also excluded representations of the traditional healers' knowledge.

The Act does not note that there are vernacular (local languages) traditional health practitioner terms as *igqirha*, *ixhwele*, *ingcibi*, *ikhankatha*, *umbelekisi*, *amakhosi*, *umkwetha* in isiXhosa or *isangoma*, *inyanga*, *ithwasa* in isiZulu as these are not included or mentioned in the text, indicating a lack of engagement with traditional medical practitioners in formulating the policy. The discourse of the Act is therefore of the policy makers and not that of the traditional health practitioners. It is thus apparent that the Act was intended to regulate and not necessarily to be understood by local traditional health practitioners, who are to a large extent illiterate, as it is not written using their own specialised terms and in their local languages. The diversity of categories/types of traditional health practitioners also reveals the enormous challenge of attempting to set a standard that unites these disparate forms of practice. Also, except indirectly under the term ‘**traditional philosophy**’, no mention is made of the issue of **spirituality**, which is a key aspect of traditional healing (Cocks, 2006b). Instead the focus is on the treatment of physical ailments, an emphasis on diagnostic health that is characteristic of Western medical practice. This signifies a selective representation that excludes aspects of traditional health practice that do not conform to/fit the dominant Western medical practice.

It is evident that there is a gap between the policy makers and the traditional health practitioners on the ground, the former wielding and imposing the modern state's power to control and the latter in possession of the excluded indigenous knowledge and cultural practices of traditional medicine.

It appears that through these selective representations the Act has served to reinforce the colonially-derived hierarchical nature of medical health practice by the modern state that posits traditional health practice as inferior. The Act is attempting to transform what is essentially an indigenous knowledge domain into a standardised system of practice that will allow easier control of traditional health practices. This is against a historical background where indigenous/traditional health practitioners have existed independently/autonomously and parallel to formal health practices, resisting colonial processes of domination where they have been marginalised, alienated and excluded by formal health practices. This marginalisation includes being labelled as superstitious and forbidden to practice as diviners under the colonial Witchcraft Act of 1957 and the subsequent Health Act of 1974 (Verheijen & Murray, 2006).

The purpose of the Act is therefore not to represent and apply the discourse of traditional health practice; rather it is to transform these practices at the outset so that they fit into the dominant formalised Western health discourses. In an effort to standardise or rather 'westernise' traditional health practice, the Act has had the effect of increasing the gap between formalised Western and traditional health practices by rendering the current traditional health practices illegitimate. Considering the above issues, one then wonders what therefore is traditional about the Traditional Health Practitioners Act?

5.3.4 International Funding Institution

The international funding institution provides funding for the development of indigenous plant gardens that contribute to plant biodiversity conservation. In so doing it is promoting an ethic and practice which serves to define medicinal plant conservation within Western scientific discourse, thereby excluding the discourse and conservation practices of local traditional health practitioners.

5.4 Governmentality in the Medicinal Plant Conservation Project

The power/knowledge relationships evident in this project are best described using Foucault's genealogy of government (Foucault, 1991), as they are mainly around issues of control. Foucault defines **governmentality** as the 'conduct of conduct', that is as any more or less calculated means of the direction of how we behave and act (Dean, 1999). Governmentality relates to techniques of regulating conduct (technologies of government) that derive from modern institutions. Dean claims:

The analysis of government is concerned with thought as it becomes linked to and is embedded in technical means for shaping and reshaping of conduct and in practices and institutions. (1999, p. 18)

A stratified structure of governance is evident with regards to the above-mentioned stakeholder influences, reflecting plural forms of governance that are (inter)woven with a thread of continuity, both upwards and downwards (Foucault, 1991). This is represented in Figure 5b below.

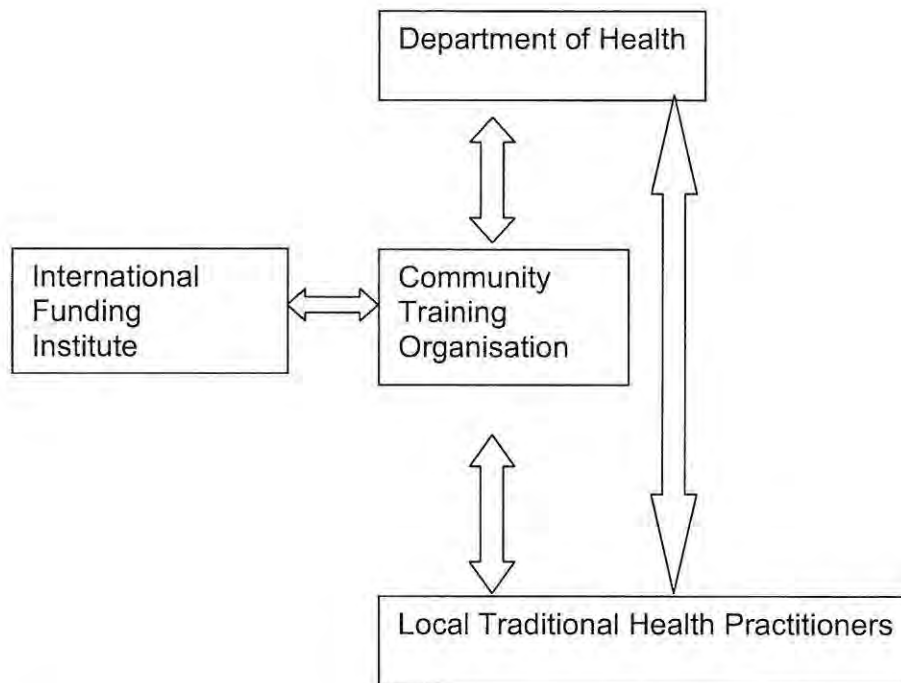


Figure 5b: The tiered governance structure in the Traditional Plants Conservation Project

In this stratified structure:

- a) The **community development training institution** serves as an information hub or filter that provides an enabling platform for deliberation and agency on medicinal plant biodiversity conservation. It also serves to interpret related policy and to facilitate deliberations on policy implications and advocacy for policy transformation processes. For the traditional health practitioners the institution is made to serve as an interlocutor, providing a voice for the voiceless. The institution has therefore strategically positioned itself as knowledge source, broker, interlocutor and advocate on behalf of the traditional health practitioners. The main role of the institution however is to promote sustainable harvesting and cultivation of medicinal plants. Its reason is medicinal plant biodiversity conservation in the Eastern Cape biome. Its techniques are the mobilisation and control of human, financial and infrastructural resources for providing a training programme for the cultivation and sustainable harvesting of medicinal plants and a platform for deliberations on medicinal plant biodiversity conservation,

intellectual property rights and policy issues. Its subjects are local traditional medical practitioners who are project implementers, policy makers such as the Department of Health, and researchers and research institutions interested in knowledge of medicinal plants.

- b) The **international funding organisation** provides funding for the development of indigenous gardens and mandates the community development training institution to facilitate this. Its reason is plant biodiversity conservation. Its technique is the sourcing and provision of financial resources for indigenous plant conservation through garden development initiatives. Its subjects are the community training organisation which furthers its cause and the traditional health practitioners who have been instrumentally co-opted as the agents to implement the gardening initiatives.
- c) The **Department of Health** is a formal government institution with an overall regulatory function on health practitioners. To this effect it has formulated an overarching policy framework that aims to regulate Local Traditional Health Practitioners and their practices. Its reasons are safe health provision for all. Its techniques are the regulation and standardisation (that is modification and westernisation) of traditional health practices through a nationalised system of human, financial and infrastructural resources. Its subjects are the Traditional Health Practitioners whom it has to regulate and whose practice it is attempting to standardise.
- d) The **Local Traditional Health Practitioners** are mobilised into an emergent governance system (a loosely structured institution that presents as a community of practice around a shared common concern). This gives a common (agential and resistance) voice to Local Traditional Health Practitioners and protects their interests as well as regulates external interactions (by determining criteria on who they do or do not work/collaborate with). Their reasons are the sustenance of traditional health practice and the protection of medicinal plant knowledge and healing practices which are the source of their livelihoods. Their subjects are researchers and research institutions

(through appropriation), plant traders (through wrong prescription and culturally incorrect collection of medicinal plants) and government (through negative policy) that threaten their practice.

The above relations points to many areas of ambivalence and numerous axes of tension in the developing project.

5.5 Emerging issues from interactions in the project: axes of tension, axes of action, points of rupture (contingent factors)

The interface between the modern institution and traditional healers brings to the fore a series of (axes of) tensions central to understanding this interaction in context. The project is trapped into a position of delicate ambivalence in that it has to work with (negotiate within and around) the reality that on one hand it is striving to conform with the representations of science (biodiversity conservation), its regulatory aspects (safety in health provision) and economic thrust (marketing of medicines/pharmaceuticals) while on the other hand it has the ethical responsibility to uphold the sacredness of traditional health practice. These axes of tension are both epistemic and power related. I will elaborate on these aspects below, focusing on the interactions between the community development training institution and the local traditional health practitioners as these two stakeholders are more directly engaged with each other in the project.

5.5.1 Cultivation versus collection/harvesting from the wild

At the beginning of this project, the community development training institution was aware of one key aspect that threatened the viability of the project. This was the possible resistance to medicinal plant cultivation by traditional health practitioners. This resistance arises from a cultural belief that for plants to be potent/effective medicinally they have to be collected from the wild. This belief has been substantiated by scientific evidence that plants produce certain chemical substances that are usually medicinal under conditions of natural stress in the environments in which they grow as stated in a confidential

concept document for the project. The institution has somehow negotiated around this issue with the healers by giving them a say in what plants they would allow to be cultivated and under what conditions, despite already having a comprehensive knowledge and list of medicinal plants under threat in the area and the technical know-how on conditions for cultivating these plants. In its concept document the community training organisation states that it “cannot impose a set of prioritised plant species but would rather respond to a list of culturally acceptable, useful and scarce plants provided by the THPs...” However, despite this consideration there was mixed scepticism noted by the institutional researchers among the healers about the effectiveness of cultivated medicinal plants, mainly among the more conservative older generations of traditional healers, with the younger, ‘better educated’ healers being more aware of increased scarcity of medicinal plants and more receptive to cultivation as a valuable way to secure plant supply for future generations. This is indicative of the fact that this cultivation practice is a new practice that threatens the traditional knowledge and practices of the traditional healers. It was recognised by the researchers in the project that older traditional healers have much respect from and influence on younger healers. The question that therefore arises is: how extensive and effective will be the uptake and sustenance of medicinal plant cultivation by traditional health practitioners following training? This is an uncertainty that reveals the delicacy of power/knowledge relationships in the project: the dominating Western science discourse and paternal role of modern institutions versus the resistance to this embedded in traditional medical practice and culture.

5.5.2. Protection of knowledge and practices versus commercialisation

Another issue in the interactions within the project was the perceived threat to traditional healers of people stealing their knowledge and using it for commercial gain. The institution resolved this problem by stating from the beginning that they were only interested in the identity of the plants used for medicine suitable for propagation and not the knowledge on how to use the plants. The institution also conducted awareness workshops for traditional health practitioners on intellectual property rights around plant-based remedies. The issue of commercialisation however is one consideration that

the training institution has as an outcome for the project, in particular the selling of cultivated plants and seedlings as well as herbal remedies which the community development training institution indicates intends to do. Globally, there is also the noted and unavoidable continued commercialisation of traditional herbal remedies that the healers have to live with. This focus on the economic gain transforms the discourse of traditional health practices into the discourse of the modern market economy. The question is therefore how traditional healers will deal with the being caught up in the ambivalent position of trying to protect and uphold a cultural integrity/practice which abhors commercialisation and having to find the means to survive in a cut-throat rapidly modernised and commercialised environment. There are also questions as to how the training institution deals with the ambivalence of upholding the traditional healing culture and the commercialisation trends characteristic of the modern economy.

One thing that has also been evident is the willingness of LTHPs to be trained for and to adopt alternative economic livelihood sustenance activities such as vegetable gardening and bead craftwork. This posits them in the ambivalent situation of, on the one hand, sustaining a traditional health practice culture that abhors commercialisation and on the other, engaging in economic activities for their livelihood sustenance. The traditional health practitioners are therefore trapped between two worlds: the traditional world of their ancestors and the modern market economy driven world.

5.5.3 New legislature versus traditional structures

The Traditional Health Practitioners Act poses a threat to the continued practices of local traditional health practitioners by trying to westernise traditional health practices. As expressed by the institutional researchers, the effort to regulate the practices of THPs through a new compulsory registration process created confusion amongst THPs that are already registered under existing local, regional and national bodies representing traditional health practitioners. It also had the possibility of excluding and criminalising those individual practitioners that are already engaged in the practice and recognised and respected by their communities. Many practitioners and those

who receive a calling could be unaware of the existence of this Act and are therefore not formerly registered. The issue of standardising training also violates traditional methods of training where one has to have a calling and undergo apprenticeship under an established traditional health practitioner who has been selected by the apprentice's ancestors. In standardising training, the Act provides loopholes for opportunistic individuals who under cultural practices would not be accepted as traditional healers to undergo training and claim to be qualified traditional health practitioners. Traditional healers are also challenging the Act on the grounds of lack of consultation and representation and are realising the increased need to form regional and national alliances to enable themselves to speak out (represent themselves) as one unified voice as was expressed by them in a workshop on intellectual property rights.

5.6 Emerging outcomes/developments from the project (anticipated and contingent outcomes)

In educational interactions between the local traditional health practitioners and the community development training institution, both the practitioners and the training institution have undergone some transformations (social morphogenesis), some anticipated and others unexpected. This transformation of both the community development training institution and the local traditional health practitioners' organisation is what Archer (1995) refers to as a double morphogenesis. In transforming the traditional healers the training institution has also been transformed in its adaptations to enable it to work with the healers. What is happening is that the structure and agential relationships of the project are both being transformed. As Archer puts it:

In other words, at the end of a transformational sequence, not only is structure transformed, but so is agency as part and parcel of the same process. As it re-shapes structure, agency is ineluctably reshaping itself, in terms of organization, combination and articulation, in terms of its powers and these in relation to other agents.

(1995, p. 74)

Some of these changes are elaborated below.

5.6.1 Local Traditional Health Practitioners

In accepting to be involved in cultivation of medicinal plants, LTHPs are undergoing a transition by negating cultural norms to embrace and deal with the reality of plant scarcity, with possibility for economic gain through the selling of excess cultivated medicinal plants. This is against a background where harvesting/collecting from the wild is the norm and where plants that are cultivated are culturally/traditionally believed to be less potent medicinally.

There are a number of additional emergent outcomes from the project interaction to the cultivation and conservation priority. These include the following:

- a) There has been a shift in the perceptual representations of 'research' by the LTHP community of practice from a view of research being extractive appropriation to recognising that some research can be of benefit to traditional healers.

- b) In the relationship at the interface between the LTHPs and the modern community development training institution, the LTHPs have realised the strengths of the institution as a recognised and respected entity by other modern institutions. They have in turn been assertive enough to lever this strength for their cause in addressing their broader challenges. This has included their agency requesting the institute to represent them and negotiate on their behalf with private game reserves and farms for animal skins/hides, access to land to harvest plants and also to facilitate their application for land to develop a traditional health centre. This allows agents with a similar representational discourse, Western science, to interact. The healers have also used this relationship to curb the domineering influence of the Department of Health official who was insistent that anything that involved the healers had to be done in his presence. The LTHPs asserted that they were not 'owned' by the Health Department and therefore had a right to have engagements with other stakeholders that were not represented and overseen by the department's officials. In

addition the LTHPs have also used this relationship to seek training for alternative livelihood sustenance such as vegetable gardening and for gaining an understanding of modern perspectives on HIV/AIDS, an aspect that allows them to articulate modern socio-economic and knowledge transformations.

- c) The traditional healers have been enthusiastically taking on all educational/training opportunities availed to them by the community development training institution, more so when the training is accompanied by certification, with a large number of healers attending. The issue of certification for training attended has proved to be very popular with traditional healers. This high valuation and adoption of certification is because it is a Western form of representation that provides for them a window of acceptability into the broader scientific community and thus anchors and enhances their practice. An example is that certification in sustainable harvesting will enable the healers access to private land that they would previously not have been able to access.

- d) The sustainable harvesting training has enabled the traditional healers to realise similarities with some of their traditional methods of sustainable harvesting leading to the revival of these methods. However this traditional conservation knowledge has not been applied in the project showing a bias in favour of Western scientific conservation approaches by the community training institution, which would have made their objective more acceptable to the traditional healers.

5.6.2 Community development training institution

The modern training institution has had to negotiate the uncertainty of medicinal plant cultivation which is a key component of the project's success. Instead of always leading the project, the community development training institution has made strategic efforts to relinquish power to traditional healers, for example, by allowing them to provide the list of plants that would then be

used for the cultivation training. This has been an aspect that the institution has taken up in most decision-making processes around training workshops during consultation meetings. However this attempt at reducing or balancing the power gradient is evidently subtle/superficial and does not impact significantly on the predetermined goals of the project. While the traditional healers were aware of the power wielded by the training institution, they also realised they could have a representational say in decision-making processes in the project. Through this process a fragile rapport and trust has gradually been established. In working with traditional healers, the training institution has accepted and incorporated in the project some of the traditional cultural belief norms/aspects around plant propagation (what is taboo to grow, what makes plants grown permissible for use by traditional healers, i.e. what cultural regulations need to be adhered to). The community development training institution has also adopted the flexi-time engagement routine, an aspect that is typical of traditional meetings, where they have to give allowance for both early and late comers, keeping the former engaged and the latter updated of proceedings.

Overall, the community development training institution is developing itself into a 'knowledge power house' on medicinal plants and traditional health practice, a kind of self-referential representational system which gives it advantage/clout in its interactions with other stakeholders. It is building upon and adding to its already existent Western knowledge base through knowledge from research accounts and its experiences of working with local communities. In other words the constitution of knowledge of the project is inseparable from knowledge about traditional health practice gained from traditional health practitioner through western science research. In this way the community training institution maintains its knowledge hegemony over the traditional health practitioners.

For both the community development training institution and the local traditional health practitioners there are some unexpected outcomes from the project. For instance in a number of instances the community development training institution has been flexible enough to go beyond the project's

mandate on medicinal plant conservation and yield to peripheral or non-project requests from the traditional health practitioners. These included securing skins for the healers from taxidermists within game farms in the vicinity of the project area that are used in healing and in the dress of the traditional healers and aiding the process of securing land from the local municipality for developing a centre for traditional health practice. Interestingly, by securing land for cultivation for healers, the Project is indirectly supporting cultivation of plants by enabling space for their cultivation, thereby providing structures reinforcing the change in culture among healers. In addition, some external training (for example, on HIV/AIDS) by external institutions and researchers has been organised and facilitated by the community development training institution. However, by allowing/accommodating change, the community training institute is in a better position to negotiate for (articulate and implement) its cause against the current context in which traditional healers are operating.

5.7 Conclusion and Recommendations

Social engagements are characterised by power struggles, whether overt or covert. The purpose of this study was to expose the more covert power relations at this interface and make the stakeholders aware of them, in particular hegemonic institutionalised power and its strategies which have a tendency to be normalised (Foucault, 1980a). The Traditional Medicinal Plants Conservation Project reveals the nuanced nature of power/knowledge relations at the interface between modern institutions and local traditional health practitioners. The nature of these relationships, the issues arising from them and emerging developments have resulted in skewed representation power/knowledge effects that favour the modern institutions. With regard to the community training institution, its reliance on Western science discourses has resulted in the prioritising of Western knowledge representations in guiding/influencing the project direction. As a result, the knowledge of local traditional health practitioners has had marginalised representation and minimal application in project activities. With regard to the government department, the Traditional Health Practitioners Act is heavily influenced by

modern health practice and as a result attempts to organise, regularise and standardise traditional health practice according to Western medical norms and gives no representation of the knowledge and voice of traditional health practitioners. The Act is meeting resistance from the traditional health practitioners in question.

However, considering the interactions between the modern training institution and the local traditional health practitioners, what should be borne in mind is the fact that overall the project will benefit the local traditional health practitioners despite the skewed power relations and the participation of LTHPs being socially engineered. The community development training institution's intervention is well intended, but its institutionalised power/knowledge influences are still evident in the skewed representational politics of the project. It is evident that efforts are being made by the community development training institution to mediate/negotiate the unequal power/knowledge relations in favour of the local traditional health practitioners to enable a more balanced dialogic process of engagement. However, the hegemony of modern institutions is still evident in the control of the project as is the representation and role of institutional knowledge. Since this project is ongoing, it is impossible to conclude how these power/knowledge relationships will eventually play out. An active and reflexive analysis of these power/knowledge relationships by the community development institution would enhance this interrelationship between the modern institution and the traditional healer community. There is need for continued efforts by the modern community development institution to even out the power/knowledge playing field and to be more inclusive of the traditional health practitioners through increased representation and application of their knowledge.

Despite the skewed power relations there is evidence of emerging representational agency among local traditional health practitioners. This has been through their mobilising the institution to negotiate on their behalf to gain access to plants on private land, to acquire land from the municipality and to acquire skins from private game reserves. This has also come through in their resistance to and mobilisation to exclude the government official from project

activities and deliberations. The healers also show agency in acquiring certified training which provides them with a symbolic representational tool that enables them to negotiate in a western knowledge dominated environment.

Based on my analysis, there is a need for vigilance against power/knowledge blind spots and institutional hegemonies that tend to be normalised in relationships between modern institutions and local communities. Reflecting on this, I recommend the following to enhance the project activities:

- i) *The Power/Knowledge nexus*: There is need for continued vigilance and reflexivity on power/knowledge representational relationships by both the Traditional Medicinal Plants Conservation Project and the LTHP community. There is minimal use of local traditional health practitioner knowledge evident in the project despite the project working in partnership with them. Whilst on one hand there is the need to realise the sacredness of traditional knowledge on herbal remedies, this is not the only area of knowledge that traditional health practitioners can possibly contribute. Other areas include traditional conservation practices, knowledge of plant habitats and cultural norms in harvesting medicinal plants.
- ii) *Cultivation training*: Training has mainly targeted traditional health practitioners. However, their use and harvesting of medicinal plants is not in bulk commercial quantities used by traders, whose practices threaten medicinal plant availability. The LTHPs harvest and use these plants according to specific callings and patients' needs. Traders on the other hand harvest in bulk for sell for profit in local markets. To be effective, the project needs to target traders who are the main source of threat to the sustenance of medicinal plants and to traditional health practice. The issue of traders is a shared concern between the community development training institution and the LTHPs and could form the basis for cooperative efforts to bring the traders into the project.

- iii) *Long-term outcomes versus short-term outcomes of cultivation:* While realising the long-term nature of the project there is need to look into short or intermediate term benefits or alternative livelihood sustenance for the traditional health practitioners engaged in the project if they are to remain interested.
- iv) *Commercialisation of herbal remedies versus traditional healer cultural adherence:* This issue is a challenge that could lead to an impasse or open up to productive initiatives. Areas of contestation are also possible areas of opportunity. The commercialisation of herbal remedies is apparently already taking place. If this is taken up the main problem is how to ensure the traditional health practitioners will benefit from their knowledge in a context of rapid appropriation of herbal remedies and conversion into commercial products with economic benefit for the few.
- v) *Legislature – the Traditional Health Practitioners Act:* It is evident that the Act is being contested by traditional health practitioners. There is need to create an enabling platform for dialogue between policy makers and traditional health practitioners.
- vi) *Changing land-use patterns:* The Eastern Cape is experiencing rapid transformation of farmland into private game reserves. This shift in land-use patterns places limitations on accessibility of natural vegetation that was previously more accessible to the traditional healers. Accessibility of these farming areas therefore needs to be negotiated with the new owners on behalf of the traditional health practitioners in order to maintain continued sustainable harvesting of natural vegetation which is the source of medicinal plants.
- vii) *Opening up possibilities:* The project can be a platform for opportunities for interaction, interchange and learning among related projects and innovations, researchers and research institutions. Here there is need for recognition of the agency of LTHPs and co-engaged meaning-making potential.

- viii) *The Centre*: The Traditional Medicinal Plants Conservation Project Centre can be more than a living classroom on cultivation of indigenous plants. It can also serve as a live *ex situ* demonstration of the diversity of medicinal plants in the Eastern Cape Province, that is as a living collection of traditional medicinal plant culture.

Chapter 6 is the second case study in second phase of the research focusing on indigenous knowledge representations and applications in the generation of a cultural plant poster and its mobilisation in environmental education processes in formal education contexts.

CHAPTER 6:

A CASE STUDY OF THE GENESIS AND USE OF A CULTURAL PLANTS POSTER

6.1 Introduction

This is the second case study in Phase Two (2) of the research. It comprises two interlinked parts that are each undertaken in a different location: i) the research into the cultural plant use by a local community and its representation as a cultural plant poster; and ii) the mobilisation of the cultural plant poster in environmental education processes in formal education contexts. Since the two are intertwined I have not separated them into two distinct sections but have merged them into one case study.

The cultural plants project evolved from university-based research into natural resource use by local communities in the Eastern Cape Province. The main objectives of this project were to assess natural resource use patterns by local communities and their impact on the indigenous flora and to determine which plant species are of particular concern and thus under threat. In analysing the use of plant resources the researchers realised that a significant proportion of these plants were used for cultural rather than merely utilitarian purposes as one of the researchers (R1) states in an interview:

...first of all we got funding to conduct like household surveys to record natural resource use in the former Ciskei area, and we chose, ah, six villages...two in, ah, three different vegetation types. And then when we analyzed that data we sort of realized how much of the resource material being collected is used for cultural purposes.

The researcher also realised in related but subsequent research in urban areas that cultural plant uses were prevalent even in urban contexts:

After I completed the rural survey we did two urban centres, King William's Town and East London. There were about 305 households and also there was not one household that didn't use natural resources [for cultural purposes].

This prompted them to draw attention to the cultural significance of plant

biodiversity. An exhibition was held at a national festival with the aim of raising awareness on cultural use of plants. The funders of the project however felt there was a need to go beyond this exhibition as reflected in the following interview statements from one of the researchers (R1):

...they thought we were partly targeting the wrong audience because they thought the festival was very elite...So that's when they said no we need to like have a two-pronged approach. They will give us money for the exhibition but then we must give something back to the communities [from which the study was undertaken].

A poster (a symbolic representation of indigenous knowledge and practices) was then developed from this project as one of the outcomes for use in environmental education processes. I have investigated the power/knowledge relations embedded in the genesis of the poster, and in its applications beyond the community of origin using Foucauldian genealogical analysis.

6.2 Representation of Indigenous Knowledge in the poster

The poster referred to in this study is entitled "*amabali ngabantu nemithi*", literally meaning "stories about people and plants". This title, though catchy, is quite general and misleading in that it misses what I perceive to be its intended point of focusing specifically on the cultural importance of plants. It is also decontextualised in that it does not directly indicate the geographic context from which the cultural plants symbolically represented in the poster are from except in captions to the photographs. However one of the designers/educators (D1) feels this ambiguity in the title of the poster might be useful educationally: "But in a way you need that because you want to encourage more stories depending on what you want to use it for". The above statement reflects the educational approach that the designer/educator is advocating - the use of the poster to stimulate the participations of learners through bringing in their own stories from the local context.

In the poster, the isiXhosa plant names and isiXhosa phrases on cultural uses are given together with the botanical plant names and English translations of the cultural plant uses. Photographs of the plants used are given, though,

interestingly, the focus is on the reproductive parts of the plants, an aspect that makes them easily identifiable by Western-trained botanists/plant taxonomist but difficult to identify by the local person who is used to seeing the plant as a whole. This is indicative of the Western science bias/slant of the researcher/photographer. In addition, unlike many anthropological representations, the identities of the individuals demonstrating the different plant uses are given. However, the central image in the poster depicting women selling indigenous (cultural/medicinal) plant products is not given a caption.

The poster gives no detailed description or explanation from the local people as to the cultural uses represented, that is the 'how' (the process), 'why' (the purpose/reason) and 'when' (the temporal context). The isiXhosa phrases briefly describe the depicted process such as ritual washing '*ukuhlamba ngeyeza*'. This therefore limits the use of the poster for educational purposes to mainly the local context where people are acquainted to the activities and can identify with and relate to the cultural practices represented. The poster is also not comprehensively representative of cultural plant uses among the studied communities. In reality all plants used by local people, whether utilitarian or non-utilitarian are of significance to their local culture. The focus of the poster is on cultural plants that are traditionally considered medicinal even though their use is spiritual (such as getting rid of evil spells - '*ukugcotha umoya omdaka*'), which differs from an emphasis on the physical treatment of ailments that is dominant from a Western point of view. One of the researchers says of these plants "*they actually aren't really medicinal as we define the word medicinal*". A more relevant title to the poster would have been '**amayeza esiXhosa**' meaning Xhosa traditional medicinal plants.

6.3 Perspectives/opinions on the representation and application of Indigenous Knowledge in the poster

6.3.1 Researchers' perspectives/opinions on the representation and application of Indigenous Knowledge in the poster

Reflecting back on the development of the poster, one of the researchers (R2) stated in an interview:

We had an exhibition; you saw the exhibition [referring to me]. You saw it was very successful, but it's just a block in town, on the calendar it was 2005, June 2005, qha'! Gcithi![only! finish!] Its over! So what we needed to do was to build in something that has life... So we invited...[people from the education department] to take this thing [the information from the exhibition and the study], and to build on it and create something that can be used as a tool to educate...in exactly this concept about culture and the environment.

From the researchers' point of view, the poster has an educational purpose, mainly that there is need to raise awareness on the benefits of conserving culturally useful plants to local communities. As the same researcher (R2) put it in an interview:

So in other words what we are saying to people, and actually very strongly about it, is that for years and years, since the beginning of time, nature conservation has been perceived by people in South Africa as police, as policemen. They are the same thing. Nature conservation is policemen, and policemen is nature conservation. People are scared of them, they've got a bad reputation, they don't like them because they're considered people with guns and big sticks and handcuffs. We have to change that paradigm, we've got to shift that paradigm, we've got to teach people that conservation is actually for their own benefit, not the state that comes with the stick and says you mustn't use that plant, you mustn't chop that tree down. People must think for themselves and say why mustn't I chop that tree down so that the whole country - farming people living in villages to town - have a better concept, a better understanding of what conservation is because obviously its very important, its like chopping your own feet and say oh but...now I can't walk.

While it is clear that the aim is conservation, the suggested approach is community engagement/participation that is driven by the need to ensure sustenance of the local communities' own cultural practices. However, this is

a message coming from a scientific institution, an institutional intervention to create awareness and foster change that is defining the course of a community agency but that does not take into consideration possible conservation knowledge and practices (application) in the communities in question. In other words, the local community has been used as “simply the source of raw data for academic theorising elsewhere” (Dei et al., 2002, p. 16). This is further emphasised in the following interview statement from the same researcher:

Now, if you turn to cultural plants, plants that people use for cultural purposes, and you say to people: ‘Do you want your children, do you want your son to go to the bush’ [a Xhosa initiation ceremony for boys into adulthood through circumcision], they say ‘yah, yah for sure, absolutely’. Then you say to them ‘but if your son goes to the bush he’s gotta have *isinquma* for rituals, gotta have those things, and your grandchildren his grandchildren and in the future...if we use up those things now, if we finish them, they won’t be able to do that in the way you are doing it now. In other words your culture, your rituals, your spiritual functions will fall away, yeah. And then people think ‘yoh!’ Then they sit back and they think ‘yoh, *unyanisile*, but he’s talking, making sense, its true what he says. We think it’s a useful tool.

Here it is evident that it is the researcher bringing the awareness to the local people of the need for conservation. The change from earlier conservation approaches is therefore that, instead of imposing legal constraints, a more subtle means of self-control is deployed in educational activities by modern scientific institutions, what Foucault refers to as ‘techniques of government’ (Foucault, 1991). These new techniques of government (in this self-governance) are premised on the negotiated engagement with local communities to make them ‘see the trees from the wood’, drawing from their own local practices.

The researcher’s goal and the instrumental educational implications of the cultural use of plants represented in the poster are made clear in this interview statement:

...for us we think it’s useful, it’s just a tool, that’s not to say we gonna change the pace of the earth, not to say we that’s the only way to do it. But its just one way we think we can sell conservation. People wanna understand things. They don’t wanna be told ‘you mustn’t use that otherwise *ndizokubetha!*’ They don’t wanna hear that. If you go to

people and say 'its fine you can use it but use it carefully, use it wisely because your children's children also want to use it', then I think people will understand, they will understand better and they will conserve things. And my point of view as a botanist, as a biologist is I wanna conserve plants.

This statement reflects the researcher's limiting focus on plant conservation, as an object to be sold through self-governing strategies. However, in employing the cultural use of plants for this conservation end, the researcher is also indirectly broadening this focus to include conservation of local culture.

Both researchers had some scepticism about the educational impact of the poster. Researcher 1 commented in an interview with regard to the use of the poster for giving back to the communities in which the research was undertaken that:

But I mean we, you know...we thought like 'they know this stuff, you know, what the point really? So that's why we decided to change the format to not take the format of the exhibition but rather do like an interactive poster ...this is like second nature to them...OK, the education, you know the conservation part of it, obviously we feel that's vey important. But you go, 'oh, you use this plant and you use that plant'. I think it's a bit silly, haha, it's not very important to have that kind of feedback.

From the above comment it is evident that the poster is considered by the researcher a suitable alternative format for dissemination of cultural plant use information back to the local communities that were engaged in the research. However, the researcher still feels dissemination of such information back to these communities defies reason as the knowledge originated from them. What is evident here is the researcher speaking (making a judgement/decision) on behalf of the community and not seeking/eliciting a response from the local communities themselves, not allowing them their own voice. However, she could be right in her opinion, as bringing back the symbolic representation of local cultural practice is like saying to the community: "Look, here is what we found out about you!", to which to community can be expected to retort back: "Oh yeah, so what?". What this reflects is the characteristic way modern institutions operate, where through research they become privy to the knowledge of local communities while on

the other hand the local communities have no access to the institutional knowledge capital. Thus modern institutions grow and establish themselves through accumulating a knowledge capital base derived from various interactions with local communities.

The other researcher (R2) had the following to say about the poster in an interview:

And we were putting it up [the poster] in the foyer of the library. People were coming in, it was a week day, was Tuesday morning. So there were adults who were without jobs and they'd just come to read books and the newspapers and magazines and so on. When coming in they stopped, one by one they're coming and they stopped and looked, shu man!, they understood the message, they understood the content, but ah, what can I say? Not, I don't think enough! So they'll look at it, and they'll check through it, and they'll understand it, and they would walk away and discard everything.

It appears to me that the researcher expected a particular response to come from the local people, presumably a concern and agency for plant conservation. I do not know whether the symbolic representation of one's culture would elicit/draw much from them other than a fascination of "so this is how scientists see and think about us" (as the represented other).

The same researcher goes on to say:

Eh, I must admit, to be quite honest, you know, and I don't mean no disrespect to the [education] department, but I must admit I don't think it has been as successful as we hoped 'cause it's a picture, that's all it is. People walk past it, look at it, they will walk past it and immediately they have forgotten.

This appears to be an imposition of expected behaviour on behalf of those local community people that view the poster which undermines their ability to have developed for themselves an agency towards conserving these plants. It reflects a perception that without the intervention of science no initiative is to be expected from the local communities.

Prompted as to what he would suggest as an effective educational approach the researcher said:

The machinery of learning, of true learning, is to involve people. That Confucius, that man, that famous Chinese philosopher, he will say, he said that if you want to make somebody to learn you got to involve them. They've got to feel it, that is they've got to smell it, they've got to taste it, that way they will learn. That's you get all senses: touch and feel and smell and taste and sight. And if you are bombarded with a message at all those levels, touch and smell and sight and hearing then we learn...if you can develop a tool that sells information or sells that message on all those levels then you won it.

The researcher is therefore suggesting experiential learning as the best educational approach. The researcher also proposed that nationwide environmental education awareness campaigns through such media as the radio and television are more effective. Also the researcher's idea of "selling" reflects a socially engineered education process that aims to convey a particular message in order to elicit a specific expected response from the learners/audience.

6.3.2 Designers'/educators' perspectives/opinions on the representation and application of Indigenous Knowledge in the poster

The designers claim that the aim for developing the poster was to make it an interactive educational tool for use in school contexts. Speaking on this one of the designers (D1) said in an interview:

They approached us 'cause they wanted to develop something educational from the materials...the photographs and the research, I think they wanted to integrate the research...in a visual way with the photographs that they had taken... They wanted to develop materials that could be used in schools...I think they did specifically say schools...We thought it would be nice to have an interactive tool for learners to come with their own stories... about other plants and similar stories and they could do like a comparative thing.

However, designers of the poster express that the poster was not considered by them as a completed educational project and that, funds permitting, they would have developed supporting resources to make the poster more interactive and effective. As the designer (D1) explains:

On the back of the poster we wanted to put some ideas for educational uses but we didn't actually get that far...We wanted to encourage people to bring their own pictures and to even stick them on a full size poster.

One of the designers (D2) stated in an interview that:

[The researcher] kind of like had it, from a scientific background, he had a strong sense of wanting to, kind of like make people aware and pick up on the cultural importance of the plants so that people would conserve them, cause the plant were disappearing. He wanted people to use the posters to kind of like start a community engagement that would conserve these plants. What the environmental education unit, in discussion with [the other designer] was more than having an impact in terms of saving plants to providing or to partnering with the project so that more posters could be produced and then they could be taken into the SANBI project [the Greening of the Nation Programme for schools] and they might have school education benefits. So in other words the story that was represented might lead to children being able to go out and find out about plants in their local area.

In developing the poster the same designer stated that the approach was:

...if you show people a story then it allows them the space for them to bring to bring their stories in to the situation. So that why we went for a perspective which was to look at the person, the place and the plant so that the person was telling a story about the plant and its place and then that this was potentially modelling the story that, you know the space for children to tell their story....The sense that I had is that the carriers of the information the information were the people, so it was quite important to see that and to put that in front of the knowledge output. So the people are still the sharers would lead to people sharing stories and the information that they had they had [the researchers] was kind of like coming through but it was coming through the people rather than being brought back to the people.

This reflects that the designer believes in the representation of people's own contextualised local narratives, that is in creating space for indigenous representation.

On the lack of explanatory text in the poster the designer claimed:

So the [other designer] only then got money to do the picture, she wasn't able to write and compile any text in relation to the picture. You know the logical thing would have been to carry the picture back and then say to people OK this is the story you told...and my perspective would be that one wants to try to get a balance of: people have stories to tell, these become represented, but the representation mustn't displace the teller. So we needed modes of representation that the teller was foregrounded and it was inviting for more tales to be told. But of course institutions don't think like that. Institutions tend to, they get research funding that tends to belong to the institution and be brought back to the people.

The designer/educator (D2) further claims that:

But it never happened that the people's voices were put in front of the pictures. So you know it was kind of to me a project that never happened.

However, the poster designers/educators were optimistic about its use/application within and beyond the communities from which it (the poster) originated. This shows they perceived a role beyond the Western science symbolic representation.

On approaches to education the designer (D2) states that:

A biological scientist sees *impepho* as an important plant that is being lost in an area and people see it as a plant that is important for incense in terms of feeling comfortable so that when you take those ideas you can see that a collector of incense would see the plant in this way, a scientist looking at biodiversity loss would see the plant in that way. So the education question is how do you bring both ways together, you know, rather than how do you take the story back to the people so that they change their behaviour.

This reflects ambivalence over how to bring together Western and indigenous knowledge representations in educational processes.

When asked how the designer felt about the comment from one of the researchers that giving back information on plants obtained from a community will not be worthwhile as they already know about it the reply was:

I would have said ...if you're looking at bringing knowledge to people then it's stupid, but if you're looking at bringing stories of holders of knowledge that has been represented in a project back to people then it's not stupid, because what you're doing is you're acknowledging the knowledgeable and you are bringing back the representation... Now I think there's lots of evidence, educational evidence, that when knowledge representations are valued and represented in a form that says you are recognized for your knowledge then what that does is one small step towards a kind of like a redress for marginalization... So what its doing is taking back a representation. And then educationally we know that knowledge is not distributed evenly. I mean everyone doesn't necessarily have this knowledge, particularly people in town. So what happens is that the representation becomes a tool for acknowledgement and representational interchange in a community.

This reflects the educational philosophy of the designer influencing the representation in the poster and the perceived educational application.

With regard to the two researchers' comments, the designer/educationist (D2) concludes:

[One researcher]'s concern, he was really very excited by the knowledge and that's what he wanted everyone to have and [the other researcher] as sociologist is sort of saying but if people have got the knowledge it's silly to bring it back to them. I would dispute both, 'cause I will say education is not that simple, you know educationally it's not about knowledge, it's kind of like about the construction of knowledge... I think that with any form of representation is that there are multiple readings...knowledge is constantly being reconstituted...Educationally I see this as a representation that can be taken back and used in a way that is to exemplify and recognise the knowledge value of the story teller and invites other stories to be told, you know, I would say that the educational potential wasn't really unlocked for a project like this.

6.3.3 Participating local communities' perspectives/opinions on the representation and application of Indigenous Knowledge in the poster

Contrary to the above perceptions of researchers on how the local communities that participated in the research would perceive the poster, most respondents from the community were enthusiastic about it, about their appearing on the poster and about sharing their culture in a broader social and geographical context. It was a revaluing and appreciation/acknowledgement of their culture - a recognition of cultural practices of local people. This came through in interview statements from community participants.

In interviews, the local community members confirmed the cultural importance of plants in their lives and most participants revealed their vast knowledge of cultural plants. However they also lament the lack of knowledge of these cultural activities among the youth within the community as reflected by one participant (P1):

Siyibona intle lento yokuba abantu bazifunde ezanto zokhokho bethu, kuba zizinto zokhokho bethu ezi...Sisazigcinile ngoba abantwana bayayekela...Uyabona ke thina siyahamba ngoku ngoku sibandala...Siyemka bengazinto.

This translates to:

We see this thing good that people should learn about those things [cultural use of plants] from our ancestors, because they are practices of our ancestors...We still do them but our children have ceased to do them...You see we are passing on because we are old. We will go with that knowledge.

This reflects concern about the continued representation of local culture.

The participant further elaborates on the possible role of the poster as follows:

Lizakubanceda, eliphepha lizakubanceda nabo...ngoba abantu nakuthi ngokhu...abantu abadala baphelile, abakawazi ukubonisa leziyanto zokuqaba...Abaninzi ngokwezinto ebesizenza bayaziyeka ngoba abazazi...Abazazi kantike ziluncedo emXhoseni...Lisiko kuthi.

This translates as:

This [poster] will help them, this paper will help them too...because people among us...elderly people are all gone, who can show them these things used to apply traditional cosmetics to one's face...Many people have stopped doing what we are seen doing [in the poster] because they do not know how to....they do not know yet they are helpful to a Xhosa person...its our culture.

Reflected here is the possible appropriation of the poster, a new Westernised symbolic medium of representation, by the local community to sustain the intergenerational transfer and continuity of the cultural practice.

The participant commended the pictorial representation in the poster and its educational role even for people who are illiterate (in English and even in Xhosa). She also expressed the value of being able to identify people representing their culture in the poster:

Uyabona uba lingabeki isiXhosa bayabona, uyabona bayatya...ngubanani lobani, tshini, kwenziwa isiko elithile apha uyabona, ngumtshado, mgungidi.

This translates to:

You see, even if you do not put in Xhosa explanations, they can see, you can see people are eating...this is so and so, hey, they are performing this cultural aspect here, it's a wedding, it's a dance ceremony.

In seeing herself in the poster one participant (P2) expressed:

Ndiziva ndivuya, ndinovuyo.

This translates to:

I feel happy, I am happy [to see myself].

This indicates the significance to the local community people of being recognised/acknowledged for contributing to the poster. It is now a story that can be shared with other community members. In addition to recognition, the representation of the community culture in the poster enabled the community members to look in a detached way at their cultural practices which would otherwise be invisible within their involvement in everyday livelihood practices. This then allowed them to re-look and re-value their own cultural practices. This also indicates the emerging community agency to sustain their culture by appropriating conventional westernised knowledge.

6.4 Environmental education applications of the cultural plants poster

A group of educators have taken up the poster for use in formal education settings in the Eastern Cape Province. This mobilisation of indigenous plant knowledge emphasised relating it to indigenous plant gardens established in their schools by the South African National Biodiversity Institute under the Greening of the Nation Programme. While the focus of the poster has been on cultural medicinal plants, the educators have broadened/expanded the cultural use of plants into other cultural aspects such as food plants (wild leafy vegetables or *imifino*). The application spanned two subject learning areas, namely Natural Sciences and Life Orientation.

Educator 1 used the poster to introduce the use of indigenous plants as food, specifically wild leafy vegetables (*imifino*), as a community livelihood sustenance strategy within the Life Orientation skills subject area. In doing this she developed her own story about how an old woman relied on wild leafy

vegetables as food. She then sent the learners to research these wild leafy vegetables in the community and to bring their findings for a class discussion. Following this she invited elderly women from the village to assist students to identify *imifino* in the local environment and to demonstrate how to prepare *imifino* for food.

Educator 2 used the poster to broaden the learners' knowledge on local plant use within the Life Orientation subject area. Learners were asked to go out and research within the community what plants were used for what purpose and to bring this together with samples or photographs into class for the creation of a chart on plant use. The learners were then invited to contribute to the school's indigenous plants garden by collecting seeds and adding these plants to the garden. The educator then invited local community elders to identify the plants in the garden and discuss their uses. These local plant names and uses were then used to develop laminated labels for the plants that enabled the garden to be accessible to students and teachers for use as a living classroom.

Educator 3 used the poster in the Natural Sciences subject area to teach biodiversity. Learners were asked research a local plant of their own choice and find out about it from the local community. This information was used in the classroom to show the diversity in plant species/names, growth habits, uses, distribution and adaptation. The educator used this as a demonstration lesson for other teachers. Following this the educators brainstormed possible lessons that could be developed around biodiversity. The other educators then developed their own independent lesson plans. The lesson plans were compiled into a booklet that would be used in the school for biodiversity education.

Overall, the educators found the poster to be an education tool that enabled them to transcend the limitation of formalised textbook knowledge and to draw on the local community as a resource for learning processes. This engagement of the local community in learning processes established a necessary link between school and community.

6.5 Power/knowledge relationships in the cultural plant use project

The cultural plants poster demonstrates the process of abstraction that characterises modern scientific institutions. It is an outcome of a scientific research processes that singles out, extracts and codifies local knowledge, transforming it into a re-orientated perspective and a new knowing emerging from science in which indigenous people associated with it have little part (O'Donoghue, 2002). O'Donoghue points out that:

Scientific ways of mobilising the world developed detaching methods for ensuring the greatest possible certainty of ideas. Research methods make a point of not acknowledging what people think or claim to know, the culture of scientific enquiry requiring that this be reformulated as an hypothesis to be tested in ingenious ways where researchers count, measure and build theory to explain how the world works.
(p. 39)

It is from this reoriented perspective that science then proceeds to make decisions that affect the local communities in question. Scientific institutions are able, through their technologies/instruments of surveillance (observation and examination), to extract knowledge from local communities, transform it and then use this to compare, hierarchise, organize, control and regulate society (Foucault,1995).

From the researchers' point of view, the key educational role of the poster is to raise conservation awareness by manipulating/foregrounding the cultural value of plants as a strategy/trump-card for developing conservation agency within local communities. However, while this is a well intended outcome that will benefit the local communities, it is a socially engineered approach that does not take cognisance of the possibility of the existence of a conservation ethic amongst the local communities. Instead, community members are voiceless subjects to be prompted into conservation action by the modern scientific institution as the key agency for social change. This is therefore a kind of instrumentalism in which local communities are reduced to a means to meet the modern researcher/institution's conservation ends, all this taking

place under the rhetoric of participation (Murombedzi, 2003; O'Donoghue, 2005). However, the ends also serve to sustain the cultures of the local communities.

The researchers displayed a modern institution tendency to make decisions for local communities through representations of them and their practices in relation to institutional concerns transferred to them as reflected above. This is also evident in the position/decision that bringing back to local communities knowledge generated during research interactions would be a futile exercise of telling them what they already knew. In making such a judgement, no consultation was made as to whether local communities concurred with this view.

It is also apparent that there is a difference in educational philosophies/perspectives of the researchers and the poster designers/educators. The former perceive education from a scientific conservation point of view and have a belief in top-down approaches that are institutionally derived, driven and regulated/controlled. The latter however feel strongly about giving voices to marginalised communities and encouraging active participation that draws from the communities' knowledge. This latter perspective subverts the power relationships between local communities and modern scientific or governing institutions that are often characterised by the dominance of the latter which usually imposed decisions and direction on the local communities. These different perceptions are based on institutional/disciplinary conditioning that normalises certain perceptions of local communities among affiliated researchers/staff.

A common emergent aspect in the mobilisation of the cultural plant poster for environmental education purposes is the engagement of the local community. This has been achieved through asking students to research/investigate and bring in plant knowledge from the community or by inviting local community members to identify the plants or demonstrate some use of the indigenous plants. In the process local stories became mobilised into educational processes. This community reference and engagement was found to be a

new or unusual approach to education by the educators as they reflected on how they felt had been normalised to rely on textbook knowledge as the main source of information for educational purposes. Besides bringing respect for local community knowledge and acknowledgement of holders of that knowledge, it also reflects a process of making educational activities relevant to the local context by recontextualising educational processes. Overall it enables the establishment of a school/community relationship that draws in the involvement of the local community that was previously marginalised and excluded in formal education processes. This overturns the power/knowledge gradient that makes schools isolated islands within local contexts and 'zones of cultural depression' (Lizop, 1997) through the normalised hegemony of Western knowledge and modes education, alienating and invalidating local knowledges and excluding local community participation in the education of their children. Also overturned is the power/knowledge relationship in which the teacher is the provider of all knowledge that is characteristic of formal school education contexts. Here the students are bringing in their own knowledge into the learning processes, stimulated by the teacher, and the authority of this knowledge now lies within the community instead of in formally trained educators. This process therefore ruptures the norms, codes and routines of formal schooling and enables the situating of educational activities within the broader social context.

The use of the poster as a story to stimulate learners' stories is evident in the educational activities arising from the poster. In this process previously excluded local narratives are given space within environmental education processes. This enables learners and educators to appreciate the value of indigenous knowledge, an aspect that has been excluded and marginalised in formal education settings. Lynette Masuku in her master's thesis study similarly used an indigenous Zulu story on 'sweet water' to encourage learners to investigate indigenous knowledge and practices within their own communities and to bring these stories into the formal learning context (Masuku, 1999). She noted how formal education usually discouraged students from bringing in indigenous stories into formal learning processes.

6.6 Conclusion

This case study reveals the nuanced nature in which power relations play out at the interface between local communities and modern research/development and education institutions. It shows how power circulates among the different stakeholders producing different forms of subjectivity as individuals submit to and exercise it (Foucault, 1980b). This subjectivity is expressed in the ambivalence of the researchers who, on one hand, recognise the cultural significance of plants in local communities and on the other hand, approach its application in conservation in ways which characterise the hegemonic ways modern institutions work to redefine and redirect and control the social lives of local communities. It is also expressed in the way local community members ambivalently accept themselves as the 'represented other' and at the same time recognise and revalue their own cultural practices and are able re-appropriate the westernised symbolic representation of their culture as a tool to educate the children of their own culture.

The influence of modern institutions in shaping and determining individual agency is also evident. There are notable differences in educational approaches among stakeholders in the project. The poster designers and educators perceptions have been shaped/influenced by current trends in environmental education which foster active participation of learners and the need to address issues of equity and representation. Those of the researchers have been influenced by the boundaries/limitations of scientific institutions (norms, codes, routines) to which they belong, in which science provides the answers to environmental problems rather than collective decision-making processes that draw from both modern science and local knowledges (see Chapter 4). However, a notable feature in this project was the ability of the researchers to begin to break away from an institutionalised mould by going beyond the constraints of their mandated institutional task (to assess natural resource use by local communities) to realise and focus on an emergent aspect of the study (the cultural use of plants). In this way, through their individual agency, they have engaged themselves and others in learning

interactions that have brought attention to local knowledge practices that would have otherwise gone unnoticed.

Overall, what is evident in this case study is that indigenous knowledge is still to large extent represented by modern scientific institutions: a representation of the other. This represented knowledge is finding its application in conservation awareness and environmental education contexts. In this indigenous knowledge application, the key question to ask is then not how the knowledge is represented, rather who uses this representation (generated in institutional interactions with local communities) for what purpose? With regard to indigenous knowledge application for conservation awareness purposes, most of this is driven by the researcher and the related modern institution rather than the local community, indicating the skewed balance of power relations that support the institution's intended purposes. The community-derived knowledge, albeit now symbolically represented in a transformed form, is used for a 'common good' which benefits the researchers and their related scientific institution, the community and the country at large. In this way the scientific institution's appropriation of indigenous knowledge bears similarities to earlier knowledge appropriations that were justified as 'for the good of mankind'. In the case of the environmental education applications, the approaches rupture the institutionalised norm of formal education processes. They set into motion a dynamism that inverts the power/knowledge relations (between the educator and the learner, and between the school and the community) and creates an enabling environment for the inclusion of marginalised and excluded narratives, thereby balancing the power/knowledge gradient by giving voice and agency to local communities in formal education settings. A similar process was observed by Asafo Adjei (2004) in his mobilisation of indigenous agricultural knowledge in the curriculum.

What this case study indicates is the need for us to remain conscious that we are conditioned by the theoretical systems and institutions of which we are a part and the type of episteme in which we are inscribed, which are in turn linked to power relations (Varela, 2001). It reveals how modern institutions

work and draws attention to the need to broaden our horizons beyond the confines to which we have been institutionally normalised by critically reflecting on our practices and their impacts. Foucauldian genealogy has provided a window through which we can begin to question institutional practices by revealing the underlying power/knowledge relationships and their impacts on local communities with which we interact.

CHAPTER 7: SYNTHESIS, REFLECTIONS, CONCLUSION AND RECOMMENDATIONS

Dominations and inequalities of power and wealth are perennial facts of human society.

(Said, 1994, p. 20)

In order for the oppressed to be able to wage the struggle for their liberation, they must perceive the reality of oppression not as a closed world from which there is no exit but as a limiting situation which they can transform.

(Freire, 2007, p. 49)

7.1 Knitting the pieces: Summary of findings

This section aims to provide a bird's-eye view of the study, mapping it out and highlighting some key aspects and possible implications for environment education and development contexts.

7.1.1 Contextualising indigenous knowledge representation and application

This study was an analysis of how indigenous knowledge has been **represented** and **applied** within selected environmental education and community development contexts. Historically southern Africa is a region that is recently emerging from a long period of colonial imposition and domination. Our history is therefore intricately intertwined with the history of the coloniser and cannot be separated from it. Edward Said points out that:

...even as we fully comprehend the pastness of the past, there is no just way in which the past can be quarantined from the present. Past and present inform each other, each implies the other... each co-exists with the other.

(1994, p. 2)

In this study we see the evidence of this intertwined history in the forms of indigenous knowledge representation over time (Chapter 2 and Chapter 4). Linked to the colonial era are images of local communities as primitive (Palgrave, 1977; Lee, 1979; Rodin, 1985) compared to the colonising settler

communities. In the early representations of the pre-independent era local communities are the silent represented other, whose knowledge is appropriated and represented under the mediating hand of science for the 'good of science/humankind' (Watt & Beyer-Brandwijk, 1962; Wild, 1972). This image continues into the post-colonial era where indigenous communities are still portrayed as the represented other in some of the texts studied (Van Wyk & Gericke, 2000; Cocks, 2006b). However, in the post-independent era (1980s and beyond) we begin to see the emergence of indigenous voices through indigenous authors that re-appropriate and apply local knowledges (Shava, 2000; Asafo-Adjei, 2004).

It is essential that indigenous people realise that colonialism does not end with independence. Its effects are still deeply embedded and normalised within our institutional structures and systems in our societies. This is evidenced in the way institutions influence the discourse of post-independent authors, an example being my book on *Tales of Indigenous Trees of Zimbabwe* where, while the book concerns indigenous narratives, the taxonomical hierarchy gives priority to modern taxonomic nomenclature and where there is ambivalence over the use of indigenous myths, showing a bias towards validation by modern science (botany). A similar influence is evident in the post-independence work of Cocks (2006b) in the Eastern Cape of South Africa where local cultural plant knowledge is transformed into anthropological discourse through various institutional representation strategies such as categorisation, linguistic and taxonomic hierarchisation and statistical validation. This process displaces (silences) local voices. Van Wyk & Gericke's *People's Plants* (2000), a publication in post-independence South Africa, is an appropriation of how local communities use plants that categorises, hierarchises and scientises this knowledge for the 'benefit of humankind' and silences local voices.

This continuing colonial influence in the post-colonial era has led one indigenous activist, Bobby Sykes to remark on the use of the term post-colonialism "What? Post-colonialism? Have they left?" at an academic conference on post-colonialism (quoted in Smith, 1999, p. 24). This reflects

that, as Smith puts it: "Naming the world 'post-colonial' is, from indigenous perspectives, to name colonialism as finished business." (1999, p. 98). These remarks allude to the fact that colonisation is still existent, albeit in normalised, more nuanced, less evident and non-obtrusive ways through institutional strategies of knowledge representation. Speaking on the resilience of colonial systems, Edward Said contends:

This [colonialism/imperialism] is the residuum of a dense, interesting history that is paradoxically global and local at the same time, and it is also a sign of how the imperial past lives on, arousing argument and counter-argument with surprising intensity.

(1994, p. 22)

Decolonisation is (and should therefore be viewed as) a continuing and continuous process. This points to a need to continue that militant march by decolonising the institutional structures and systems that were set up in the colonial era and are still maintained today. We see evidence of this decolonisation of institutional structures in the increasing emphasis on indigenous knowledge representation and application revealed in this study (see Chapter 2). Examples are also evident in the educational application of indigenous agricultural knowledge (Asafo Adjei, 2004 in Chapter 4) and in the application of the cultural plants poster by educators in formal education contexts (Chapter 6).

There is a need also to recognise that despite its appropriation, indigenous knowledge is/was never lost. It existed prior to and parallel to hegemonic Western knowledge systems, though ignored, excluded, primitivised, subjugated and/or appropriated by modern institutions and disciplinary discourses in formal/conventional knowledge contexts (Hountodji in Odora Hoppers, 2002). This is evident in the continued existence of traditional medical practice despite the dominance of Western medicine (Chapter 5) and the sustained cultural plant use practices that survive even in urban contexts as documented by Cocks in 2006 (Chapter 4). Indigenous knowledges have therefore been resistant to the subjugating onslaught of Western knowledge

and modernity. As Foucault argues: "where there is power, there is resistance" (1990, p. 95).

7.1.2 Power/knowledge relations in Indigenous knowledge representation and application in selected environmental education and development contexts

The key questions that I have been probing with regard to indigenous knowledge representation are: Who is representing for what purpose? What is the socio-historical context in which the representation is being made? What is the impact of that representation and how are the processes of representation related to (environmental) education and development?

Most of the representations analysed in this study (Chapters 4, 5 and 6) are institutionalised representations of the other. These include the anthropological texts on the !Kung San (Lee, 1979), the Kwanyama Ovambos (Rodin, 1985) and cultural plant use by local communities in the Eastern Cape of South Africa (Cocks, 2006b) discussed in Chapter 4. Such representations are generated through normalising and standardising institutional techniques/strategies of representation. These institutionalised strategies of representation include statistical/numerical analysis, comparative analysis, hierarchical (linguistic or taxonomical) analysis, surveillance/observation, and use of documented evidence to support representational statements. With regard to the power effects of institutional or disciplinary representations of indigenous peoples' knowledges, Bannet (1999) argues that power is inherent in systems of interpretation and that interpretation is an appropriating force, which exploits and takes possession of local knowledges and expresses itself in them.

The effects of these institutional representational strategies include the scientisation (transformation into scientific discourse) of local knowledges, the marginalisation and exclusion (silencing) of local voices, and the 'othering' of local communities (see Chapter 4). What this confirms is Foucault's analysis of polymorphous institutional mechanisms of power and how they are used in

the generation of institutional or disciplinary knowledge discourses. Foucault argues that:

It is the actual instruments that form and accumulate knowledge, the observational methods, the recording techniques, the investigative research procedure, the verification mechanisms. That is, the delicate mechanisms of power cannot function unless knowledge, or rather knowledge apparatuses, are formed, organized, and put into circulation...

(1997, pp. 33-34)

With regard to modern scientific disciplines and their role in the production of disciplinary (scientific) discourses, Foucault contends that:

Disciplines in fact have their own discourse. They do, for the reasons I was telling you about a moment ago, create apparatuses of knowledge, knowledges and multiple fields of expertise. They are extraordinarily inventive when it comes to creating apparatuses to shape knowledge and expertise.

(1997, p. 38)

These disciplinary discourses include modern botanical taxonomy of ethnobotanical texts and the anthropological discourse of anthropological texts discussed in Chapter 4. These discourses inscribe these fields of expertise in the texts and define the institutional perspective from which the author is writing. They create discursive hierarchies within the texts that prioritise these disciplinary discourses over local knowledge discourses and are carried into education texts as shown in early Share-Net publications of the pre-independence era in South Africa.

Foucault also points to disciplinary processes of normalisation that have been realised in this study:

Discipline will define not a code of law, but a code of normalisation, and they will necessarily refer to a theoretical horizon that is not the edifice of law, but the field of human sciences.

(1997, p. 38)

Here Foucault alludes to the ways various disciplines impose their norms, how their discourses delimit the 'truths' that can be held (said), how

disciplines regulate and control the methods by which truths are determined and transmitted and how the resultant normalising trajectories exclude as error all knowledges that do not conform to their paradigms (Bannet, 1989). An example of normalisation is the way all local plant names in ethnobotanical and anthropological texts are converted into botanical names (see Chapter 4) and the taken for granted abstracted representations of Western-oriented education content.

With regard to disciplines and their control of discourse, Bannet quotes Foucault in the following statement:

...a discipline, Foucault insists, 'is not the sum of everything true that can be said about something... A discipline is a 'policing discourse', 'a principle of control for the production of discourse'... because it requires that discourses address themselves only to specified objects in terms of specified conceptual instruments. Not unconnected to this is the fact that scientific or technical, medical, economic or political discourses are produced in closed 'societies of discourse' in such a way as to make them inaccessible to outsiders and unappropriatable by them.

(1989, p. 177)

In this way disciplines and their institutions (partially) sustain themselves by appropriating local knowledges and transforming them into disciplinary discourses that are inaccessible to the local communities from which the knowledges derive through appropriating mediation into the corpus of disciplinary knowledges and fields as revealed in this study. This is evident in the transformed knowledge in anthropological texts such as that of Cocks (2006b) or ethnobotanical texts such as that of Palgrave (1977) which make no reference to local plant names (see Chapter 4). The resultant institutional representations have been applied mainly in instrumental mobilisation of local community agency by modern institutions (see Chapter 5 and 6). While such representations appear to be characteristic of the colonial era, they also feature and have been sustained in some institutionalised discourses in the post-colonial era. This continued presence of such representation reveals how disciplinary and institutional structures, mechanisms and systems sustain the hegemony of modern institutions. In referring to how local knowledges support institutional discourses, James Scott notes:

Formal order, to be more explicit, is always and to some considerable degree parasitic on informal processes, which the formal scheme does not recognize, without which it could not exist and which it alone cannot create and maintain.

(1998, p. 310)

However, as noted above, we also see the processes of resistance in local knowledges despite the dominance of Western knowledge discourses. This is exemplified in the coexistence of traditional medical practice with modern medical practice (Chapter 5) and continued cultural use of plants by local communities even in urban contexts (see Cocks' study in Chapter 4). In the post-colonial era we see the re-emergence of local voices and narratives as alternative discourses in relation to the dominant disciplinary discourses (see, for example, the inclusion of local community narratives in the study by Asafo Adjei, 2004 analysed in Chapter 4). These discourses invert the normalised hegemony of Western knowledges and disrupt dichotomies that situate modern institutions as governing agencies within social processes. The emergence of these alternative discourses is embraced in Foucault's power relations, in the notion of domination and resistance. Bannet states that:

Set against the totalising, normalising, disciplining and all pervasive operation of power in the modern world, Foucault's discourse on power reminds us that, while we are subjected to power, each of us is also a power-point at which multiple power-relationships intersect (personal, professional, economic, legal, civic, etc.) and that where we appear to be subjected, we have a local power of resistance... Foucault's discourse on power opens the possibility of multiple forms of resistance and action for each individual in his own specific place within the field of discourses and power relations. As Foucault says: 'as soon as there is a power-relation, there is a possibility of resistance. We can never be ensnared by power: we can modify its grip in the determinate conditions and according to a precise strategy'.

(1989, p. 169)

These transformative processes that result in alternative discourses are contingent upon the changing political terrain that has an enabling and empowering effect on indigenous communities, setting into motion socio-cultural interactions that have a causal effect of morphogenesis (elaboration) on colonial institutional structures and mechanisms of domination through local community agency (Archer, 1995). In this study we see, for example,

evidence of the re-emergence of indigenous knowledge representations in formal education contexts through indigenous authorship and the inclusion of local voices in the post-colonial era, particularly from 2000 onwards. Asafo Adjei's work on the mobilisation of indigenous agricultural knowledge reflects the dialogic interaction and deliberation between the author and the local community by its inclusion of voices of the local community in the text (see Chapter 4) and the practical curriculum application of this knowledge in formal education contexts. In the case study on the educational application of the cultural plants poster in Chapter 6, this has allowed the re-contextualisation of educational processes through the re-appropriation of local community narratives and creating an enabling environment for local community engagement.

7.1.3 The functioning of modern institutions

The influences of our colonial legacy are still evident in institutional structures, systems, techniques of generating and representing knowledge and the normalised conventional discursive practices of what constitutes in/valid knowledge that is applied in educational and community development contexts (see Dei, 2000). These Westernised/modern institutions continue to sustain the historical deprivileging of subordinate voices and knowledges in formal/conventional education and development contexts in southern Africa (see Chapter 4).

The interface between communities and modern institutions is an arena of interactive knowledge generation processes. However, in such knowledge generation processes, the influence of institutional discursive practices and power relationships affects legitimisation (validation) of knowledge representations and their applications, even in instances where institutions interact with communities with the objective to help them. Alvesson & Skoldberg (2000) state that:

... power becomes a crucial dimension in knowledge supported by institutional practices as well institutional practices based on knowledge. Not openly repressive knowledge but to a large extent

even 'helping' and 'progressive' knowledge is linked to power and functions in a disciplinary way.

(p. 227)

In the two case studies, the medicinal plants project (Chapter 5) and the cultural plants project (Chapter 6), we see the hegemonic influence of modern institutions in the representation and application of local knowledges and on community agency despite the positive intentions for the communities by both projects. What has been evident in both cases is how modern institutions, from their interaction with local communities, appropriate and transform local knowledges into mediating representations of Western scientific discourses which replace and displace local knowledges, creating in the process Western hegemonic 'regimes of truth'. These 'new' institutional discourses are then applied in educational imperatives to create awareness and foster change by regulating and governing local community agency. Modern institutions therefore function and maintain their hegemony through processes of appropriation and transformation of indigenous knowledges into scientific discourse and in instrumentalised applications of the resultant knowledge discourses. These institutional processes often deny the capacity for self-derived local community agency, silence local community narratives and perpetuate the subjugation of indigenous communities. However in both case studies we see the resistance of indigenous knowledge as mentioned earlier. There is also evidence of local community agency for change that is revealed in how traditional healers are mobilising the community development institution to influence change, such as gaining access to plants on private land, getting rid of the dominating health official, obtaining skins for their practice and getting land to develop their own traditional health centre (Chapter 5). This agency is also evident in the way the local community intends to mobilise the cultural plants poster, a modern institution symbolic representation, as a means to sustain its culture among the young generations (Chapter 6).

Within the context of southern Africa, we have seen many transformative political processes that provide space for the inclusion of indigenous voices and knowledges. However the continuing functioning of modern institutions in

the act of producing knowledge reveals that in practice these political transformations are only beginning to be evident within formal education and development contexts. There is nonetheless a slow emergence of local voices and the application of local knowledges which need a supportive structure for their growth and sustenance as a counterhegemonic discourse against the continued dominating influence of modern scientific institutions. There is therefore need for radical social transformation processes to overhaul the still existent hegemony of colonial institutional structures, systems and processes and the impacts they have on the ways in which indigenous knowledges are represented and applied. Wilson & Yellow Bird (2005) point to the need to change existing institutions of colonialism as well as the importance of questioning our complicity in those institutions. They argue that:

Decolonisation ultimately requires the overturning of the colonial structure. It is not about tweaking the existing colonial system to make it more Indigenous-friendly or a little less oppressive. The existing system is fundamentally and irreparably flawed.

(p. 4)

An aspect of modern institutions is the creation of ambivalence in knowledge generation processes discussed below.

7.1.4 Ambivalence and social transformation

The interface between modernity or Western scientific institutions and local indigenous communities has been characterised by ambivalence in situations where modern institutions are confronted with local knowledge forms that do not conform to normalised and standardised institutional processes of representation. This ambivalence is also evident in instances where local communities have to confront or embrace aspects of modernity that do not conform to their local cultural and knowledge contexts. These instances include the ambivalence noted when Western scientific institutions work with local communities from which they draw local knowledges and yet proceed to impose institutionally-derived instrumental agency for change. This has been evident in the medicinal plant project that utilises modern/Western institution solutions for medicinal plant conservation (Chapter 5) and the cultural plants project that draws on local knowledge to implement instrumentalised local

community agency towards plant conservation (Chapter 6). Similar incidences were observed in the representation and applications of indigenous knowledges in the selected texts in Chapter 4, for example the ambivalence displayed by local communities over the use of traditional leafy vegetables against the background of shifting local contexts with increased modernity and urbanisation (Asafo-Adjei, 2004).

Bauman posits ambivalence as a modernisation and globalisation project where modern institutions create ambivalence, producing an "intimate connection between the perception of the world as shaky and the range of human freedom" (2001, p. 58). As to how modernity created ambivalence, Bauman argues that:

Modernity was after a perfect, one-to-one fitting of names and things, words and meanings; a set of rules free of blank spots and cases overloaded with instructions; a taxonomy in which there was a file for each phenomenon but no more than one file for any one of them; a division of tasks in which there was an agent for every part of the action but no more than one agent for each; in short, after a world in which there is an unambiguous (algorithmic rather than merely heuristic) recipe for every situation and no situation without a recipe attached. But to create a world matching such demanding standards one needed first to clear the building site of the scattered sediments of past actions, which, as it happened, all stopped short of the ideal. Modernity was therefore the era of **creative destruction**, of perpetual dismantling and demolition; the 'absolute beginning' was another face of the instant obsolescence of all successive states, and thus never-ending attempts to get rid of yesterday's history.

(p. 65, original emphasis)

Here we see how the effects of institutional processes of appropriating representations create a plethora of codes, norms and standards to fit every situation and result in disunity and chaos, continuous destructions and beginnings. This is evident for example in the use of representational strategies in anthropological texts such as statistical validation, categorising plant uses, creating taxonomic hierarchies and using comparisons (see Chapter 4). Bauman (2001) states that:

Having melted all that was solid and profaned all that was sacred, modernity ushered in the era of permanent disharmony between the wants and the abilities. For the same reason, this was the era of

ambivalence in both its manifestations. And of course the era of freedom... The synchronised appearance of ambivalence, freedom and scepticism was not a 'mere coincidence'.

(p. 58)

Having created this ambivalence, modernity leaves the task of making a choice up to the individual as a 'personal problem' to resolve. This is evident in the deliberative ambivalence evident in my text on *Tales of Indigenous Trees of Zimbabwe* over folk myths and scientific validity and in Cocks' study on cultural plant use in the Eastern Cape of South Africa over cultural observations that do not conform to institutional representation strategies. In both cases it was up to the author to deliberate as to whether to conform to scientific institutional discourse of the local knowledge discourse. Bauman (2001) claims that:

We are – most of us – free to enjoy our freedom, but unfree to avoid the consequences of that freedom. To tackle the consequences, we are bound to turn to the self-same market of commodified goods, services, and ideas (thus also presumably, of counsels and therapies), which is the major production plant of ambivalence and its zealots the resourceful supplier.

(p. 69)

Modernity therefore produces ambivalence in sustaining itself. As is evidenced in this study, most disciplines sustain themselves through knowledge generating processes that transform local knowledge into disciplinary discourse (see examples in Chapter 4). In the process they create ambivalence where local knowledge does not conform to normalised institutional strategies of representation.

Institutionally-derived ambivalence to me does not imply a dead end. Rather it is the 'created space' or 'void' in which possibilities for transformational processes can emanate to overcome this ambivalence. It is therefore a point of reflection, of reflexive analysis, that can stimulate an agency of transformation against the mediating discourses of modern institutions which aim to define, regulate and standardise the knowledge of and to speak for the 'other'. It is in the environmental education processes of reflexive transformation, in which we resist being willing victims of the power effects of

modernity and its hegemonic disciplinary discourses, that we can produce alternative knowledge discourses. This is discussed in the implications of the study below.

7.1.5 Environmental education and its implications for indigenous knowledges

Environmental education has experienced a transition from an early focus on the physical environment of the 1960s (linked to Rachel Carson's *Silent Spring*) to a broader concern for issues of social justice, equity, democracy and social transformation from the 1990s (Irwin & Lotz-Sisitka, 2005). For example in the 1992 Earth Summit the International Forum of Non-Governmental Organisations and Social Movements developed the principles for environmental education under its Treaty on Environmental Education for Sustainable Societies and Global Responsibility, some of which have specific references to indigenous peoples and indigenous knowledges. These include the following:

- Environmental education must recover, recognise, respect, reflect and utilise indigenous history and local cultures, as well as promote cultural, linguistic and ecological diversity. This implies acknowledging the historical perspective of native peoples as a way to change ethnocentric approaches, as well as encouraging bilingual education.
- Environmental education values all different forms of knowledge. Knowledge is diverse, cumulative and socially produced and should not be patented or monopolised.

(International Council for Adult Education, 1992)

It is against this background of transformative agenda that environmental education provides space and a voice for indigenous people and indigenous knowledges. As Semali notes:

Emerging from a worldwide movement which has been energized by Agenda 21 of the Earth Summit in Rio de Janeiro in 1992, environmental education has received an acclaimed recognition as being a critical process in the improvement, conservation, and preservation of the world's environment and as being closely intertwined with indigenous peoples' rights... A growing awareness of environmental education stems from a challenge posed by grassroots

community groups representing diverse cultures of the world who are engaged in exploring alternatives to the dominant monocultural paradigms in ecology and curriculum.

(1999, p. 101)

Within southern Africa, the transforming discourses within environmental education are seeing more indigenous voices and indigenous knowledge applications in the post-colonial era (see Chapter 2 and Chapter 4). These include Asafo Adjei's mobilisation and application of indigenous agricultural knowledge into the formal school curriculum (Chapter 4), the mobilisation of the cultural plants poster by educators within the formal education context (Chapter 6) and an increase in the number of papers on indigenous knowledge in the South African Journal of Environmental Education (Chapter 2).

7.1.6 Genealogical analysis and its implications in the transformation of environmental education and development processes

The role of Foucauldian genealogy is not only to interrogate and rupture normalised and hegemonic institutional discourses, as has been characteristic of the postmodern/postcolonial project (Dei, 2002), but also to pave the way for social transformative processes. Maria Tambouku alludes to this in the following passage:

However, while genealogy focuses on the war of discourse and power relations, it does not stop there. By revealing discontinuities in the supposed continuous development of history, Foucault's genealogical project also implies a discontinuity in the present social formations. Genealogy is attempting to go further by tracing possible ways of thinking differently, instead of accepting and legitimating what are already 'truths' of our world. The aim is to provide counter-memory that will help subjects recreate the historical and practical conditions of their present existence. This is the future to which genealogies aspire: opening possibilities for life, by separating us from 'the contingency that has made what we are, the possibility of no longer being, doing or thinking what we are, do, or think'...

(1999, p. 203)

In this study, the interrogation of the way indigenous knowledge is represented and applied paves the way for the emergence of self-authored

representations by indigenous people and for bringing indigenous voices into academic and development discourses. In realising the hegemonic influences of modern institutions, this awareness does not mean we are doomed to their control but instead we can map out pathways of freedom from their mediating influence.

Genealogy as a methodology therefore creates spaces for theorising and agency towards social transformation. In relation to this, Margaret Archer argues for the importance of social realism's analytical dualism in separating social (institutional) structures and human agency while at the same time highlighting their autonomy and their interrelatedness which enables each one to have a causal influence that affects the other (see Chapter 3) and can result in social transformation. She states that:

The social ontology of realism warrants our speaking about 'pre-existence', 'relative autonomy', and 'causal influence' in relation to these two distinct strata [structure and agency] by virtue of their emergent properties and powers. As such it empowers us to analyse the processes by which structure and agency shape and re-shape one another over time and to explain variable outcomes at different times. It is the same premises which enable **critical realism** to have a cutting edge through identifying contextual constraints upon our freedoms and specifying strategic uses of our freedoms for social transformation.
(1998, 203) (original emphasis)

Here we realise how the agency of indigenous people can impact on and transform or overturn the hegemonic influence of modern institutional structures and systems. Foucault argues that hegemonic discourses can be inverted and replaced with alternative discourses:

Discourses are not once and for all subservient to power or raised up against it, any more than silences are. We must make allowance for the complex unstable process whereby discourse can be both an instrument and an effect of power, but also a hindrance, a stumbling block, a point of resistance and a starting point for an opposing strategy. Discourse transmits and produces power; it reinforces it, but it also undermines and exposes it, renders it fragile and makes it possible to thwart it.

(1990, p. 101)

Foucault refers to this as the “tactical polyvalence of discourses” (1990, p.100). Here Foucault argues that “what has been produced in and by discourse can be overthrown and replaced by discourse” (Bannet, 1989, p. 168). Genealogies as histories of power/knowledge relations can therefore provide a reflexive starting point for alternative discourses and realities (such as new institutional forms) that foreground indigenous knowledges and overturn the hierarchies produced by conventional processes of knowledge production, validation and application.

7.1.7 Transformative implications for Indigenous (and Western Scientific) knowledges in educational contexts

In focusing on indigenous knowledges, my intention was to probe colonial and modern processes of marginalisation, subjugation, appropriation, exclusion and silencing in a context dominated by Western sciences. This paves the way for transformative processes that foreground indigenous knowledges as alternative and valid knowledge discourses. However, this balancing inversion does not imply an exclusion of Western knowledges in education and development, or the creation of new and separate indigenous knowledge disciplinary entities. Rather, it foregrounds contextualised/situated knowledge discourses in environment and development education contexts. This points to the need to give space for indigenous knowledges and voices in relation to and often extending beyond existing disciplinary structures within education and community development contexts from which they had been previously excluded. It does not imply the relativist equalisation of knowledges to balance power relations. Instead I suggest each knowledge discourse has a role to play towards providing an ontologically deeper understanding of reality in local/situated contexts, hence the need to bring together diverse epistemological perspectives which can be congruent, complementary, dialectical or even reflexively opposing in learning interactions.

Speaking of colonial emancipation, Edward Said argues that:

What needs to be remembered is that narratives of emancipation and enlightenment in their strongest form were also narratives of integration, not separation, the stories of people who had been

excluded from the main group but who were now fighting for a place in it. And if the old, habitual ideas of the main group were not flexible or generous enough to admit new groups, then these ideas need changing - a far better thing to do than reject emerging groups.

(1994, p. xxx)

In this study we have evidence of institutional processes of appropriation, marginalisation of indigenous knowledge and a silencing of indigenous voices (see Chapter 4). This points to the need for the inclusion of indigenous voices, the need for reflexive histories of self-representation and for the application of indigenous knowledges within existing formal education and development contexts. However, it has to be kept in mind that the suggested integrative process should not be dominated by an appropriating and assimilating mediation of hegemonic institutional discourses but should open up a reflexive critical space of meaning making and change. In Chapters 4, 5 and 6 we have seen how indigenous knowledges can be transformed and absorbed into modern institutional discourses. This includes absorption into anthropological and ethnobotanical discourses (Chapter 4), into Western/institutional development discourse (Chapter 5) and into scientific conservation discourse (Chapter 6) and education practice (in the early Share-Net examples analysed in Chapter 4). It is against these institutional transformative processes that often exclude the representational voice and agency of local communities and thus continue the subjugation of indigenous knowledges that we should wage a struggle. As Said points out:

If at the outset we acknowledge the massively knotted and complex histories of special but nevertheless overlapping and interconnected experiences - of women, of Westerners, of Blacks, of national states and cultures - there is no particular intellectual reason for granting each and all of them an ideal and essentially separate status. Yet we would wish to preserve what is unique about each as long as we also preserve some sense of human community and the actual contests that contribute to its formation, and which they are all part.

(1994, p. 36)

The aim therefore is to retain the uniqueness of indigenous knowledges through representing them in a plural knowledge platform that acknowledges and equally values them.

With regard to the current and possible co-existence of Western scientific knowledge and indigenous knowledges, Hountondji contends:

What then is the problem? Indigenous knowledge has **not**, or **not entirely** disappeared from collective memory. It has not lost any part of its age-old efficiency either. Besides, it should not be considered a problem that it coexists today with so-called modern science (i.e. an imported, supposedly rational system of knowledge and know-how). The real problem is elsewhere: about the very form of this coexistence. One could have imagined a situation where ancestral knowledge of plants and animals, health and illness, the technique of rainmaking and rain-discarding, the traditional handicraft and agricultural know-how and other endogenous pieces of knowledge and know-how, would have largely benefited from exogenous science and technology and vice-versa, in a relation of mutual enrichment. A fruitful exchange of methods, a dialogue about heuristic procedures, and theoretical and mutually pedagogical discussions could have taken place. An original synthesis of both systems would have been elaborated through a progressive integration of indigenous knowledge into the dynamics of modern research.

(2002, p. 24, emphasis original)

Hountondji's statement above is alluding to the possible beneficial collaborative co-existence of different knowledge forms. We have seen how indigenous knowledges such as traditional medical practice (Chapter 5) and cultural plant use (Chapter 6) have coexisted, usually unacknowledged, with modern science, having earlier been discounted or appropriated into institutional discourses. Hountondji (1997) suggests the process of reciprocal valorisation as an approach to the integration of indigenous knowledge in educational processes. A process of reciprocal valorisation could occur, for example, in the medicinal plant project if the knowledge narratives of traditional health practitioners are recognised for their contribution to health and if they are applied in the conservation activities of the project (Chapter 5). Similarly the knowledge of cultural plants that has been used by educators to support/augment formal learning processes (Chapter 6) can be recognised

and acknowledged by being taken up and probed in meaning-making interactions.

An important aspect to address in education is how Westernised knowledges that have become the represented norm and standard in conventional/formal education disembed and decontextualise educational processes. This normalising process can and has served to marginalise and exclude local knowledges, producing for local learners a dichotomy between their lived world that is embedded in the local socio-cultural context and a learning world at school that is abstracted and alienated from their socio-cultural context.

Commenting on the decontextualizing effect of formal education processes, Kawagley & Barnhardt (1999) argue that:

The specialisation, standardization, compartmentalization and systematicity that are inherent features of Western bureaucratic forms of organization are often in conflict with social structures and practices in indigenous societies, which tend toward collective decision making, extended kinship structures, ascribed authority vested in elders, flexible notions of time, and traditions of informality in everyday affairs. It is little wonder then that formal education structures, which often epitomize Western bureaucratic forms, have been found wanting in addressing the educational needs of traditional societies.

(1999, p. 121)

As a response to this formal education decontextualisation, Masuku van Damme and Neluvhalani (2002) argue that:

...we are increasingly seeing the potential for education to critically and sensitively 'bridge the gap' between school and home which currently seem to be incompatible arenas of learning in African societies. As schools and other educational institutions are institutions of the modern state, situated within communities in which the learners' homes and everyday life are based, we argue that the two should engage one another in generative and relational ways that shape ways of knowing that do not create 'schizophrenic citizens' who find no room for what they learn at school in their homes and vice versa.

(p. 368)

Integrating indigenous knowledges into existent educational disciplinary practices allows for the recontextualization of learning processes and the

linking of these processes to the local context in a pedagogy proceeding from 'context' to 'concept'. In the mobilisation of the cultural plant poster for education purposes in Chapter 6, the engagement of the local community and the use of local narratives enable the contextualisation of learning processes that establishes a link between formal learning processes in the school and the local community context in which the school is situated. Similarly Asafo Adjei's work (2004) on the mobilisation of indigenous agricultural knowledge in the school curriculum that uses vernacular plant names in the text and local community narratives allows for the contextualisation of formal educational activities in the local environment (Chapter 4).

Our education systems are already overladen with abstracted representations as conceptual content to be taken up in the context of everyday modern life. Contextual knowledges are excluded as secondary rather than situated knowledge capital in everyday life to be deployed in meaning-making interactions in a modern world. Modernist/Western abstractions are often meaningless unless imbued with context in learning interactions that serve to decolonise education processes where knowledge representations are skewed and emptied of meaning for participants. This study suggests that it is necessary and possible to transform them to be epistemologically plural and contextually relevant for the present and future generations by simply foregrounding context and through creating spaces for the inclusion of previously excluded indigenous knowledge voices and content. It is the emerging cases discussed in Chapter 2 (research by Asafo-Adjei, Kota and Hanisi) and Chapter 5 (mobilisation and application of the cultural plant poster in formal education) that show that indigenous knowledges are beginning to be applied within educational processes that mark the emergence of an era of transformation, bringing back to our children the pride and situated insights of their indigenous (southern) African heritage. These initiatives signify the necessary baby steps of indigenous knowledge representation and application in a formal (education and community development) knowledge landscape that is dominated by Western scientific knowledge. However for broader and sustainable long-term impacts there is a need for supportive structures to enable a radical social transformation of educational structures,

systems and processes to integrate indigenous knowledges. The issue of indigenous knowledge representation and application in educational contexts is therefore an area of possible further research in environmental education (education for sustainable development) work necessary to 'step up' the transformation process.

There is a need to maintain a reflexive vigilance to unearth processes that perpetuate a subjugation and exclusion of indigenous knowledges in textual and other representations and to foster collaborative learning processes of recognition and validation of indigenous knowledges in formal education processes. This provides a starting point for alternative discourses to decentre a hegemonic representation of Western scientific knowledges in environmental education. It is against a historical background of Western institutional hegemony that indigenous knowledges and voices are now re-emerging in the post-colonial era. Kawagley & Barnhardt note that:

...indigenous people themselves have begun to rethink their role and seek to blend old and new practices in ways that are more likely to fit contemporary conditions. The actions currently being taken by indigenous people themselves in communities throughout the world clearly demonstrate that a significant 'paradigm shift' toward the integration of indigenous knowledge systems and ways of knowing is already well underway, with educational orientation moving consistently towards an emphasis on the use of local knowledge and people in educational processes.

(1999, p. 121)

This reflects a trend towards socially situated learning in environmental education and, more broadly, to socio-cultural and historical theories of learning and change.

Kawagley & Barnhardt also point to the need to take cognisance of historically situated power/knowledge relationships in local educational contexts by contending that:

When examining educational issues in indigenous settings, we must consider the cultural and historical context, particularly in terms of who is determining what rules of engagement are to be, and how those rules are to be implemented. As indigenous people have begun to re-assert their aboriginal rights to self-determination and self-government

and assume control over various aspects of their lives, one of the first tasks they have faced has been to re-orient the institutional infrastructures and practices that were established by their former overseers to make them more suitable to their needs as a people with their own worldview, identity, and history.

(1999, p. 138)

This points to the need for transforming colonially-established modern institutions alluded to by Wilson & Yellow Bird earlier in this chapter. The current transformations in institutional structures and systems need investigation and point to an area of possible future educational research pursuits.

7.1.8 Transformative implications for indigenous knowledges in community development contexts

In the selected cases of community development (Chapters 5 and 6), the primary role of the indigenous knowledges represented has been their instrumental application to meet the Western scientific institution's intended purposes, namely mobilising local community agency for scientific conservation of indigenous plants (medicinal and cultural plants respectively). This top-down institutionally driven agency, while it is of benefit to local communities, is problematic in its appropriative and mediatory silencing of indigenous community voices and in denying possibilities for community-led agency. In the traditional medicinal plants project the agency was directed by the community development institution (Chapter 5). In the cultural plants project, awareness and agency to foster change was again institutionally driven, with researchers directing the agency of community participants (Chapter 6). These directive mediation approaches to education rob the communities of ownership of the intended projects by producing local community dependency on external advice, knowledge and resources, a process which has implications for the sustenance of these externally directed development projects. There is therefore need to take cognisance of the power, authority and legitimation aspects in which these negotiations are embedded (Pottier, 2003). This calls for an approach to community development initiatives which realises the negotiated character of knowledge

generation/production at the interface between local communities and external agents of change (modern institutions).

Development discourse in southern Africa is apparently still to a large extent Western-oriented, techno-scientific and economically based. As Dei points out “the cultural resources bases and knowledge of local peoples have been the least analysed for their contributions to African development” (2002, p. 71). What needs to be upheld and foregrounded is a knowledge co-engagement that enables the application of local community knowledge and the local community capacity for self-motivated agency towards contextually-relevant development approaches. This is an area for possible research and development.

7.2. Stitching it together: Synthesis

In this section I reflect on Western and indigenous knowledges as explored in this study.

Appropriation and subjugation of indigenous knowledges is a process that started with the colonial encounter with the West and was facilitated by colonial structures, systems and institutions in efforts to define, regulate and control the colonised other. These processes are evident in research work that has been funded by colonial governing bodies such as Scudder’s study of the Gwembe Tonga which was funded by the Federation Government of Rhodesia and Nyasaland and Watt & Breyer-Brandwijk’s work that acknowledges the Division of Botany of the Union of the Republic of South Africa. The process of indigenous knowledge appropriation and subjugation has been continued through the hegemony of modern/Western scientific institutions into the present. The power of modern institutions lies in how they dominate and control (institutional) representations and applications of local knowledges. As mentioned above, modern institutions work by fragmenting, re-ordering, and abstracting local knowledges into normalising and decontextualising disciplinary discourses and in a controlled mediation of or

prescribing the application of these discourses by the general public. As Scott argues:

A recurrent theme of Western philosophy and science, including social science, has been the attempt to reformulate systems of knowledge in order to bracket uncertainty and thereby permit the kind of logical deductive rigor possessed by Euclidean geometry.

(1998, p. 321)

In this process modern institutions diminish and exclude the capacity of local communities and individuals to represent and apply their own knowledges. Individuals and local communities do not represent themselves; they are represented through appropriations of their knowledges that are then included within the disciplinary discourses and othering ideas of modern institutions. They also now do not act of their own accord; they are mediated (told how) to act in the education initiatives of modern institutions. In modernised communities the capabilities that were previously invested in individuals and communities are usurped and centralised into modern institutions and mediated through education. This has been evidenced in this study in the way indigenous knowledges are transformed through institutional technologies of representation (Chapter 4) into the discourse of modern institutions, a process that simultaneously silences the voices of local communities. As indicated earlier in this chapter and in Chapter 4, local knowledge is, for example, transformed into the discourse of anthropology/botany for conservation education initiatives to normalise community awareness and action.

The institutional representation of local knowledges in education creates a dependency on the modern institutions to provide the necessary knowledge representations and to provide the direction and possible choices for individual and community agency. The power to represent becomes the educator's power to control and regulate. This has been evident in this study in how the institutionalised knowledge of traditional medical practice is then used to direct/guide the agency of traditional health practitioner towards cultivation of medicinal plant for conservation purposes in Chapter 5. It is also evident in how the community knowledge of cultural plants is used by modern researchers to socially engineer local community agency for conservation in

accordance with modern conservation agency perspectives (Chapter 6). Any alternative representational discourses that threaten institutional hegemony are usually undermined/thwarted and labelled as unscientific, traditional and therefore invalid knowledge. Modern institutions therefore thrive through continuous power struggles that create binaries between 'valid' (scientific) and 'invalid' knowledges, creating and existing on ambivalences in the process. As James Scott aptly puts it:

High-modernist designs for life and production tend to diminish the skills, agility, initiative, and morale of their intended beneficiaries. They bring about a mild form of institutional neurosis. Or, to put it in the utilitarian terms that many of their partisans would recognise, these designs tend to reduce the "human capital" of the work force.

(1998, p. 349)

Resistance to institutional hegemony can invert these power/knowledge relations by increasing individual and local community capacity to represent themselves and to have self-directed agency, as identified in this study (Chapters 4 and 5). It locates representational power and agency in the individual or the community and releases them from modern institution dependency.

Local communities on the other hand function strategically in a different/opposite manner to modern institutions in their knowledge generation and application processes. Local communities focus on contextualised application of knowledge. Here it is what is applicable that is acceptable. In other words local communities rely on converting the 'said' (discursive knowledge) into the 'doable'. Local communities do not rely on institutionalised representational discourse but rather on local representational discourses (such as narratives, stories, and dance ceremonies) and mainly on practice. Local knowledge is therefore in a different representational form in relation to the discursive knowledge of modern institutions. It is to a large extent **contextualised practical knowledge**. It is transmitted in the representational discursive form that is understandable and accessible to the local communities. The power of local knowledge lies in its practice, what Archer refers to as the 'primacy of practice' (Archer, 2000). Archer claims that:

To assert the primacy of practice is a refusal to accord primacy to language, and this is what is maintained in relation to the emergence of self-consciousness. The effect of asserting it is to make the embodied practices of human beings in the world more important than their social relations for the emergence of selfhood, meaning a continuous sense of self, and for the development of its properties and powers.

(2000, p. 121)

Denied space in Western-dominated conventional knowledge discourses, indigenous communities have represented their knowledge mainly within continuing indigenous knowledge practices that have most often remained resistant to Western science knowledge discourses. In this way many local knowledges have been able to resist the hegemonic domination of modern institutions and this has enabled local communities to retain indigenous identity and to sustain (and transform) knowledges and practices transgenerationally. In being represented in and articulated through practice, local knowledges increase individual and community capacity of self-representation, innovation and agency. An example is Cocks' account of cultural plant use in by local people in urban contexts (Cocks, 2006b discussed in Chapter 4). Here she reveals the puzzlement of Western institutions at the sustenance of a traditional culture in a shifting context of modernity and the exclusion of the representation of this culture in dominant Westernised conventional knowledge. This reveals that the culture is mainly represented differently, in a non-discursive and locally narrated form within and through sustained practice. Another example in this study is traditional health practice that has continued to thrive alongside insulated from the dominance of Western medical practice (Chapter 5).

Another aspect of local knowledges is that they are contextual and to a large extent inclusive and thus more often than not, do not compete with other representations. They thus do not thrive or depend on creating hegemonic binaries within a market economy. Anything that works is applied and the continuing practices carry the socially situated ways of knowing and learning within them. Local community knowledge is also shared, not formally institutionalised or privatised knowledge regulated within the patenting and copyright conventions as in modern institutions. The different community

members serve as referral points of knowledge practices from observation and experimentation that contribute to overall local knowledge of the community. This was evidenced in the documentation of cultural plant uses by researchers in the cultural plant project (Chapter 6) where the researchers stated that they collected evidence randomly through seeing the cultural practices being performed by individuals. The individuals bring in their experiences, local and external, into a more open and shared common knowledge pool. It is through this that it is possible for local knowledge and modern knowledges to complementarily co-exist and be drawn on within a local community. An example in this study is the re-appropriation of the modern institution's symbolic representation of local culture in the form of poster as a means of sustaining the culture among the youth in Chapter 6. There is also a similar appropriation of Western knowledge representations by traditional healers in Chapter 5 who take up training on sustainable harvesting, HIV/AIDS and gardening to gain leverage into a modernised living environment. In this way local knowledges are plural, hybrid and dynamic.

Indigenous and Western knowledges both have a role in present societies in and they interact in ways in which they can support one another. The former knowledge representations have however been denigrated and excluded from conventional knowledge processes and deliberations. This lack of indigenous knowledge representation and applications in the formal social contexts has a negative impact on local communities from which these indigenous knowledges come who then undervalue and look down on their own knowledges. An example is the mixed way in which participants' valued traditional leafy vegetables in Asafo-Adjei's study, where some considered them primitive and food for the poor. There is a need therefore for transformative processes that decentre hegemonic Western knowledges and bring into the environmental education and development playing field the role and value of local knowledges.

We begin to see the emergence and proliferation of indigenous authored works in formal and environmental education contexts and the rise in the representation of indigenous knowledges and indigenous voices in the post-

colonial era in southern Africa as discussed in Chapter 2 (Mtshali, 1994; Mokuku & Janse van Rensburg, 1997; Masuku, 1999; Shava, 2000; Asafo-Adjei, 2004; Masuku van Damme & Neluvhalani, 2004; Shava, 2005; O'Donoghue et al., 2007). This 'insurrection of subjugated knowledges' in environmental education is contingent upon a political environment that enables the agency of indigenous scholars to bring local knowledges into the conventional knowledge playing field. This marks the beginning of transformative processes towards the integration/inclusion of local knowledges in formal education and development contexts, which as I have argued in this study, needs to be 'stepped up' and strengthened further for radical transformation.

7.3 Limitations of the study

This study was an analysis of selected cases of plant-based indigenous knowledge representations and their application in environmental education and community development contexts. It was therefore not an exhaustive study **on/about** these representations and applications in relation to plant-based knowledge across the fields of environmental education and development as a whole. However, it has served to illuminate the contours of power/knowledge relationships in developing representations and applications, suggesting the need for us to be continually reflexive of how IK is represented and applied in environmental education and broader social contexts.

Foucault positions the intellectual as either contributing to continuing local knowledge subjugation by being implicated in disciplinary and institutional processes of producing hegemonic Western knowledges or by resisting these processes. As Bannet puts it:

Foucault's *renversement* [inversion, reversal or overturning] consists of showing that knowledge and truth are essential to the structuring and functioning of modern societies and that intellectuals are essential to the production, administration and distribution of essential knowledge and truth. Moreover, in so far as discourses have the power to create objectified and divided subjects, to produce and impose exclusions,

and to affect lives – discourse is action. Whether he acts in conformity with the current regime of power and truth in society or against it, whether he acts as an agent of power or as a point of resistance, the intellectual in his specific domain of work, in his specific conditions of work and in his specific place of work is always playing a positive, productive role within society and within its 'regime of truth'.

(1989, p. 173)

Academic pursuit (being educated) seemingly puts us in a position of privilege in relation to local communities of marginalised indigenous peoples. However, the study also reveals to us the limitations of that privilege through our distancing/detachment from local community reality. In reflecting on the study, I realise this position and also that, as an indigenous scholar, I am somehow a part of the local communities in question (an insider) and issues of local knowledge representation and application also have an impact on me. I believe the contribution of indigenous researchers to processes of knowledge decolonisation is therefore essential.

Bannet also argues:

Because intellectuals have a privileged relation to society's 'regime of truth', discourse is their proper sphere of action. And because the specific intellectual is a point at which multiple specificities intersect, his discourse will also necessarily be 'tactically polyvalent'. It will have a bearing on all the dimensions of his specificity, whether he submits to the power relations in them or rebels against them.

(1989, p. 173)

The intellectual is therefore trapped in position/constraint of "choosing whether to conform or resist, whether to act as passive agents of the powers that be or as independent destroyers and creators of [alternative] knowledge and truth" (Bannet, 1989, p. 183). I have followed the latter path in this study as a "protest against the representational violence of colonial discourse" (Gandhi, 1998, p. 77). In exposing the hegemonic representations and application of indigenous knowledges in southern African contexts, the study suggests genealogy as an intermediate stepping stone and/or bridging phase/stage in the transformative process of generating alternative education discourses that contribute towards the "discursive project of 'indigenous

knowledges' as a way to rupture the sense of comfort and complacency in conventional approaches to knowledge production, interrogation, validation..." (Dei, 2000, p. 111). In this I also find myself in a new space with a polyvalent agency in a process of reciprocal engagement amongst knowledges as an educator with a sense of the important reflexive processes that indigenous knowledges bring to environmental education.

7.5 Conclusion

In this study I have highlighted the problem of institutional representations and applications of indigenous knowledges and their contribution to the continued subjugation of these knowledges. I reveal how as (indigenous) scholars and researchers within modern institutions, we are often unconsciously implicated in practices of domination. The study points to the need for self-reflexive vigilance on our part to avoid institutional biases and blindness. I will provide a concluding example reflecting upon my own work. In the publication *Tales of Indigenous Trees of Zimbabwe* (Shava, 2000), because of my science (botany) background, I gave hierarchical priority to botanical names over local names and priority to conservation messages that conformed to modern conservation discourse. Thus, despite the book being based on local tales, it has a bias that makes it conform to Western scientific discourse. This in a way undermines the value of local knowledge, particularly that which does not conform to scientific rationality, as is reflected by the ambivalence over local myths in the text (discussed in Chapter 4). In a similar manner my paper on indigenous knowledge and its application (Shava, 2005), foregrounds (gives priority to) botanical names over local names, a process that therefore undermines the value of local plant names. I have now realised and suggest the need for reflexive vigilance to continuously reflect on our own representations of indigenous knowledge and to continually challenge hegemonic knowledge discourses and institutional representational practices.

However, as noted in this study, there is evidence of resistance to the hegemonic influence of modern institutions and their discourses. This is apparent in the continued coexistence of local knowledges with modern

scientific knowledges. It is also evident in the recent emerging voices of indigenous scholars in conventional knowledge contexts. This latter self-actualisation process is an emerging agency that is contingent on the enabling change in the socio-political environment of southern Africa in a post-colonial context.

In the southern African context, indigenous knowledge discourses and voices have only recently started to emerge in education to stand sometimes against the dominant conventional knowledge discourse in formal social contexts (academic institutions, workplaces, industry, politics and economy). There is need to generate and consolidate the representation of these critical indigenous voices as alternative knowledge discourses and to promote the application of indigenous knowledges within formal education and development contexts that are still dominated by the institutional rationality of Western knowledge discourses. This calls for the need to radically transform existing institutional structures, systems and representational strategies and processes that perpetuate the colonial hegemony of Western knowledge systems in order to pave the way for the integration of local knowledges.

In conclusion, I suggest the following to other indigenous scholars, researchers, development agents and environmental educators through the experiences of this study:

- i) The historical colonial subjugation of indigenous knowledges is a continuing issue of concern. These colonising hegemonic power/knowledge relationships (that have their historical basis in the colonial era) have been perpetuated by modern institutions through their representational strategies of domination which appropriate and transform local community knowledge into institutional and disciplinary discourses, and educational processes of intervention that often render local communities the voiceless 'studied other' in need of learning. These colonial and institutionalised knowledge representations and education perspectives have contributed to the marginalisation, exclusion and invalidation of indigenous knowledges and to constituting

subjugated subject positions of the represented local communities. There is a need to articulate these links between knowledge production and hegemonic (colonial and institutional) relations of power. There is an even stronger need to critically interrogate, challenge and resist the hegemony of modern institution knowledge generation and representation processes used to produce particular valid meanings and construct certain legitimate (scientific) knowledges through education in the post-colonial era. This needs to be resisted through sustained critique as an ongoing process of decolonising academic knowledge discourses and education imperatives.

- ii) A commitment to foregrounding indigenous knowledges provides emergent, alternative and counter-hegemonic discourses that repositions subjugated knowledges in the conventional knowledge arena and decentres hegemonic Western knowledge discourses, creating a platform for representing plural knowledge discourses in formal education and development contexts. There is a need for new strategies to create enabling spaces for the representational inclusion of indigenous knowledges and to support and facilitate (the recognition of) indigenous-authored texts in formal/conventional knowledge discourses in social contexts.
- iii) Documentation of indigenous knowledge practices is essential, considering its continuous loss due to disruption of intergenerational transfer through the influence of various factors such as formal education, modernity, urbanisation and globalisation. However as (indigenous) researchers we should critically question for whom we are documenting this knowledge and for whose benefit, and be wary of perpetuating and legitimising an institutional appropriation of indigenous knowledge into dominant Western knowledge systems and corporate commercial institutions. There is also a need to go beyond documentation and ask ourselves for what purpose we are documenting these knowledges and knowledge practices. To avoid the 'museumisation' of indigenous knowledge

we should also focus on its practical application in indigenous peoples' everyday lives.

- iv) Conventional knowledge discourses in formal education processes have been characterised by an attempt at making generalised abstractions which have the effect of distancing this knowledge from local practices and experiences. This creates problems of decontextualisation, which are more evident in rural contexts, where conventional/Westernised knowledge in formal education contexts does not relate to the lived context of the learners. This subverts the meaningful engagement of the learners and that of the community as active participants in collaborative meaning-making processes in formal education. There is need to (re)contextualise learning activities through a situated co-engagement of learners and communities as part of a transformative process of re-writing/righting the curriculum that establishes the contextual and epistemological relevance of formal education processes. This calls for authentic stories and real cases of practice that are narrated and reported in ways that are true to the knowledge practices in context and reflect the voices of local communities.
- v) As a process of self-realisation, self-actualisation and self-representation, it is essential for indigenous communities and indigenous scholars to (re)define what indigenous knowledge is and what useful indigenous knowledge is for themselves in their own contexts for education and development purposes. This is a process of enabling indigenous peoples to (re)claim discursive authority over their own knowledges, to actively represent themselves, to construct their own identity and to tell their own (hi)stories within the socio-historical and geographic contexts in which they live. I say this against a background where modern institutions have defined what indigenous people are and what indigenous knowledge is on the basis of aspects of indigenous knowledge that are utilitarian and can therefore be appropriated to the purpose and ends of modern institutions rather than by indigenous peoples for their own ends. Indigenous people should

be recognised as active creators of knowledge and as meaning-making agents through reflexive appropriation of local narratives in the social contexts in which they exist.

- vi) In our advocating for indigenous knowledges as counterhegemonic discourses, we should be alert to avoid creating exclusive hegemonies of indigenous knowledges (Dei, 2000) as this will be pursuing a similar agenda and utilising the same discriminatory and hierarchizing strategies of oppositional/dialectical binaries between 'us and 'them' that were created by our former colonial masters. We should also be wary of romanticising indigenous knowledges and critical of indigenous knowledge content and local authenticity. The possible roles of Indigenous and Western knowledges in the conventional knowledge arena have to be acknowledged and the way different knowledges continually influence one another should be recognised.
- vii) The integration of indigenous and western knowledges is a political process that provides space for different epistemologies and diverse knowledges to interact in an arena that was previously dominated by Western/modernist knowledge discourses. This provides a greater scope of choices and a plural platform for positioning different knowledge discourses in formal education and development contexts. However we should be wary and critical of the integration of indigenous knowledge if it is pursued to serve the interests of modern institutions and corporate capital, thereby perpetuating the appropriative, assimilative, and exploitative tendencies of modern institutions (Dei, 2000).
- viii) Indigenous knowledges have never been entirely lost or displaced. They have existed within local communities of practice as resistant knowledge discourses to colonising and mainstream Western knowledge discourses. These knowledge practices are more evident in rural communities that have a direct relationship with their environment but also exist in modernised contexts such as urban settings as a resisting agency in indigenous peoples who continue

cultural practices that are meaningful to them as individuals in/and communities.

Clarifying these principles within the research process has led me to conclude that it is possible to appropriate relevant western theoretical perspectives as a means to further and reflexively enhance indigenous knowledges without distracting from the intended outcomes of contextual relevance and meaningful change. The changing patterns of representation and application point to a slow transition in environmental education from an initial techno-scientific mediating focus on awareness raising, behaviour change, knowledge transmission and skills transfer to an extended scope that incorporates an emphasis on sustaining practices and change. This not only opens up possibilities for the inclusion of indigenous knowledges but foregrounds situated practices for meaningful reflexive learning. In realising that education and knowledge production processes are not neutral, environmental education has now also come to include issues of social justice, equity and democracy (Irwin & Lotz-Sisitka, 2005 discussed in this chapter). To articulate and address the subjugation, marginalisation and exclusion of indigenous knowledges in formal education processes, there is a need for a more socio-historically situated learning co-engagement and for contextually-relevant, locally-led individual and/in community agency to address environmental issues and risks in local environments. This implies the need to represent and apply indigenous knowledges of learners and the local communities in which they live in seeking sustaining environmental education and development practices that benefit the local communities in question and the biophysical environment they rely on.

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APPENDICES

The following appendices are included only as proof of data collection. I have therefore not linked them to the main text of the thesis.

APPENDIX 5A: SOME GUIDING QUESTIONS FOR THE RESEARCH INTO THE TRADITIONAL MEDICINAL PLANTS PROJECT

A) Institutional research

Approach:

The approach to this part of the research will have two main aspects:

- i) Document Analysis - A review of project documents and related information
- ii) Individual unstructured interviews – interviews with project staff to get insight into project experiences and to fill in the gaps on aspects not fully covered in the project documents and reports

Guiding Questions:

1. What is the general background of Community Development Training Institution and specifically of the Traditional Medicinal Plants Project?
2. What international and national policies guide the project process/activities?
3. What institutional policies/mandates/ project documents frame the project activities?
4. What binding agreements (with partners/donors) influence project direction(s)?
5. What background information (documented knowledge) informs the project?
6. What previous experiences/lessons are brought to bear on the project?
7. What limitations (expected and realised) can impact on the project outcomes? (What are the constraining factors? What are the fears?)
8. What current conditions enhance the project outcomes? (What are the enabling factors?)
9. What are the expected and unexpected outcomes arising from the project process?
10. What power relations emanate between the institution and traditional healers and what steps are made to even out power relations?

B) Community (Traditional Healers) Research

Approach:

This part of the research will also have two main aspects:

- i) Participant observation - this will be undertaken in exploring interaction between Community Development Training Institution and the traditional healers. This will also be the initial entry approach to interacting with the healers (note introductory remarks below).
- ii) Individual (and focus group) interviews – these will be done with selected participants around the following issues:
 - a. Their understanding of the project and its intended outcomes;
 - b. Their perspective on the (power/knowledge) relationship between them and Community Development Training Institution;

- c. Enablements and constraints within the project process (benefits and fears);
- d. Expected and unexpected outcomes of the project process; and
- e. Existing structures within the healing community and whether they have been impacted on (strengthened or weakened) by the project process.

Introductory remarks in community interactions

The community will be made aware of the following:

- i) That I am independently researching the project to investigate the (power/knowledge) relationships between the local community healing practitioners (traditional healers) and Community Development Training Institutions part of my PhD work.
- ii) That I am not researching into the plants that the traditional healers use or into their practice.
- iii) That my research outcomes are intended to feed back into the project process and hopefully enable a better way of relating between the institution and the traditional medical practitioners.

APPENDIX 5B: MEETING OF LOCAL EXECUTIVE COMMITTEE OF TRADITIONAL HEALTH PRACTITIONERS

Date : 27-10-2006
Place : Community Development Training Institute's Office
Time : 12:15-13:30
Attendants : PM, SM, AV, MK and SS

The meeting was chaired by AV.

1 Introduction SS

The meeting was opened by AV after which she let SS introduce himself to PM. SS explained his connection to R University to PM and informed her about the PhD research he is conducting on indigenous knowledge. He makes clear he's not interested in indigenous knowledge as such, but is mainly focussed on institutions (like Community Development Training Institute) and their interaction with local communities. He is interested in issues like power and knowledge and also the benefit that communities have in the interaction with these institutions. After meeting Soul and listening to his explanation, PM makes clear it will be no problem to have SS present at any further meetings. In fact she will be quite happy if he'll be there, as she believes it will be of mutual benefit.

2 Local application for land

The next topic discussed was the land application. SM tells PM she went to the new town planner (Reiner v/d Merwe) on Monday 23 of October to inquire about the land application, submitted by the Local Committee to the Mayor. She first introduced the Traditional Medicinal Plants project and after that, she inquired about the land request. Through him, SM found out there was no formal (written) application for land in the Town planner's records. The town planner wanted to know whom they had been speaking with. As SM didn't know the answer to this question, she asks PM about this. PM tells Sue they talked to the mayor and explained him everything about their land request, including what they need the land for. They have also written a letter to make an appointment with him. The mayor told them he would talk to some people first and would get back to them. Up to now they haven't heard from him. Sue asks them if they had a specific piece of land in mind. PM says they did: they would like to use the piece of land behind E Hall. They want to use the offices that are already on that site or built new offices to have their own space to come together. Sue adds this site can also be used to establish a community garden; this will provide access to land to those healers who would like to participate in the cultivation training of Community Development Training Project, but do not have their own plot. Sue suggests the site could also be a good location to set up a traditional pharmacy.

SM then explains it will probably take a lot of time to get the piece of land behind E Hall, because it is already being used. This means the land use of

this site might need to be changed before the Municipality can give permission to use the site; this is a long administrative process. Therefore, it could be much quicker to find other land that is not used. She also adds that it might be better to get a bigger piece of land so there's space for a community garden. SM explains the first step in getting land is identifying the land. After identifying the land you have to submit an official application, which has to go through a whole official process (which generally takes a couple of months). SM says that it is best to come up with a couple of possible sites when applying for land, because there might already be plans made for the pieces of land the healers indicated earlier on. SM therefore asks PM if there are any other pieces of land they think would be suitable for their purposes. PM answers that indeed there is a piece of land near D School that might be suitable, and that there is also some land near the dam, but that land should be fenced because of the danger for children.

PM proposes to make an appointment for next week and to drive around taking a good map and with this map identify some different, suitable pieces of land. Then the first step is made and after that they can write their official application. Community Development Training Institute would be happy to assist them with this application. An appointment to identify the land is made for next week Tuesday at 9 o'clock. AV will be driving and PM will take someone else to come with her as well. Soul is also interested in joining the group, and PM makes clear this will be no problem.

3 Animal skins

The next topic was the list of animal skins Community Development Training Institute received from the Local Committee. MK tells PM she has made a few phone calls to taxidermists (professional who reconstruct wild animals -using their skins- to make them into trophies for hunters) in the area. Taxidermists do not always use all of the skin; sometimes only the skin from the head and the neck is used. In these cases there are large pieces of skin (called off-cuts) that are not used. There was one taxidermist in P Town that had off-cuts from skins that are usually kept and used to repair animal skins that are damaged. After explaining why the traditional healers of R Town were interested in these skins (off-cuts), they were willing to give them to the traditional healers.

PM was very happy to hear this news. MK suggested it might be a good idea for PM to go to {F} and take a look at the skins herself to see if it is usable for them. PM agreed to this and an appointment was made for next week. SM proposed that it might be a good idea to go on Tuesday as well, right after the land identification. Everyone agreed on this and MK would make a phone call right after the meeting to see if it would be possible to make an appointment for 11:30.

4 Workshop protection TK

The next topic discussed was the workshop on the protection of TK (Traditional Knowledge). AV asks PM if there are any responses about the workshop for traditional knowledge she proposed to organise during the last meeting. PM says everyone will be very happy with that. She makes clear that

people are very happy to obtain any knowledge. She didn't however discuss it with the committee yet. AV then proposes to set a date for the workshop. The date that was chosen is the 22nd of November. PM confirms there's no problem with this date, however she does make clear that it would be better to have the workshop in the morning. AV agrees with this, and asks PM if there could also be other people invited for the workshop. PM makes sure that would be no problem.

5 Article on Traditional Health Practitioners Act

The next topic discussed was an article on the Traditional Health Practitioners Act AV and SM wrote. SM tells PM that she and AV have been doing a bit of research on the Traditional Health Practitioners Act, and in particular about the consequences of this act. They have written a rather critical article on it want to give a copy of it to PM. SM explains they have written the article because they want to make people aware of the Act. SM also explains that they would like to publish it. SM tells PM that they will also send a copy to some other people, like ER, Mrs. MD and Mr. DN from the provincial committee. SM asks PM if for next meetings (the larger once, but maybe also the smaller ones) it would be helpful to have an interpreter present, to make communication easier. PM tells SM she would be very happy with a translator because sometimes these meetings are a bit too much for her and cost her a lot of concentration. A translator would definitely be helpful for her. SM also proposes to have the article translated in Xhosa, so that it would be more accessible to Xhosa speaking people with limited English language skills. PM thinks this is a good idea. Sue tells PM she will find someone to translate the article as soon as possible.

6 Cooking, Health and Nutrition Course

The next topic discussed was the 'Cooking, Health and Nutrition Course'. AV asks if PM has discussed this issue and if she already has a list of people interested in the course. PM says she hasn't reached everyone yet. She only has a few names. She knows of some people, who according to her would be interested, but doesn't want to give their names yet without them knowing it. PM says she will discuss this issue at their next meeting.

7 Plant List

The next topic discussed was the plant list. AV asks if the healers have taken a look at the plant list that was given to them during the last meeting, and if there were any mistakes on the list. PM confirms that the list was correct and there were no mistakes.

8 Books

The next topic discussed was the whereabouts of the books PM and ER borrowed from Community Development Training Institute last meeting. SM

asks PM about the books. PM tells SM she forgot all about it when she hopped into the taxi before leaving her house for this meeting and only thought about it too late. She will take the books next time (Tuesday). SM asked her if they liked the books and PM indeed confirmed the books were very interesting. Sue then explains that for the Traditional Medicinal Project, Community Development Training Institute wants to create a library as well, for which they want to collect all different kinds of books that would be of interest for the Traditional Medicinal Plants Project. People then can borrow these books and bring them back when they're finished. Sue lets PM know, that when she or anyone else has any suggestions for other books they should acquire for the library, they should let her know.

AV then asks PM if there is anything else she would like to discuss. PM says that there is nothing else to discuss. She only wanted to express her gratitude for our (and SS's) time and effort.

So planned for next meeting:

- Xhosa translation of the article
- Tuesday's appointment for the land identification and skins
- The workshop for TK is set for 22nd of November (in the morning)
- The participants list

APPENDIX 5C: TRADITIONAL MEDICINAL PLANTS PROJECT - INTERVIEW WITH SM

NB

Interviewee words - outside bracket

[Interviewer words] – in brackets

The model that we, ah, kind of started up for the cultivation training is that the year before we do cultivation training in an area, [Ok] we go, ah, to that community and explain the project to them, ah, and then we invite the traditional healers to come and then we have a more intensive explanation of the project. [Ok] Ah, and then we ask them, ah, for input, ah, as to which plants will be culturally acceptable [For cultivation] for us to include in cultivation training the following year. [Ok] And, uh, input about how we should conduct ourselves in that community and with the, you know, the training. [Ok] And input about, ahm, what areas they might need assistance [Hm] 'cause there are lots of challenges facing traditional healers at the moment. [Ok]

So, [What would you consider to be sort of like the main challenges at the moment, is it policy related or is it just maybe their own internal structures that are sort of problematic?] There are so many, and can tell you what, we have actually written it up into a kind of draft [Oh that nice] like paper kind of thing. [Oh] There is so much, we can definitely give you a copy of that. [That would be nice] Ah, and yes the policy, ah, very importantly people are quite confused about, eh, the new legislation, [Hm] what the impact is. There's a lot of confusion about registering with ah, the traditional healers association and thinking that's the only registration process that is necessary. But actually with the Traditional Health, Healthcare Practitioners Act of 2004 [Hm] they are trying, well, the government is intends to put together a council that's going to regulate, ah, traditional health care. [Ok] That council hasn't been out in place yet. [Oh, ok] Ah, they will have also a process of registration and a lot of healers seem to be thinking, [Hm] and it's a very confusing situation for everybody involved, if they register with a traditional healers association in they think that's the same as registering in accordance with the Act, [Hm] but it's not, and ah, yeah there are lots of things. [Its complicated]. Its very complicated. Ah, but then there're also issues of poverty that, ah, that, that ah the healers are having to deal with, you know. A lot of people are talking now about, you know, the need to [Survive?] boost their income. They need to survive. Thus they want training of various kinds so that they can maybe, ah, pursue other additional kinds of livelihood strategies [Hm] and that kind of stuff. Ah, also you know, within the small kinds of associations, ah, we have been working with aon a local level, ah, [Ok] to start with, ah, don't recall it. [Ok] Ah, there is also, hm, kind of express need for assistance with like organisational skills and that kind of thing. Ah, but there's lots, I will give you the, I'll give you our kind of write-up rather. [Thanks SM]

Ah, so yeah, what we did is we, to like, to begin with we quite intensively tried to find out about all the different kinds of association and what have you [Yes] and make links with those. And then the main most formalised ones that we came across, ah, we met with, they have got national and provincial, district,

and even kind of local, almost municipal but not quite [Ok] ah... [Structures?] structures. [Ok] And ah, so we met with ah, the, well firstly he was involved with the provincial committee but now he's actually the chairperson of the national one, Mr ND. And then also with the provincial committee. [Hm] We ehm, we met with them longer, in October last year, and we basically explained the project to them, and asked for their kind of blessing and approval to, to go ahead. [With the project, ok] Eh, and explained that, you know, we're just at the very early stages and we are going to be developing the model in conjunction with the healers on the local level first [Hm] and then when we move into past the pilot phase into other areas we'll go back to them and also aks for their advice about what, which areas to go to, [Yeah] that kind of thing. [Ok] Ah, and then with the local, ah, healers we also want to be as inclusive as possible, ah, because we don't only want to represent the healers who are within a formal structure [Like an association?] within an association actually. So what we did was, haha, we went around The town townships with loudhailers [Oh!] quite a few times, [Ok] and we split in two different areas and we asked anybody interested, [Hm] healers and other people as well, you know, [Ok] to come and have a meeting with us. [Ok] So we had those. There was pretty poor attendance at those, but people were very interested. [Hm] And we have been handing out fliers and what have you. And we also ah, tried as far as possible to find out, you know, via our facilitators [Hm] whom they know, ah, like they know [Traditional healers?] the local community and who are traditional healers quite well. And we actually tried to go, ah, door to door to some extent and try and explain the project sos that we could get representative ideas. [Hm]

So... [So the focus of your main, like pilot phase is still within The town ?] Yeah, ah, so the model is basically to, to work with the whole community, with healers and the community for them to tell us what their need s are. [Hm] And for them to tell us what plants are acceptable and needed and scarce and what have you. [Ok] Ah, and then we , we have eh, a kind of, another set of criteria like ok, the plant has to be indigenous or endemic to this area, 'cause one of the things that healers have asked for ah, ahm, is can we start growing plants from Zimbabwe that we are using? [Oh, ok] There is a lot of trade actually [Hm, hm that's very interesting] and its yeah, ah, and we've said no because this project is more focused on the conservation of what is here. [The indigenous plants] The indigenous yeah, and people a re very accepting of that. [Oh, ok] We have been very lucky, people have been incredibly supportive of the project. [Ok] Ah, and, ah, ok, so basically a series of input workshops [Hm, hm] with the healers, and then ah, on the basis of their express needs what, so what we'll do next with regards to the traditional healers is to try and compare those with our capacity [Ok] and develop kind of support workshops that are in line with what they said they'll need. Ah [Ok] but in areas that we have strengths in, and otherwise ah, try and help them access maybe other organisations and what have you who can help with their other challenges. [Ok]

Ah, and ah, also what weeee, what we've said we can do is if they want us to ah, try and assist with, ah, access to land is another big problem that people are talking about a lot. [Yeah, yeah] Ah, for the purposes of not only plant

collection but also ceremonial things like places that people used to go to, where traditional healers used to go to have sort of private ceremonies [Private ceremonies, ok] like S and K and what have you have a few quite sacred places [Hm] in them that they are now not allowed to have access to. [Ok] so the things that we're probably going to be looking at, eh, as we go on in terms of the support side is to negotiate with landowners about mutually acceptable means of ah, accessing those areas and that kind of thing. [Ok]. It is also a complicated and tricky thing, ah, given that there are wild animals. [And its also private land] Yeah, what have you, there's lots of issues there. [hm. Hm] Ahm, so we gonna take that one carefully and slowly.

Yeah, so basically we've, we've mostly worked through, ahm, the input workshops with the local traditional healers and we've tried our hardest to be as inclusive as possible. [As possible, ok] And, eh, they have been particularly, there're two, hm, younger healers, ahm, [Hm] who are the son and daughter of quite venerated, well known healer [Healer, ok] from this area. Ahm, they have been particularly supportive and helpful, ahm. And also there's the, I think she is the secretary, of ahm, the local, the Local association, has also been, you know, really strongly supportive and ah, helping us a lot. [hm] Yeah, ahm, and ah, we, in fact they, actually, this morning they're at the municipality because they've been asking the municipality for some land. [Oh, ok] Ah, sooo they are trying to follow up on that and they said they'll come here right afterwards. [Oh, ok] Ah, I'm not sure if they, what time they'll make it. [Oh] And if they'll make it I'm not sure, the weather is a problem obviously. [Yeah, its quite bad today] yeah, but I spoke to Phyllis last night, she is the secretary, ah, she's the secretary, [Hm] ahm, ah, because I, I wanted to contact her about his, the launch, this public launch of the project we are planning for the 22nd of September [Ok] I mentioned earlier. [Yeah, sort of get people aware] yeah, we want to invite people that, you know, we've been working with. [Ok] And , ah, we also want to, and we're, for the first time, putting together a newsletter, 'cause we ant to release a newsletter every six months [Oh, that's nice] ah, about the project.

So we put, hm, a kind of some acknowledgement section into that newsletter, ahm, you know, acknowledging the assistance that we got so far, and you know, the nature of that relationship [Oh that will be good] and so on with the people, ah, that we've been working with. So I just want to run that by them and make sure that, you know, they are happy with that [Yes] and come up with a draft of the wording together, [Ok] and also get...[Will it be local language or both?]. We, that I'm going to ask them which is best. Ah, what we'll probably end up doing, ah, is having the newsletter with English on one side and Xhosa on the other side. [Oh, ok, on the same newsletter] Yeah, yeah, exactly. Ahm, and we also, we've taken some photos, most of them didn't come out well because it was inside and our digital camera is not happy with inside photos. [Oh, ok, ok] But I just want to get their permission to use those photos. [In the newsletter?] In reports, newsletters, and things like that. [Hm] Ah, so, I, yah, I just explained to her and ah, that's the usual kind of way of going about things with, with us. [Hm]

Since you're here I explained to Phyllis you know, what we'll like to discuss or whatever, or that we'll like to have a meeting, ah, and then, ah, they have regular meetings themselves and they talk about things amongst themselves and then invite us to a meeting when it's convenient for them, [Yes] and what have you. Usually at, we have them in the Community Hall in the township. [Hm] And ah, and then like we come to part of their meeting, [Ok] and we kind of work through whatever it is at the time that we're needing to cover. [Hm] Ah, and also, you know, we've said that if, if, if ever they feel like the need to have a meeting or would like to have, call a meeting with us, that we'll be very happy to comply, [Ok] and just let us know. [Hm] Ahm, and ahm, they also, you know, sometimes just pop into the office [Ok] haha to come and see us, which is good [Yes, informally] you know.

Ahm, yeah, and what we've been doing is we've been ahm keeping minutes of the workshops, ah, and meetings that we've been, ah, have been attending. [Ok] Ah, I haven't, actually because we haven't had a formal meeting for quite a long time, [Yes, yeah] for a long time I haven't spoken to them about you at all. [Ok] Ah, so, I, I would suggest that what we do is when I do see them, they'll contact me some time. If they don't come this morning they will contact me some time. They, I think they are probably having a meeting next week Wednesday. [Hm] Ah, so, ah, it will be one of those things that I will talk about with them. Ah, I will prefer you not to be there haha [No, I think its better when you have sort of organised everything]. Yeah, because, yeah, ah, I would rather, you know, them think about it and ah [Make their own decision] make their own decision on it. [Yeah]

Ahm, yeah, so what we can do, I think, I think that we earlier on, when you were talking about, hm, your plans for the data gathering you were sort focusing on documentation really, [Yes] that kind of thing. So with their permission we can make available those minutes of things to you. [That will help a lot]

Yeah, and ah, what else? We've also, we've last year and little bit earlier this year we did quite a lot of interviews with a whole bunch of different, diverse people. [Traditional healers?] Stakeholders, to also try and ah, inform, ah, the, the project and the model and what have you, and so. And we kept minutes of those too, I don't know if that would be useful. [Yes] yeah, some of them, there's one from H University, Ms M, who has been, who extremely, ahm valuable. Her insights were great because she is ah, she is ah in the Department of Psychology, so she is an academic. [Oh] she is doing her PhD at the moment, but she is also a traditional healer. [Hm, thats very interesting] So, she had some extremely interesting insights about, you know, the, the kind of hm, the way the two kind of paradigms interact, [Hm] the formal and the traditional. [Ok] yeah, a lot of interesting input [Hm] yeah, for us, ah. [Yeah, it will be nice to link up with her as well] Yeah for sure. [Sort of brings up the two together]

Hm, and then I think you met Anouk. [Yes I did] She volunteered for us, with us for a year [Hm] and she's finished that year now. And she's kind of doing, eh, other independent work. [Ok] And we have commissioned her to continue

with, eh, some of the stuff for the project. One of the next things we want to do, and she will probably be doing that in October-November, hm, to start off that thing [Hm] is to research and understand and develop a model with local healers about micro-level indigenous knowledge protection mechanisms. [Ok, that's interesting] Ah, so we kind of worked out together a rough sort of proposal for that. Ah, and you know, the traditional healers already know her because she has been involved with our work and stuff. [Hm] So, ah, kind of makes sense and that's kind of the next [Phase?] phase. [Ok] Yeah.

[Sort of going back to like the project, and sort of trying to get an outline, when we first discussed it, you said the project was being funded externally.] Hm [And I asked you whether there are any constraints with the kind of external funding that you have within the project. Is that any problem? Do you have any problems or anything you feel like sort of hampers...] Hm [or has any effect on the project, negative or positive?] Yeah, ahm, well, we had the idea for the project a long time ago. [Hm] Hm, end of 2003. [Ok] And we kind of, we put a concept document together. We started fundraising 'cause we couldn't do anything substantial until we had funding for it. [Yes, yeah] And our first main funder, hm, at the moment is the DI which is he, through a non-profit organisation [Ok] in the UK now. [Hm] GA is the non-profit organisation. They're a partner with us on the project, [Ok] and they channel the DI funding to us. [Hm] And its gonna be done that way because the DI is kind of a subsidiary of the UK Department for Environment, good and Rural Affairs. [Oh, ok] Ah, so its UK government funding, [Hm] and they have a law in the UK, ahm, that, ahm, the funding that they pay out has to be like on the basis of expenditures, so its retrospective. [Ok] So there are a lot of admn issues there. [Hm] Its not a constraint for the way we run the project or what have you, but its an admin difficulty. [Sort of the financial aspects] There, there're cashflow issues which are there, which we've sorted out. Ah, but its also administratively burdensome. I need copies of all our invoices to go along with the claim and all that kind of stuff. [Ok] So it takes up quite a bit of time. [Ok] So, uhm, that's one thing.

Ahm, GA's been a great, great asset to us as a partner from, from the UK. They are also extremely well connected like internationally. [Hm!] They set up a relationship with KG [I see] who are also very supportive of the project [Ok] and which kind of eh, is a strength because they are so famous and so [Well known] well known and what have you. So it makes probably fundraising for the future ahm, [Easier?] a little bit easier [Ok] what have you through that contact. [Hm] They're also, GA is also very actively trying to find other funding for [The project?] the project's confirmation. [Hm] ahm, so yeah, that's ... [So its more positive to the project experience] Hm, they don't impose, ahm, or direct how the project should be run and what have you. [Ok] So we don't kind of thing, I don't think that we'd have accepted the funding haha if it had been one of the things. [Yah, yah] They're also, are also, are quite understanding that, ahm, I am not sure to what extent this is necessary, but hey are quite understanding that it takes a long time to work with... [To establish a project?] to establish a project., [Yeah] particularly to establish the relationships that re necessary. [Ok] Yeah [Hm]

So that's also, yeah its good. Eh, but, yeah, in funding in general we do need to raise, we're covered until part of the way through next year. But we need to raise additional funding to carry us through. [Ok] And also we need to raise quite a substantial amount of additional funding through other channels for the development of the site where we plan to base the project. [Ok] That's kind of where we are at the moment.

[Sort of relating it to your own experiences with other projects, eh, work that you have been doing, this particular Traditional Medicinal Plants project that you are now having a focus on indigenous plants and indigenous knowledge around plants, does it fit into your own, eh, institutional mandate in general, the way you have been working, or is it slightly different now with its focus on this particular project?] Ok, its just before I answer that question, I just wanna say what we've been doing with, in all our meetings with, uhm, traditional healers, we've been very clear, and we have said we don't want to know what your knowledge is about these plants. [Hm] We don't, we're not after your personal [Secrets?] secrets exactly. We don't want that. [yeah] What we wanna do is support you in what you're doing and also to help you, ah, but you know, more importantly people who are mass harvesting from the wild to produce sustainable supplies of plants so that indigenous knowledge is not lost. [Yes] We don't know, want to kind of exploit in any way. [Yeah] So we are not asking for, you know, information about that kind of thing. [Hm]

Ok. So you were asking about how this project fits with kind of our vision and mission in relation to the organisation. [Yes] It, it, it is a slightly new area for us in that it is related to the indigenous plant side of things. [Hm] Because ah, until now most of our kind of agricultural stuff has been ah, food-oriented, and the common like shop-bought sort of vegetables that you find, [Ok] not indigenous foods and not indigenous medicinal plants. Ah, so that's different, but it does fit in extremely and perfectly, and its like a natural extension of the work we do because we focus on household health. [Ok, so its like household security] Yeah, though, and we focus on kind of transferring skills and empower people to be able to change circumstances themselves. [Hm] And so that's also very much the same, same thing. [Ok]. Yeah, the, the, its aligned with our normal ongoing [Projects?] ethos and what have you, yeah. [Oh that's good. And what kind of expertise or skills do you think you can still transfer to this new project from, eh, your other projects that you have been working on?] Ok [Which will sort of be like your strengths in this particular project?] Yeah, well, we, as an organisation, particularly the facilitators, ehm, who train in our other programmes [Hm] have got an enormous wealth of experience in large ehm, with community interaction, and ahm, you know, [Ok] working in rural areas, in different kinds of contexts. [Hm] And ehm, yeah, different, the, the, the context changes actually quite considerably at a micro-level from one area to another, and so on. So, ehm, organisationally we've got ehm, quite a lot of ahm, strength [Hm, hm} in that aspect, which is obviously going to be very for us in anew project, ehm. [Ok] And, ehm, will, has informed how we intend to kind of go about actually implementing this project. [Yes] So, there's that, and also I mean we've been going since '93. [Hm!] So, you know, its, we're fairly well established, and, you know... [Long term as an organisation]. Yeah. Yeah, ahm, we've got pretty good ehm, sort of systems

and things that enable us to work well. Eh, one of the practical resources that we don't have for this project is dedicated vehicle. [Hm] But hopefully we'll try and finalise that. We, hopefully we'll be able to secure that 'cause that will be, is a bit of a constraint for us at the moment. [Hm] Ehm, Umthathi has two vehicles but they are pretty much both used to capacity for the rest of the organisation's work.

Uhm, I don't know if I am answering you questions. [Yes] Haha [I am looking at sort of areas where you think you are sort of constrained and you need eh, maybe to boost up or build up, eh, in relation to this specific project. The things that you think maybe are tying you down in a way.] Uhm [I don't know whether capacity wise or...] Well, ahm, what, ongoing funding for the site development is a constraint, but hopefully we'll overcome it. The vehicle aa well but we'll overcome it. [Ok] Ahm, otherwise not really. What we have ahm, planned to do is we are going to be hiring, ahm, a complement of new staff members, one we're advertising for at the moment. We're gonna be hiring a facilitator for the cultivation training soon. [Oh, ok] And they are going to, actually going to be involved in the development of specifics of how the course will, will function [Right] and the content and you know, what have you's. So they will be senior person. [Hm] We'll be hiring another one next year, [Ok] another facilitator next year. [Ok] ah, and they will learn from the first one, you know. [Yes] We'll be training them that way. And we're going to be also next year hiring what we're calling at the moment a Community Liaison Officer, I am not sure about that title, [Ok] bit unwieldy, but [Hm] basically somebody with a lot of, ah, a lot of experience. [Community experience?] Exactly, who can kind of be a dedicated project person to continue the process of workshops because, uhm, until now, you know, we've always, it, it's been kind of mostly me and Anouk the volunteer [Yes] and an interpreter having these workshops, [Yes] which kind of, its, there's basically a bit of barrier with having an interpreter the whole time [Yes] between [Yes]. So what we, we feel that we, ahm, we're actually getting to appoint, that we need a dedicated person to, to ahm do the bulk of those community, ahm, interactions and hold workshops and what have you, and preferably a mother tongue speaker who will not have that kind of, ahm, language barrier [Yes, yes] and what have you. [Yes, yes, yeah].

So that's, that's ahm what we'll be doing next year. But, ah, you know and, to set up this first stage, the pilot stage [Hm] we had to do things the way, you know, we did. [Yes] Because of, you know, there's just limitations at the beginning of the project, [Yeah] with funding and so on, and also, you know, we're reluctant to hire too many people too early on, you know [Yes, hm] when you have not established everything else around the project. [Yeah] Yeah, exactly. [Yeah, I see that. Looking at sort of like, eh, you're working around a conservation kind of, eh, approach to the project, eh, with regards to the plants that traditional healers are using now, what is their feeling about their use of plants? Are they sort of focusing on plants that they use to a large extent, like frequently, and harvest quite a lot or are they focusing on those plants that are now not easily available, in other words endangered and threatened. What's their, what is their kind opinion with regards to the plants that they feel they want to be cultivated and propagated?] Hm, well, again, we

didn't, we said when we asked them for list of plants, ahm, you know, that the, the main thing that we said was we don't want to impose on, ahm, the plants that are considered to be sacred [Yes] and shouldn't be cultivated, or shouldn't be close to where people live or whatever. [Ok] So that was the main reason why we asked them to provide us because, I mean, from other documentation we know which plants are scarce. [Yes, yes] Ahm, so that was kind of the main thing. [Yes] But we also said, you know, we recognise, you know, that one of the reasons why the project was started is there's becoming a problem of scarcity of certain plants. [Hm, hm] And if those plants become, you know, endangered or threatened or whatever and not only will they be lost as treatment for you patient, [Yeah] of your use, but also the indigenous knowledge around those plants [It's also lost, yeah] will also be lost. [Yeah, yah] Ah, so the scarcity thing was also an important thing, [Hm, hm] but also the usefulness of, of the plants, you know, how valuable they are [To the healers] you know, to the healers. [Ok] So, they were a whole bunch of different kind of [Criteria?] criteria, you know, that was used. [Hm] We didn't, we didn't ask, hm, for this particular plant, why did you choose it [Hm] because we feel that was verging on privileged information [Yes] that one ahs. So, hm, yeah, that's...[So it was free choice based on their own] Yeah [perspectives about how they used plants]Yeah.

Oh, and I forgot to mention that we're going to have a follow-up workshop because out from the list that they provided us we've got to see, ahm, what plants we can propagate, what plants have seed available at the time [Yes] or what plants can be grown from rootstock, you know, whatever, that from practical perspective, that we can include in the cultivation training for, ahm, from the people who are gonna [Participate, yeah] be participating. [Ok] So there're a couple of things, we've narrowed the list down [Hm, hm] to, ahm, you know, a reasonable sort of selection to start of the training next year. [Ok] Ahm, so what we're wanting to do is to schedule a follow-up workshop to give this feedback about this shorter kind of list [List, yes] that we've come up with and the reasons why those plants we have chosen [Selected] and what have you [Ok] hm, out of the greater list, you know, list. [Hm]

Ahm, the other thing we had to do, to do, ahm, is for the most part the traditional healers in the, in the first workshops gave us the local names of the plants. [So you had to...] So there was quite a bit of work involved with [Identifying them] identifying those, ahm, and making sure that, because, ahm, yeah, there is quite a lot of difference between names that are used from area to area [Yes] that kind of thing. [Yah] So what we eventually did was we, after we got quite a few of those things we, like research didn't find out what we thought was kind of corresponding [Scientific names?] scientific plant names and what have you, ahm, actually gave them books, because we purchased a very small library of plant books and things. [Ok] We just left them to it and they actually augmented their lists by going through the books and looking at the pictures of the photos of the plants. [Ok] Ahm, so that they could like, you know, we could make sure that this is the right plant we're talking about [Talking about, that's nice. Yeah. Also, eh, you, you mentioned you already had some documents that were guiding, guiding you around which plants were threatened in this particular area. Which particular

documents were you using like to guide you?] Ok, ahm, well, one thing is we had, ahm, advising us a guy called JP who was involved with R1 and R2, [Ok] and he was, hm, they did what basically is acting as a kind of mini-pilot project for this project. They did, ahm, work in {G}/{H} areas, [Oh, ok] ahm, with traders, [Hm] not with gatherers and ahm, trying to get traders to cultivated, hm, the plants that they were selling. [Hm] And he is a botanist. [Oh, thats good] So he kind of drew up an original kind of list, hm, for that purpose. And then also, hm, we got documents from, publication from R1 and R2, [Hm] hm, of the work they've been doing also, 'cause they have been doing quite a lot of work in this area [Medicinal plants?] with medicinal plants and what have you, and they have picked up ones that are, hm, scarce or, you know [Ok] ahm, unsustainably harvested with the probability that they are gonna be scarce of endangered in the future, [Ok] that kind of thing. Ahm, and then we also ahm, I am not sure to what extent we are at with this, but we've also been ahm, looking at the Red Data [List, yes] list, which is a published thing [Hm, hm] of which different categories of [Threatened Plants?] threatened plants, yeah.

[Yeah, and looking at sort of like working with communities, the language barrier, which is the reason why you are saying you want to hire somebody who is sort like the community liaison person...] Well, that's not the only reason but that's yeah [That's one of the reasons, what other constraints do you find...?] Well, eh, ah, it's of, I suppose you can regard this as a difficulty. When we are, a couple of times when we were supposed to have meetings with traditional healers, hm, people haven't arrived. [Ok] Other times, hm, its not always that the same group of people pitch or show up. [That you meet] That we meet. Sometimes its mostly new people [Hm] at a follow-up meeting. So what we do is, hm, before, you know, we actually start with whatever, you know, we ant to cover in that meeting we have quite a comprehensive recap of what's [What was happening before] of what happened before and we just do that, you know, everytime as a matter of course now. Ahm, but it also helps even with people who have been in previous meetings and it helps... [To sort of like update?] Exactly, to just refresh, you know, and deepen the understanding and what have you with us absolutely as well. Ah, when we facilitate these things it's very useful for us too. So, it is not really a constraint, you know, [Hm, hm] but it's just a way working. And, ayah, and also people, ah, people have pressures on their time. Doing it we, we also try not to take up too much of people's time, you know, at nay given day [With meetings] with meetings. And, what we often also find is that if we, ahm, if we schedule a meeting, ahm, you know, consulting about, with the healers about time, we often end up starting quite a lot later, [Later yeah] like three quarters of an hour later, [Hm, hm] and people kind of arrive slowly. So we don't start [Exactly on time] you know, exactly on time and it's important for us not to even when the first people have arrived because the, hm, the other people who arrive a bit later on will have missed out the first part. [Yeah] So its then a bit tricky to kind of understand, hm, you know, how to cope with that. [Hm] One, haha, one time, hm, was a bit bad with one of those loudhailer workshop things. [Hm] We actually, we were, I was horribly busy with some visiting funders at the time. Si I decided to, we announce the starting time as what, 9 o'clock , whatever. So I decide to go there at 10, [Hm] hm, ahm, so that we

didn't [Have to wait] have to like wait when I had these huge demands on time. But that was, that ended up being a mistake because on that particular day people did come on time. [Hm] So it was obviously very rude from our perspective [To come late] and they, actually, ah, three people ended up, eh, leaving [Oh shame] because they got tired of waiting. [hm, hm] So that was a big lesson for us. [Hm]

And we have, there's another project that we've come across in {G}, ahm, who are working with, hm, traditional healers, and it's actually University of G. Some healers approached them and asked them to test the scientific kind of western validity of some plants that they were using, [Hm] but they wouldn't tell them what they are for. Anyway, so, but they, it's been going on quite a while and they, eh, said, 'cause they have sort of similar issues with the healers that they are working with there, and they suggested that what we can do from now on is actually start the meeting with a meal, or tea and biscuits, or whatever. [Ok] So it gives people something to do [Whilst they are waiting] and gives a chance for a chat [Yes, yes] you know, what have you, before the thing starts and it gives people chance, other people chance to arrive still. [Hm, hm] So that's probably what we're gonna do, ahm, in future. [That's great] Ahm, yeah, because I, I absolutely felt so awful that, huh, those people, you know, made the effort to come up and then they were let down [Yes] by us, you know. So that was based on previous experiences. That was wrong expectations for us to have. [yes, that's true] So we learnt from that now.

[Ok, and you had mentioned that you had problems building up trust. How is that working out now? Sort of like the relationship between you...] Yeah [and them being accessible with their knowledge around plants] Ah, I think, I mean we had that preconception that there would be trust problems because we went to this, you know, National Traditional Healers, ah, Conference thing, [Hm, hm] and the trust thing was brought up a lot then. And I think we have [Gone beyond that] circumvented it [Hm] by saying "look, we're not after your traditional knowledge, we're not wanting to expose you, we're wanting to help." And we haven't asked for traditional knowledge, we haven't received any, [Hm] Ahm, so, you know, the, the trust issue related to that I think is kind of irrelevant because of the way we are doing it together. [You approach it] Yeah, ahm, and people are very accepting of it, you know. [Hm, hm] We say we don't want to know your secrets, we're not asking for what you are suing that plant for, we don't need to know whatever, and then people, I think, are, ah, more willing to trust in the rest of what we're trying to do because of that. [Hm] Yeah, and, and, you know, again, although, ahm, the kind of ham, presence at the meetings changes and is not always consistent and sometimes people don't arrive at all, or whatever, [Hm] when we do have meetings people are truly interested and, and very like happy to..[To contribute] to kind of talk, yeah. [That's good] yeah, and yeah, yeah, I mean this again its, its very early days. We're working with healers in a semi-urban setting [Yes] and what have you, so it might be completely different when we go to a rural area. [Hm] But that's why we've allowed for so much time [Yes] before we do any implementation [Hm] for discussion and, ah, relationship building and sort of workshops and what have you. [Yeah]

Ah, we have along period of interaction with any community that we're working with. The first, during the first year we'll have these community, hm, meetings and work with the traditional healers for their inputs and what have you. [Hm] during the second year we'll conduct the cultivation training for people, ahm, who are interested, including the, you know, healers if they want to know how to grow the plants. And there's quite a lot of interest from the healers [Ok] in, ahm, doing the cultivation training as well. [Hm] Ahm, and also during the, that second year we will conduct, ahm, support workshops of what, whatever's been defined by the healers in the first year. [Hm] Ahm, and then the third year there is a kind of follow on course for a few people to, hm, be trained to do micro-nursery so that the, the supply of seedling plants [Hm] can be vested locally so that the, the area becomes totally independent [Yes] of Umthathi eventually. [Ok] Ahm, but the permits are more difficult to get to, to gather seed and the propagation material that is necessary [Within the wild]. So, and also the, the kind of degree of technical knowledge and what have you is little bit more advanced. [Hm] So we, the, the intention is to kind of establish just a few of the people, hm, who, you know, want to and who are particularly successful in the cultivation training to do, [Hm] to be micro sort of suppliers for the growers in that area. [Hm] Ahm, and also that the whole time, you know, we'll be kind of open to the community or any member of the community call a meeting and what have you, you know. [Sure, its nice]. Its quite, quite a long involvement.

[Hm, you mentioned sort of getting the accessibility to some areas that they used to work in. And how is that working? Like you mentioned areas like S and all these other places. Yeah.] Well we, yeah, we haven't started on that at all. [Oh, ok] This, yeah...[This is what you plan to do] this what we plan to di, yeah, and also its, it's a, it's a responsive thing, so, ahm, no, as we're asked to help with that then, you know, then we can. [So these are things that they bring up] Hm, one of the other things that people have been asking fro is, is help with, ah, sourcing animal skins. [Hm!] Obviously that not directly related to the project, [Yeah] but ahm, we've said that wee will try [Try and source] and find out. And we've been very, very open. We've said that "look, this is gonna be, haha, very difficult [Yes and probably impossible, [Hm] but we will find what is possible and one of the ideas that we had is to get hold of, you know, taxidermy companies [Yes] now in the Eastern Cape, [Hm] because there is so much game farming and that. {hm] So, one of the ideas that we had is that we can possibly approach some taxidermy companies to see if they have left over [Any extras] and extra bits of skin or whatever, ahm, and of the animal bits 'cause they gave us a list [Ok] of the animals that, you know, they might be interested in, in getting, ahm, pieces of skin form. So, I mean, that's one possibility that we said to them that, you know, we can do and that they want us to go ahead with that, we haven't had a chance to do that yet. [And maybe some of these game parks?] Exactly [When an animal dies] naturally [of natural causes] exactly, that exactly what, another thing that we mentioned as, as a possibility [Hm] but at the same time, you know, there's, there's such a commercial value on, ehm, the skins and other things that it, it will be difficult for us to be able to secure those at minimal or no cost. [Yes] Ahm, so, you know, we've been very open about that being, you know [Problematic?] problematic, you know. But, but and obviously it wouldn't be a

problem for the healers of course, haha. [Yes] But, we have said there're, you know, obviously there're some areas that we won't be able to help you with, and this is probably one of them, but we'll do what we can.

[Hm, you did mention that there was this aspect of them being interested in medicines like from Zimbabwe or other areas, which sort of indicates that there's quite a lot of interchange taking place. Are you also building that up into the project, the sort of interchange of information around medicinal plants?] Well, yeah, one of the roles that we, ahm, would like to play in future is kind of an information conduit [Hm] ah, from is it sort of other research, or other areas, or kind of what have you, to the people that we are working with. [Yeah, so to inform them about what is happening] Yeah, exactly [elsewhere]. So, to that end we've, you know, we've Anouk, one of the things that Anouk was working on ahm, is to complete a database of all like related, ahm, research programs [Hm] and publication and other projects that can be resources to healers possibly and so on, so forth. [Hm] So, through that process we've actually been interacting with quite a few other, eh [Projects?] projects in other places, [Hm] even other countries, [Hm] ahm, to see what they're doing.

And, ahm, one of the things we're also trying to be, ahm, kind of keep up with what's being done in terms of research. And so we went to, for example, the Indigenous Plant Use Forum Conference [Hm] ahm, a couple of months ago, and there, ahm, we came in touch with, ah, a woman called VW [Ok] who's doing her PhD through, I think, K University [Ok] on medicinal bark use. [Hm, ok] And she, one of the components she was presenting on that IPUF conference is the regional study of, hm, trade in bark [Trade in bark, ok] between like neighbouring countries [Hm] and South Africa, and what have you. Eh, so that was interesting. We learnt quite a bit about how, ahm, the kind of trade of plants regionally works and also within South Africa. [Hm] And one of the things she was saying is that, hm, quite a lot of staff is imported from other countries, you know, rather than necessarily much the other way round. But she was saying that plants come down from the North, all the way down to Durban, [Hm] which is like the biggest like local market. [In trade?] Yeah, and then some of it is then taken up to Johannesburg [Hm] to the Afolo market and stuff. [Hm] So, haha, its quite... [Quite cycle] Yeah, but also, she was saying, and what we've noticed as well, is that there, there is a big unknown area in terms of indigenous medicinal plant trade [Yeah] in that there's no information about commercial gatherers. [Hm, hm] Ah, and these are actually the people we are hoping [To target?] to target for cultivation training. So that, eh, you know, its quite interesting because obviously, you know, it's a little gate for research to get data when this thing is illegal, haha [Yeah] or, you know, whatever. So... [it's a sensitive area as well] Yeah. So its quite interesting to, to know that she couldn't get any information on that. [Hm] But, but at the same time given the volume of plant materials that are in these bigger markets an sort of sort like individually [Yeah] there's an enormous..., obviously an enormous number of commercial harvesters, haha. [Yes, who are supplying these] Exactly. So, yeah, also, you know, there's ahm, JG for example. [Right] He did a bit of study on, ahm, people who are getting income from harvesting medicinal plants and it actually seems to be an income

generation strategy [Hm] of quite a few, like, well, you know, many, many households.[Hm] It's just one of those things that, that, that they get income on for that household, so it might well end up being that there are a few big commercial gatherers who devote [Most of their time] professional time doing this. But it's actually like lots and lots and lots of households [Hm] and, ah, on a fairly small scale for each household, but adding up to huge volume eventually. [Yea, yeah, that's quite interesting. Hm, and that's a study that he did around The town ?] Yeah, it was just, I am quite sure of where it was, [Hm] yeah, but somewhere relatively nearby. [Hm] Wherever it was, it was relevant haha. [Hm] but its one, yeah, of our, I guess, one of our resource strengths of being based in, in The town 'cause we got access to, you know, the sort of academic [Hm] hm side of this whole thing [yeah, that's right] through R University. And, you know, we, we, also would like to be able to, ahm, let the healers know what academics in South Africa are working is relevant to them. [Hm, hm, that would be interesting] One of the things that also we intend to do is come up with a subsection on that paper I told you about [Yes] about the challenges to traditional healers. Hm, a subsection of that, hm, we are thinking, AV is thinking about publishing that in the Labour Bulletin, hm, is regards to the fact that this council still has to be appointed [Hm] related to the Traditional Health Practitioners' Act, which seemingly, ahm, kind of superficially makes all traditional healthcare practitioners, practitioners illegal [Yeah] because they are not registered according to this act. [Yes, yes] But how can they register if [If it's not in place] Exactly. [Yeah] So, you know, there's a problem there. There's also it was not promulgated in 2004, we're already in 2006, you know! {hm, nothing is in place] What's being done? [Yeah] And also there's nothing in the news, we haven't seen it in the government gazettes. Really, I mean that maybe too many things [Hm] but you know, we're wanting to bring that back into the consciousness...[Yeah, to push government] Exactly. So we're gonna try and quietly play that kind of role, you know, [Hm] as well, yeah.

[What will you say are sort of unexpected or interesting outcomes from your interaction with the project, those things that you think are quite unique, eh, at present? We're just in, is the early phase, but maybe already you have found things that are of interest coming from your, you, you project already.] Its kid of, haha, it's kind of hard to say really. [Hm] Ahm, because at this stage, obviously everything is of interest, haha. [Ok, what would maybe be unexpected outcomes, things that really strike you as yeah, this is something new?] I guess, I guess ahm, what we, what we do, what we have found occasionally is that sometimes, ahm, among older, usually older sort of more traditional healers, there's been a bit of resistance to this idea of cultivating medicinal plants. [Hm] but for the most part, hm, people have been really supportive of the idea [Hm] and the concept. I guess that that was bit of a surprise to me. [Hm] uhm, but it's eh, eh, I guess its logical because people are aware of, I mean scarcity of these plants is problem to them already. [Yeah, yeah] So, I mean its, yeah. But I was also, you know, particularly from, eh, from a few outstanding healers that we've been working with, I was also quite surprised at the, at the, the, the level of support for the project, you know, the time and energy that people have been putting in has been really great. And in general, in general the, the relationships, the interaction, have

been very warm [Hm] and very mutual, mutually kind of respectful. And I think that was really not altogether like unexpected but very like, ahm, so affirming in that [Yes] they're good. [Especially when you consider that it's a practice that's quite secretive] Yeah, yeah. And also you know, we've heard at the beginning, starting off this project, eh, I don't know, I don't want to state names actually, but we've heard from quite few people that healers are very difficult people [Hm] and like horrible to work with and ooh, and we haven't actually found that. [Right, ok] So we have, we have had sort of a borderline difficulty with somebody from the Department of Health [Hm] who, ahm, is kind of mandated to deal with traditional health care. Ah, and he was wanting us to, uhm, always go through him in our interaction with healers [Hm] always. He must be present and what have you, ahm, which we didn't really [Want to happen] I mean. [It becomes quite restrictive] That was the thing. [Yeah] And also, you know, we, and we just politely wrote a letter that, and explained that we want to be as inclusive as possible. And when we meet the, the Local Association, who is kind of affiliated with the Department of Health [Hm] uhm that you know, he is welcome to come as well, but we are going to be inviting input from other people who aren't affiliated or don't want to be affiliated with the Department of Health, [Hm] and ahm, you know, then [More informally] yeah, and then we feel it wouldn't be necessarily appropriate for him to be there, so, because it might restrict people from, you know, from coming in the first place [Yeah] or from saying what they want to say or whatever. [Hm, hm] But that, that seems to fine and sorted now.

[Ok, sounds to be quite a good start into] Yeah [Into the project]. I think we are getting there, hm. {but already now, you have your site which is approved} Hm [which is good] Yeah [and you are now going into the next stage, which is...] That's, that's also been a valuable experience for us, [Hm] the process of securing that site, [Hm] because we'll be able, ahm, to hopefully if, if, if like for example that traditional healers locally are applying for land from, ahm, the municipality, if they ask us, 'cause I said, you know, we've been through it as well [Yes, the process, yeah] if you, if you want to ask us any questions on our experience and everything we'll be happy to kind of let you know whatever we went through, and what channels, and who we approached and whatever, and what the problems were for us. [Yes, that's a good idea] Ahm, yeah, and also hopefully there's, now that we have been through this ourselves, we'll be able to do that with, hm, other communities that we'll be going to later on when we go beyond the pilot stage [Hm] because obviously, you know, it's a complicated thing, the land tenure issue. [Yeah, it took quite some time to sort of sort it out, yeah] I went to a talk at the {Anthropological institute} on Tuesday, hm. [Yes] I was supposed not to say here actually [Oh] haha, but it was this chap JB who, ahm, who did his PhD research, he's at C University and is also attached to H University [Oh] in the ... Eastern Cape, former {C}. [Hm] Hm, also kind of, ahm, basically being interested in the tragedy of the commons thing, and he did two case studies in different villages in the former {T} about their, hm, land tenure system and their, ahm, management of resources and that kind of thing. [Hm, hm] so, we're trying to kind of, you know, go to this kind of thing to understand as much as possible. It's very complicated [Hm] and we're not going to, ahm, be able to understand everything [Hm] but, yeah. [It's good exposure as well...] Yeah, yeah. [just to know how it goes]. Within

the whole outskirts areas kind of areas, yeah for sure. And ah, you know, obviously we have our own kind of organisational knowledge of that kind of thing because we have been working in exactly those areas for years and years and years. [Ok] ahm, but its interesting to see, you know, what other people [Are doing] are researching and thinking, ah, and also we haven't, a lot of of the, I suppose the knowledge that has been amassed is, hm, is not because it hasn't been for a specific purpose of investigating [Hm] like management of arable land and whatever, its not actually codified, so its something that we gonna need to draw out from each other, you know, as we go, [Hm] whereas this kind of presentation was specifically about doing that. [Ok] So it's kind of in a way, ahm, easier to access, you know. [Yes] yeah, 'cause it was done fro that specific purpose. [Hm]

[Have you sort of tried now to categorise the kind of plants they are targeting fro propagation, which they want to propagate? 'Cause one study that I was looking at was sort of there was a big focus on bulbous plants, and not so much like trees and other things, as things that people want to propagate medicinally.] Ok, well, ahm, it seems that like, that Xhosa traditional healing is actually bark-focused. [Hm] Ahm, so, and but at, at the same, yeah, we're wanting to include a whole cross-section of different kinds of things. [Hm] But one of, one of the things that we're thinking of is we want to make this endeavour worthwhile for people doing it, I mean that's actually our main focus [Hm] there. The conservation thing is secondary to establishing sustainable rural livelihoods. [Yes, yes]. So, it must be, you know, something that is actually gonna have income for the grower. [Hm] So, what we are hoping to do is ,ahm, plant out is through the cultivation year, a whole, eh, range of different kinds of plants [Yes] and different plants that are gonna start producing over different stages of time [Yes, yes] in such a way that the grower can start getting benefit fairly early on [Ok] but hat they also plant some tress and things and maybe they can only be harvested 10 or 20 or 30 years time or whatever, [Hm] but that they plant it, and they would be there eventually. [Ok, yes] And that's another quite interesting thing that we've, ahm, we've come across with the healers, that there don't seem to be, ahm, quite strong acknowledgement of needing to live resources for the next generation, or for.ahm, yeah. Hopefully well find the same amongst the, the, the people who do participate as growers. [Ok] Ahm, so, yeah, with different, different, you know, succulent, bulbous plants, ahm, trees, or, or different things, but from, you know, as informed by the healers, so there's quite a range.

[Ok, your focus is ort of like growing things from seed maybe. You are not looking at other ways of getting the material, like maybe, eh, form budding, grafting or cuttings?] Yeah [or maybe even, eh, plants that have grown form like other nurseries which are seedlings maybe that have grown to a certain stage?] Not much of the latter. [Hm] Ahm, but, yeah, we are definitely, you know, if you can grow the plant form seed with a relatively high success rate and what have you, that's great [Hm] because it's the simplest and least cost. [Yes] uhm, but some of the plants are tricky and in later years, you know, some of the plants that are, ahm, particularly scarce, particularly varied or whatever [Hm] are very difficult to grow from seed or, or whatever. So, you

know, particularly as we go on on the project we'll start with the more difficult [Plants] plants. [Yes, yeah] Uhm, but definitely, yeah, at the moment we're doing, ahm some research. Local Municipality's also being very supportive of us. They're allowing us to use their nursery facilities in the meantime until we get our own site. [Ok] So we are doing some like propagation experiments from cuttings and what not already. Ahm, ah, PC is the Traditional Medicinal Plants Centre Manager. He's gonna be the person kind of in charge of running the site when it is up and going. [Oh, ok] its, he has a vast like botanical knowledge. He is passionate of indigenous plants and SE is our junior horticulturist and, so TB is nursery assistance and they both have quite a bit of experience with indigenous plants, horticulture background and what have you. So they're the guys doing that kind of stuff at the moment. [Oh, ok, that's good] Ahm, what we're also gonna, what they are also gonna be concentrating on ehm, you know, probably from this month onwards is, ehm, is starting to produce ehm the plants that are necessary for the cultivation pilot training next year. [Hm] So, such plants are all the plants that are ready to be transplanted into the home gardens or community gardens, whatever, that are established. [Hm] Ahm, so, and then it'll be, the following year it will be just a few people who will be involved in the sort of high tech propagation stuff [Yeah] that's necessary. [Ok] Yeah, so what we'll, what we'll probably end up doing with those is just help them set up, ahm, some basic infrastructure necessary to run as a small-scale nursery [Nursery, ok] to grow from seed or to grow from cuttings or whatever, ahm, as low-tech and replicable, you know, as possible. But, you know, we expect some of the plants to be more difficult and possibly need like [More expertise?] more, more expertise and what have you. So, anyway, and also possibly even slightly more expensive input costs and stuff [Yes] like materials, chemicals possibly. Well, you know, our target approach is organic. [Hm] So, I mean we wouldn't really be terribly happy with the idea of haha chemicals. [Of using chemicals, ok] But, yeah, but maybe things like rooting hormone which is a little bit acceptable and not [Any other chemicals] yeah.

[Yeah. How do you find people that you are working with, the traditional healers? Do any of them sort of have a culture of propagating plants around their homes at all amongst those that you have worked with?] yeah, ahm, to some extent yes, but more, ahm, its more a case of transplanting a plant so that its closer by [Oh, ok] for emergency use [Ok] or for just easier access or whatever rather than [Rather than growing it from seed] from scratch, yeah. [So it's just a collection from the wild] yeah, but there's a, there is a whole bunch of, ahm, sort of practice related to that. [Hm] I'm not really sure that I want to talk about it haha.[Yeah] But anyway [But it's good to sort of find maybe that culture already built into some of the traditional healers that gain to some extent they are already doing something about, eh, having the plants in their homes] Hm, yes, yeah, definitely. We've got, actually there's, ahm, one healer that, ah, we are willing to have a look and one of our facilitators went to go and see him, [Hm] and ahm, he's actually already got quite a comprehensive array of plants in his, in his garden in the township. [Hm, that's interesting] Yeah. [Yeah, that's quite interesting. It makes quite a good point to see that they are at least doing something about it, even though it's not really...] Hm, I don't think it's the norm, I don't think [Yeah] most people are

doing it that way. [Hm] so, definitely some people do and think, yeah, you know, for some of the, some of the like widely kind of, for common plants that are, you know, commonly known to help with whatever [hm] that aren't necessarily only in the domain of traditional healers, for example I think, you know, can be semi-first aid or treatment o some sort of minor common ailments [Yes, yes] like thrush or whatever [Hm] that most people know about [Would know about, yes]. Those are, you know, probably even, even more acceptable to be grown, you know. Like and those, you know, there's a, like it's called the sour fig fro example. [Ok] Everybody knows that is useful [Yes] for like a gurgle for, hm, like thrush in the mouth and that kind of thing. [Hm] Ahm, so we're also gonna be encouraging it, and it's very easy to grow. [Yes] So that, you know, that kind of thing is, is, is like, can be quite widespread and used in the household as, as, you know, those kind of things probably wouldn't be, ahm, income generating [Hm] fro the grower but they're definitely very, very useful. [Yeah, yeah, that very true. Eh, 'cause I was finding more-or-less the same kind of thing in an area that is in {BZ} Hm [It was about, eh, what is this thing they use for incense? I am forgetting the name now, the Xhosa name. They use it ti burn quite a lot tin the home.] It's not Artemisia? 'Cause they don't burn it, they smell bad but eh the smell refreshes. [Yeah, but they burn it, sort of like. It could be, I don't know, it could be Artemisia. I've forgotten the name. Yeah, and you'll find people have it around their homes.] Yeah, actually the Indigenous Plant Use Forum was in Botswana this year. [Hm] Couldn't afford to take more people haha, unfortunately. [Ok] Ahm, bit also there we went into a couple of rural areas, and also its, quite interesting there. Ahm, isolated traces that they are starting to grow things like Artemisia and what have you around the homestead for that sort of thin. [Hm, its quite interesting] Hm {Even tough it's not like, like what I notices, it wasn't like the traditional healers thing...} Yeah, no it was just [more like community that wa sort of growing it] Exacly, yeah. [Thanks a lot SM. I don't want to take up much of you time] Hope it was helpful. [Yeah]

APPENDIX 5D: TRADITIONAL MEDICINAL PLANTS PROJECT- INTERVIEW WITH AV

Interviwee's words - not in brackets
[Interviewer's words] – in brackets

[Well, AV I think maybe what we can start of with is like you give me sort of your background to working in this project and the kind of activities that you have been involved in] Ok. [Yah] Ok, ahm, I started working as a volunteer for Community Development Training Institution and that was in beginning of June 2005, [Ok] and at that time the Traditional Medicinal Plants Project project was about to start, so they were really busy with all the project planning, but the funds of the {DI}, the main funder for the Traditional Medicinal Plants Project project for the first two years hadn't been received yet [Ok] and they were lots of delays with that. [Ok] It should have been in March 2005 but at the end they only were, ah, transferred to Community Development Training Institution in August 2005. Ahm [Ok, so it took quite a while] Yah [to get the funding]. But then, so what I, the first two months, we've, because we couldn't make kind of, ahm, kind make any request for the project because we hadn't received any money and SM was quite determined about we cant waste when we don't have it yet, although we know that we 98% [Going to have it] definite that we getting, that we getting it [Yah] because the contracts and all that were signed I think. [Hm] Ahm, so I just eh worked on a database ehm kind of, eh kind of doing, doing quite an extensive eh extensive literature review eh, eh research, eh [Hm] lots of, getting a list of lots of articles which will be relevant to the Traditional Medicinal Plants Project project. [Ok] Sort of dealing with all traditional health care, or HIV/AIDS and traditional medicines, [Hm] or their trade, or the medicinal plant trade and things like that [Ok] So I did mostly that and I also designed a database as well [Ok] and put lots of article in the database [Ok, that's nice. They are electronic articles mainly?]. Yah. The purpose of that was ah, just to get a kind of a information database for Community Development Training Institution staff members and so that you have information relevant to the project and the data really easily accessible [Ok] Ehm, in the same time, something which still hasn't happened, but what Community Development Training Institution likes to do is to put it on their website as well [Oh, ok] for other people who are interested as well that they can use [can access it, ok] access it as well. [Hm] Ahm, so that's what ahm, you know, what the ultimate goal, eh goal is. And MK, the volunteer now, she's been busy [Oh, ok] just read through lots of articles and making summaries and putting them again into the database since I had quite a bit of a backlog hehe [Oh] because they've been lots of other things. [Ok]

Ahm, so yeah that was mainly the first two months and I also helped assist with fundraising because at that time at that time there was a lot of pressure on that as well [Oh, yeah] Ahm, not only, eh, they also needed funds for the Traditional Medicinal Plants Project Centre project but also for other, ah for the other training programmes [Oh, ok] because the Director at that time had just retired [Oh, ok]. SM did lots of that work [Hm] although it was not in her job description and was extra to the work she was already doing for the

Traditional Medicinal Plants Project project [Ok] So there was also another eh volunteer, she was from Germany and only came for two or three months I think [Hm] called Annakunsle (?) [Ok] and she helped a lot with fundraising and doing general admin work and stuff. So I worked a lot with her together and looked specifically at eh corporate eh, corporates in South Africa [Hm] and then corporate social responsibility programmes and in, and to which extent that was in line with Community Development Training Institution's work and if that was I would just, eh, get into contact with them and getting all the funding requirements and kind of doing an initial research to, to target, to come up with a list which were funders who would be really suitable [Ok] and where, eh, to approach and which would, or for which Community Development Training Institution would make a, could eh, or it was a good a chance that Community Development Training Institution could get the, the funding. [Oh] So I started that and that going on also led to me just writing drafts funding applications and then SM [Ok, for the project] Yah. And then SM would eh, edit those and then I would finalise that and make sure it all corresponded, all other documents were there, and I would just send it out. [Ok]

Ahm, and then eh from the beginning of September we also wanted to come in contact with the traditional health practitioners. [Hm] And at that stage we didn't know a lot at all, hehe. [Ok] So, our approach was, was just having meetings with people who've been working in that field and, oh just contacted different organisations [Hm] and through I spoke to they new someone else and they new someone else again and then, [Ok] ahm [So it was mainly within the Eastern Cape or...?] Also national [Nationally] yah. Ah but people we met were mainly within the Eastern Cape. [Ok] R1 who had been working with traders, eh, PB from the Anthropology Department worked with traditional healers themselves as well [Hm], eh and then eh, someone from, Ms M actually is from the Psychology Department in H University, [Oh, Ok] and she is a traditional healer herself as well, [Oh, ok] ehm, so we spoke to her. Yah, and we just some other appointments as well. [Hm] And we finally got in contact with the Local, eh, Committee of traditional health practitioners. [Ok] And we also found out that was their conference as well and that it was in the beginning of October. [Hm] So, and that was at the National Committee of Traditional Health Practitioners. [Ok] So that's the same organisation where the Local Committee is actually part of, they are a local branch if you can call it that way, [Ok] and then we have a provincial level, and then there is also a national level. [Hm] So SM and I went to that function. [Oh, ok] And then from that conference we finally got in contact with the Local Committee, and, ehm, yah, for a, and then we, we approached them and asked, just explained the project and at the same time said we'd like to, eh, work with people in the R Town area [Yah] specifically. [Hm] So they referred us to the Local Committee and we got contact details of P [Ok] and then we actually, ahm, yah got in contact with them and started up some meetings just to introduce the project and things like that. [Hm] So, yah, my, my role was basically that I would just contact a lot of people, and ah, then make mostly meetings, and oh, eh, eh SM and me, we would do that together for most of the time and the two of us we travelled quite bit [Ok] to go to most different places [Hm]. Ahm, so yah that's my, that was my initial involvement with eh Community Development

Training Institution [With the project] Yah [And the traditional healers] Yes, ahm, I just have to think of other things haha. [Hm] Yah, ah, but if, I have got a brand new post, which was working as a consultant for Community Development Training Institution at the time [Ok] in preparing, ahm we had to apply for permits to be able start our experiments with plants. [Ok] So I helped in ah, trying to find out kind all the things we need to know to help with the application and things like that [Was this actually the cultivation training?] Yeah, it was more for ah, our experiments in cultivation plants and actually getting, ah, material from, from the commonage and also from the farmers. [Oh, ok] But I, I think what happened is that, eh, when PC took over just that there was not a permit process at that time, and its quite, quite along process to actually ask permission from farmers and to process that all, [Hm] ehm, that he, most of the materials he just gets form the commonage and he got permission from, eh, eh, from Local Municipality to, to, to collect [Ok, to utilise] yeah, to utilise plants. [Ok, that's nice] Ahm, yah, and then in, eh, in February, and we're like in beginning of 2006 [Hm], so last year, ahm I was in, I also was involved in kind preparing, we had a progress, ehm, eh it was ah, how would I call it, I think its a progress, what was a meeting with southern Africa and the ...funders [Ok, Hm], and they were also kind evaluating the eh, project, its kind of a half eh, half year review [Oh, ok] and they'll be coming in every half year so [Hm] ahm, I had prepared kind of a document for that as well, reflecting all the things we, our interactions with the traditional healers and our understanding of issues, and things like that. [Hm]. Ehm, and then finally that document, eh because it will quite useful to actually bring it in the broader attention [Hm], so then I just started enquiring among people I knew what will be interesting drawing up the process, and then I was invited on a conference, ehm there was conference in June 2006 [Ok], I don't know if you have heard of WASA, its the Women's Academic Solidarity Association of R University [No], so there were lots of women hehe [Oh, ok]. What they had was they funded editors who visit the conference and they kind of looked at your article and gave suggestions. [Ok] And eh, ahm, and the editor of South African Labour Bulletin, she was commenting on my article and she was really interested in that. [Ok] But my first article was like 20 pages, something like that [quite long, Ok] so I had to cut and paste and that finally resulted in this article (pointing at Labour Bulletin article) ahm. [Ok] So that kind of really stripped down the article. Ahm, and then also the true story is we liked to, we wanted to identify the problems [Hm] ahm, of the local healers. [Ok] So ahm, we organised a workshop for that to kind of get input from them on and the problems they kind, they are dealing eh, dealing with in the country [Ok] in their profession. [Hm] And at the same time ehm, we also tried to eh, organise some workshops to attract other people outside the Local eh [The Association] Association. So we went with a loud hailer to different areas. [Oh, ok, yah SM was telling me about it] Yeah and we tried to eh, to get people together but that wasn't really successful. [Hm] People, I don't know, we don't know why it was that because we announced it in kind of also the way the ehm, yah, the municipality is doing it. So people were, were, eh they knew that it was going on [Hm] but we'll only get to workshop like five or six people that was that [Oh, shame] So it was quite bit of waste of time, and we left it like that. [Hm] And we were also started the end of May with setting up interviews as well with tradi..., like individual traditional healers. [Ok] But then

we also had, our first interview I did ehm, we got contact through eh, M [Ok], eh MM, he's working as a facilitator for the School Community Garden Programme. [Ok] And he has been, I think he has been in training to be a traditional healer but I don't know, I don't think he has finished it yet. [Ok] And he knows quite a bit of the traditional healers in the Grahamstown area. [Hm] So he brought me in contact with, ehm, one his neighbours and I had an interview with him, it was, it was quite useful and it was an interesting ehm, interview. But then in the end he, he wanted to, oh he asked us to give a bottle of brandy [Oh] and it was a bit, eh, complicated issue for us because we can't really, like as an NGO we can't really eh kind of say eh to the funders, eh we bought a bottle of brandy for [Yeah, for one of the traditional healers] yeah, we cant really buy alcohol for them, and we also, like just to pay for an interview, it also, we don't want to do that because in the long run [because it encourages them to demand that every time] yah, do that. And I mean if it's purely your own interest then, I mean, then its, yah, you can says that's the right thing to do. [Hm] But for a project which is, eh, which is ultimately going to benefit the traditional healers [Yah] you wouldn't want to do that, it's not good you know, they didn't want to pay for it. But ah, MM got a bit upset, hehe, and he just eh, paid the bottle of brandy himself but then he didn't really want to be involved anymore. [Oh, shame] Ehm, and then also, I was, ehm, I had, I had planned to be a ehm, to volunteer for a year, so at the end of May ehm I also left for a while. So then ahm, ehm, yeah, I wasn't too, ehm try the interviews so we didn't take that further. [Ok, so how many interviews did you do?] No it was only the only one, I had planned some others but, but you know, just didn't work out. And I had prepared quite a bit, like different kinds of questions I wanted to ask and things like that but, yah, it was all hehe, [Ok] it didn't really work. [Ok] And then, ahm yah, I just, I came back in October just as, to do kind of some consultancy work. [Ok] Ahm, in October-November I have been busy with a research kind of finding out how we can assist traditional healers in protecting their knowledge. [Ok] And mainly looking kind of legislation in place [Hm] internationally and nationally [Hm] and identifying other initiatives as well [Yah]. Ahm, and also organising a workshop with the healers which I have been talking to about to you [Yes, yes, that you did last year] Yah.

[What sort of like legislation would you say informs the project, eh now, what you are using to sort of guide the project internationally or Localy] Ehm, I don't know how I would like to answer this question with more kind of the legislation which is kind, kind of we are bound to and kind of. [I think just what informs your what you do, things that you can draw information from] Ok [like maybe the Convention on Biological Diversity which you were talking about access and benefit sharing and things like that] Yeh [those kind of things that sort of like maybe give you guidance as to how you work with the traditional healers and all that] Yeh, ahm, I mean certainly the whole project is kind of guided by inspiration of the CBD, [Ok] conserving of biological [Diversity] diversity and at the same time also securing that people who are having knowledge on those resources [Hm] are, ehm, are acknowledged as well. So there, of course there's the NEMA which we talked about [Yes] before and, ehm, we also have because that instrument ahs quite lot of implications for eh, for traditional healers for instance, [Hm] if their knowledge is used in a certain, in a

commercial way or even in a non-commercial way [Hm] that they can, that they need to be properly informed, [Hm] the informed consent part. And then at the same time they also need to be, ah, they, they can just, eh, because they are sharing knowledge they can claim benefits of all, they don't have to be that necessarily [Monetary] monetary values, or non monetary, eh, values. Ahm, and we have, in the workshops we, ah, we're organising we're also going to, we'll just ehm, yah, put a lot of attention on that, eh, legislation as well [Hm] that's directly affecting traditional healers. [Ok] And also, another legislation, not really legislation but there's the Indigenous Knowledge Systems Policy, I am sure you have heard, [I have heard of that yeh] you have heard of that. And they want to ah, coming year, the Department of Science and Technology want to ehm, draft the Indigenous Knowledge Systems Bill [Ok] based on this policy. [Hm] Ehm, and that will inform the set, amongst others the set up of an indigenous knowledge database, and the CSIR the Centre for Scientific and Industrial Research [Hm] is quite involved in that and they actually already are busy setting up such a database. [Hm] But the ah, bill will be an instrument to regulate eh, access and the way information is stored and things like that. [Ok] And that's quite important for us to also kind of, to know, and how we can assist them, ehm, in protecting of indigenous knowledge. [Yes] (break)

[You were talking about the legislation and you were talking about the local legislation] Yeah, so I talked about the indigenous knowledge systems, ehm, the policy [And the new bill that's coming up yes] Yes, ehm, there's also the Traditional Health Practitioner's Act [Hm] as one of the main acts which will, yeah, which also informs the project [Ok] ahm, kind of promoting traditional healthcare but also the integration of, ehm, traditional health practitioners and, ehm, eh into the mainstream healthcare. [Hm] And as we talked about the meeting yesterday there's lots of things which are not happening at the moment [Yeh] and lots of parallel dimensions going on there ehm. [Yes] Oh, and, one of the things in that act, its mainly designed to secure safety of eh patients [The patients] to traditional health rights. And, and I think we, ehm, as Community Development Training Institution we support that, I mean that's really important that. [Yeah] Its just the way its, ehm, the way the act tries to, to actually realise that [Ok] that we are bit critical about it. [Yeah] Especially because there is such a, not in the act itself, eh, but it's more kind of other initiatives which are happening in the country like in the medical research control, research council and things like that [Hm] that as you read from the government there is a lot push to test traditional medicines. [Yes] But then, I mean I don't know all the details but from some of the initiatives we've seen that they often, they don't, because they don't have all the information about facts like use and the dosage and things like that [Hm], that they are testing sometimes like an individual plant, and that can be, the outcomes of that can be not really effective [Yes] or [Maybe people are using a combination of plants] yeah. Those things hey, ahm, yah I think with, I mean with science if you have all that information it can be quite useful. [Hm] Especially because maybe lots of old traditional remedies also disappear, it's like you have like a, if you, if you just have a scientific record of what kind of certain plant does and what dosage you need and things like that, [Yeah] it can be really useful [Hm] if you're securing safety of patients [Yes]. If you don't have that information,

then its quite risky business hehe. [Ok, yeah, Uhm. This makes it quite difficult because on the other hand you are looking at eh, traditional healers that have been using these for quite a long time] Hm [Yeah, and having these, looking at issues like, maybe they already know what the dosage should be and things like that] Yeah. [They've been using these things, hehe, for quite some, quite some time.] Yeah I know, that's, I mean this is kind of, maybe the danger or the safety issue come, of traditional medicine come in as well because there're so many people use it for self medication [Yes, yes without consulting the healers] yeah. And especially with people moving to urban areas [Hm] and ah, some, some basic knowledge of maybe in preparation and dosage will be essential in, for a certain combination of plants to be effective [Hm, hm] is, is getting altered or even partly lost. [Yes, yah] I mean the, thats where the, yeah [And a lot of informal traders as well] So, yeah, its not really, yeah we're not blaming hehe the traditional healers, its just the kind of circumstances right now, ehm. And I think the act is just eh one main, like one point we don't agree with this act [Hm] is that eh, they try to standardize the training of traditional healers. [Hm] But that's something which is, which can't, it so different to a medical, eh, practitioner, you can't, its just kind of in every different region and every different person and it can take, lots of people do it besides their work, so it can take maybe, ehm, they just do it when they are ready for it [Hm] so it can take like seven years or maybe three months and what they'll like to have is just everyone gets training in kind of a, what you, and you are actually are, ehm, and you can only if you have, if you received your training, eh and then, then you can be registered as a traditional healer. So then the Department of Health kind of the way they want to secure safety that you are dealing with a traditional healer [Hm, hm] which is ehm, which is reliable is that you, that the person is registered, so you can ask are you registered with ehm, the government [Yeh] or, and that they, they, in that way they want to guarantee ehm [the safety of patient] yes. [Yes] But I mean you, that's not a, its not a, but because training is so different, you can't standardize it, you also can't use it as a measurement really [Hm, it's quite a tricky kind of standard to set] Yes [Yeah, especially when people are being trained but under different areas by different...] Yeah, and I think that was in the conference a big thing, the conference I was talking about. [Hm] But ahm, yeah, just the, lots healers there just don't agreed with, ahm [With that standardisation] Hm [Yah that's a problem].

[Maybe looking at, eh, you have your own expectations for the project, like in the case you are working on that thing on noticing that there is ,eh, maybe the danger of loss of some of these plants and the need to conserve them] Yeh [Eh, looking at working with traditional healers, do you find sort of that you have the same common kind of, eh, look of the things] Ok [or do you find maybe they have different expectations of the of the project from you, like in this case you have assessed what their needs are or what they think are their main challenges] yeah [that are affecting them. Are there also of the same opinion that the real focus should be conservation of medicinal plants,] Ahm [are those their priority concerns?] It was quite interesting with them when we did like their, or when we tried to identify their challenges. [Hm] And I think one the, ehm, the things which is besides the conservation [Hm] issue is that traditional healers are lots, you can say they don't have lots of money, its like

they are desperate to get any like an extra income, [income, yeh] actually more income generation. [Hm] And I think they probably see also the cultivation training as a [As means] as a means to that [to that, yeah] and that's maybe even, eh, that's as important as just having access to the plants [Hm] ah, ehm, I think, for, I don't know for all of them, ehm. But I think that with the conservation issue, my impression is that, they do, they do see that they, that they do, that they have lots, eh, difficult, more difficult [Collecting] trying to find plants. But eh, it's more due to lots of games farms around the area, I think that's what they, ehm, that's what they sa..., that's then I think the main reason that there's less access rather than that there's actually a lot of harvesting [Hm], like that there's lots of illegal harvesting [Hm] although they know its happening and they have been talking about that. [Hm] But I think with, with farms if there is an area where you first could get and then there is suddenly a fence around it, its something which you can easily see [Yeah, yes] like there's something more noticeable [A tangible thing, yeah] tangible thing than, ahm, than just plants getting more scarce because of lots of illegal harvesting. [Yeah] Ahm, so I think it's from, don't know, the conservation, or, or then its more of an access issue than a, than really a, I don't know, they wanted access to plants that's related to conserving certain species. [Yes] Ahm, but I think in their thing they don't have, they don't necessarily think that some plants need to be protected because otherwise they won't be around like in a, a couple of generations [Hm] it's more that their access is limited on various reasons ahm, yeah there are sorts of diff... [Yes, it's like they are not working directly on a conservation ethic but in a way it's actually working out, it's coming back to that in the long run.] Yeh [Because like now having limited access and they are seeking ways in which they can make] Yah [the plants more accessible to themselves like through maybe cultivating them] Yah [Yah, yah] And yes, I think also, I mean say, to see the traditional healers as one group, because I mean also in the Local Committee ehm, there's lots of different opinions, lots of different people, and lots of different ages as well. And we do workshops we have like older people there are quite conservative towards cultivating medicinal plants, [Ok] while younger people they're also, ahm, or that just in general they are, they more favour the idea and at the same time they're also, I think they are more aware of the probl..., of the problems, the conservation issues as well [Hm, hm] and also [Is it because of differences in education level or] Yah, that's partly the case [or is it more exposure too?] I think probably education level, ah [Ok] and more, I think the younger people also have growing up in a more modern society [Yah, yah] a less traditional society as well. [Hm, hm] So I think that's probably, and that's, I mean, that's also due to the education at the same time because that kind of a, often it's a western orientated education system, so [Yeah, I see, with that focus on conservation as well] Yah

[Yah, how do you find what they consider eh, to be like their key challenges?] Hm, yeah there's eh, the income generation, I think that that one of their key challenges. Ahm, I think what we discussed last meeting, kind of land, eh land application, they really like to, to own their own piece of land [Yes] so they can cultivate plants [Yes] but also, ehm, vegetables, I think they want to use that whenever there is a ceremony, whatever, [Yes] and its also, I mean, would use, its also kind of an income generator [Yes for themselves] for

themselves, [Yeah] and an office as well, ah. [Hm, hm] and I think they really that one of their, they are struggling to get that land and to, so that's one of their challenges to actually get a piece of land. [Hm] Ahm, and I think at the moment just the whole relationship with the Department of Health [Yes] Ahm and it wasn't, it wasn't so clear if I asked in the beginning, but it also seems that they are more and more, maybe they're just telling more and more isSMS, and then they eh, but the whole referral systems where the clinics refer, don't refer back to them while the traditional healers are supposed to refer to the clinic. And then, they was also, ah, but the, ehm, Mr U, he was the, he is kind of the representative of Traditional Healthcare within the local Department [Ok] of Health [Hm] and he was supposed to kind of be involved in all their meetings and [Hm] ahm, people also feel that he is kind of using them and that they are not really getting anything back. [Ok] Ahm, so yah, that's kind of an urgent issue and that actually relates, it relates back to this whole, what we talked about, the relation with the Traditional Health Practitioner's Act. [Yeah, so its more-or-less like eh, is it what you call a power relation?] Yeah [Whereby the...] I think its kind of the whole act is about integrating traditional health care in mainstream healthcare [hm] but it doesn't mean it actually, its more kind of almost transforming traditional healthcare so it kind of include it. It's kind of a one-way process where the Department of Health is quite dominant. [Yah, yah]

So, yah that, there, and then I think also what we talked about, access the, the, to game farms and things like that [Hm, hm]. Also as well, the skins, that was also a problem which they brought up [Yes] many times as well. [Ok] It's quite interesting where we're talking about earlier [Yeah] kind of the, eh, one thing that we were quite concerned about is all new legislation things on that, or for instance the Traditional Health Practitioners Act [Hm] ahm, and traditionally, or, we thought that would be one of the problems as well, that they just wanted to more know about this new Act [Yes] and the registration, and training and standardizing of training. [Hm] But that hasn't come up at all in all of our meetings [Is it maybe lack of awareness or they just don't recognise it?] I think they just, eh, it's just too far, like its just policy made up there. [Yeh, it doesn't impact them on the ground] Yeah, not directly, although it does, [Hm] I mean they, I mean like you see there is all the power relation with the Health Department. [Yes] I mean, yeah, it could be like mini research, hehe, the works of that act through the whole kind of policy of the, of the Department of Health. [Hm] Ahm, so it is affecting them, they haven't heard about, they are not really aware of the legislation in place. [Ok] And then I think also with the protection of eh, traditional knowledge, its also kind of, I mean lots of you've, I'm sure you have read lot about it, it's quite an academic and kind of hard polit..., [Yes] not politic, political debate [Hm] Ahm, and in that regard there is quite a, or, basically, ahm, its quite a challenge for them, especially they feel, not only, or they feel that their knowledge is violated because people are not recognising it as their own within their community [Yah] and many of the clinics would not refer back to them. Its also kind part of that, they feel that they are not recognised [Yes] what they are. [Hm] And then they're also, I mean like in there's past experience where there's just been lots of research and then they are taking and taking the knowledge and they are not getting anything back, back [Hm] from it. It's a bit exploitative

[Yah it is] Ehm [Yah, it's a one-sided kind of relationship] Yeah [Yah] But at the same time they have not really kind of read all this ABS regulations and the regulating bio-prospecting and at the same time kind of the non-commercial but also commercial use of traditional knowledge. [Hm] Ahm, its, yah, what we, like we, in the workshop we touched on that and we kind of explained a little bit on what kind of commercial, eh, how traditional knowledge can be used commercial [Yeah] or is used commercially. [Yeh] And people like P who, she had, she knows about it, but lots of people with me that was completely, completely new [Oh they didn't know about it] No [Herbal products and whatever] Yah [Yeah] Ahm, so lots, also there were partly aware of that but at same time kind of we have another action area where we have kind of another new thing where we don't know a lot about kind of what's happening in the community between them about the outside and all those legislations and commercial use of traditional medicine [Yes] Ahm, but we hope we have identified their understanding of challenges [As compare to what they see as challenges on their side] Yeah [That's quite a an interesting area.]

[Yah, and I was sort of like having a feeling that they, when they consider the training and aspects of the training they consider also maybe a one-sided kind of thing with, with more of what happens within the training coming from you] Yeh [rather than them also maybe contributing much] Yeh [Yah, so I don't know how you feel about that kind of relationship] Hm [Hm] No, think you, its quite right observation but we encourage them to participate [Hm] ahm, and that they are not coming here, I think they just feel like we are designing the training and that's like they, I don't know what they think of this, but it is like if we just talk about it then issues come up, but if they don't come to us kind of like just addressing those issues like we to make sure of this or we have to make sure of that. [Hm] There it's like the, all specific things about how you treat the plants and things like that, ahm. I think you are right but it's also yah, I don't know what we, hehe, it will be nice to, if they will be involved more. [Yes, I think it's a learning phase maybe] Yeah [Yeh] 'Cause it's also about, I think also it comes back to trust, that they feel that there is trust relationship where they also feel they can share things and comment on things [Hm] ahm. And they don't, for me they maybe see us as mlungus but at the same time we're also kind of, probably like we also an institution, I don't know, [Yes,yes] like doing training, is about as if we know what we are doing, but I mean we don't know [You are also learning from the process] Yah [Yah, like for instance you are getting the list from them about which plants] Yah[they think are, are the key ones that should be propagated and which ones can be grown around the home]Yah [and which ones can not] Hm [Yah, that sort thing] But I also certainly think that the whole idea to cultivate, cultivating medicinal plants ah, it's, it's really new for them [Hm, hm] and it also just took them a long time to [To articulate it] Yah, and to also kind and see ok this is maybe something which is useful, [Yah] and which is, ehm, ehm, because its, yeh, its quite a change of mind [Hm,hm] just like getting your plants from the wild and suddenly just growing them. [Yes, yes] Ahm, so I think also that, would just be, they're just, it's like a long time to eventually get used to happening hehe [Hm, hm] before you actually can also be kind of actively engaged in it as well [Yah, yah] Ahm, so that yah, probably also why. [Hm]

And I really thought also from, from L she was also telling that, that makes [Who was that?] that was the, the person who also led the review. [Oh, ok] The DI review, [Oh, ok] and she is involved in a cultivation project of medicinal plants [Is it?] in N Town [Ok] also working with traditional healers [Hm] but ehm, much longer than we are, [Hm] they already started in the 90's, I don't know the exact date, dates but like somewhere in 1995 [Yah, because I have, I have heard, I don't know whether it's the same project, about the Y Nursery] Oh, no its something different [That's something new, ok] Yah ['Cause that has been running for quite a while] Yeah [And its been cultivating medicinal plants] Hm, Yah [But I don't know whether they have any link with that] But she was saying as well it takes a long time to actually, yah, to introduce such a thing and to, and for traditional healers to kind of, yeah get, get used to the [Hm] to the idea and just get their heads turn around on kind of the option of cultivating [Yes, yes] medicinal plants. [But, eh, SM was talking about R2] Yeh [and one of your members having done some cultivation training somewhere, I can't remember where] And they, I think you are talking about MH and she had research that was part of the H programme [Ok] and she had research with ehm, with another student. She is Dutch and she also did, eh, with the other student, they did a project ehm, looking at cultural acceptability of cultivating medicinal plants. [Hm] And what they found was actually that lots of people already had some plants in their garden, traditional healers. [Is it?] Ahm, so that's why, that's also one of the kind of key studies which informed [Ok, which informed you] yah, informed this project. [Ok] Ahm, the only thing [Do you have] Sorry? [Do you have that paper where they talk about that?] Yah, no I can give that to you.

APPENDIX 6A: CULTURAL PLANTS PROJECT RESEARCH GUIDING FRAMEWORK

A) Institutional research

Approach:

The approach to this part of the research will have two main aspects:

- iii) Document Analysis - A review of project documents and related information
- iv) Individual unstructured interviews – interviews with project staff to get insight into project experiences and to fill in the gaps on aspects not fully covered in the project documents and reports

Guiding Questions:

- 11. What is the general background of the Cultural Plants project?
- 12. What international and national policies guided the project process/activities?
- 13. What institutional policies/mandates/ project documents framed the project activities?
- 14. What binding agreements (with partners/donors) influenced project direction(s)?
- 15. What background information (documented knowledge) informs the project?
- 16. What previous experiences/lessons are brought to bear on the project?
- 17. What limitations (expected and realised) impacted on the project outcomes? (What are the constraining factors? What are the fears?)
- 18. What conditions enhanced the project outcomes? (What are the enabling factors?)
- 19. What were the expected and unexpected outcomes arising from the project process?

B) Community Research

Approach:

This part of the research will also have two main aspects:

Individual (and focus group) interviews – these will be done with selected participants around the following issues:

- f. Their understanding and interpretation of the project and its intended outcomes;
- g. Their perspective on the (power/knowledge) the relationship between them and the researcher;
- h. Enablements and constraints within the project process (benefits and fears);
- i. Expected and unexpected outcomes of the project process; and
- j. Existing cultural systems within the community and whether they have been impacted on (strengthened or weakened) by the project process.

APPENDIX 6B: CULTURAL PLANTS PROJECT FIELD REPORT 15-18/12/05

This visit served as the first contact with participants in the Cultural Plants project study area. Its main purpose was to get access to and to familiarise with the local people and to get a feel of their understanding of the cultural plants. Interviews were conducted in three villages, namely X, Y and Z. Of these villages, X seems to be the most ideal as most people appearing on the poster are from here. N was my interpreter. She is known in all the communities we visited as a resident of the area and also from earlier work she did in the area with R1 and R2. Apparently N seems to be related through her clan (isiduko) to most of the people in the area. In addition to using the poster to initiate the dialogue/discussions, some photographs of plant use by people in the area that N brought along were also used.

Interview summaries

Village X

1) P2

P2 appears on the poster applying traditional cosmetics(ukuqaba). Her father, who is now late, also appears on the poster using isipondo. P2 recognised almost all the people pictured in the poster. She said the traditional cosmetic (imbola) she was applying comprised red clay (imbola), a fungus found under thorn trees (phansi komnga) called umavumbuka and plant called itshinitshini. The cosmetic is used for protection against the sun, for preventing pimples and for ridding oneself from bad luck. P2 says although she is capable of finding the ingredients herself, her brother usually brings them for her. She learnt how to use imbola from her cousin sister. However other people in the village also use it. She was quite excited to see herself on the poster and hopes for other people to learn her traditional culture from it. P2 knew all the activities represented on the poster. She says most of the plants are still found in the village and surrounding forests.

2) P3

P3 recognises most of the people and activities represented by the poster. She was on one of the photos N brought along preparing imifino. P3 says she still uses imifino and collects them from the fields. She recognises the following activities and made mention of the plants used for each activity:

Ukufutha - imphepho, ityholo or umabalabala

Ukuqhumisa - impepho

Ukuqaba – umavumbuka, imbola and utshinitshini

3) P1

P1 recognises all the activities represented in the poster. She claims that the activities represented are still practiced in the area. She mentioned the

same plants as those listed above for the different activities. For ukutshiza, P1 added that ikhubalo is used to spray the intelezi mixture.

4) P4

P4 recognised most of the people on the poster and accompanying pictures. P4 appears on a photo of women preparing imifino. She mentioned ihlaba, imbikicane and utyuthu as the imifino that they use and claimed that imifino occur in the fields throughout the year. She prefers imifino to modern vegetables and claims that in her home imifino are eaten by everybody, including man, despite the traditional stigma attached to man eating imifino. P4 says imifino is usually eaten with mealie rice. For the other activities represented on the poster P4 mentioned the following plants:

Ukuqhumisa/ukutapika - umgqomagqoma

Ukuqaba ubuso - onobeqe/umavumbuka

Ukutshiza - inqwebeba, intelezi

I noted that P4 used some unfamiliar terms for some of the activities unlike the other participants. N explained that she used these other terms as a way of respect (ukuhlonipa) of her own or her husband's clan name. N said the poster was a good way of representing their culture which could be used to retain cultural memories for the new generations so they could sustain them.

5) P5

P5 could not recognise himself in the poster though he could identify the place where it was taken. However, he could recognise most of the other people on it and the activities they were engaged in. Other younger family members also came and joined in identifying the people on the poster. P5 claimed that ukuhlamba ngeyeza (as he was pictured doing) is a ritual done to get rid of bad luck (inhlanga ezimdaka). He said usikoliphathi (also used for ukufutha) and isilawo are other plants used for this activity. For the other activities he mentioned the following plants:

Ukuqaba – imbola(clay), unobeqe and ummemeza

Isiphondo - intsihlo (for protecting house from lightning)

Ukufutha – to get rid of bewitchment

Ukutshiza - intelezi

Ndoda claimed that most of the plants are no longer found in the area and one has to go as far as Hogsback to get them. The other family members disputed this and claimed that these plants still occurred in the area and the reason he did not see them was that he no longer walked far from home due to his age.

6) P6

P6 could recognise most of the people and activities on the poster. She appears on a photograph where she is seen preparing (ukukhanda icambu-stamping) amayeza okuhlamba. She says isilawo and intelezi are used for this purpose. Intelezi is used for good luck and is also used for ukufutha and ukutshiza.

Village Y

7) P7 and P8

P7 and P8 could relate to most of the activities represented in the poster and accompanying pictures. They said most of these activities are still practiced within their village. They mentioned the following plants for the different activities:

Ukuqhumisa – impepho, intsihlo (roots)

Ukuqaba – isibindi, umavumbuka, roivattel (also used for ukugabha)

Ukufutha – ityholo (found near emlanjeni)

Ukutshiza – ugqomagqoma (also used for toothache and on cattle)

Ukuvasa ngeyeza – isilawo, inqwebeba, upunyuka bemphethe (also used in court to have good luck to win court cases)

They claimed there were many more plants that are used for the above activities, however one needs time to recall them.

8) P9

P9 could easily recognise the people on the poster and the activities therein. P9 mentioned the following plants under each activity:

Ukuqhumisa – impepho, lucky stick

Ukuqaba – umavumbuka, imbola, unobeqe

Ukutshiza – intelezi

Ukuvasa – isilawo, intelezi

Ukufutha – ityholo

Isiphondo – intsihlo

Imifino – ihlaba, umsobosobo, utyuthu

P9 claims that most practices are still done in the village even to this day

Village Z

9) P10

P10 had minimal recognition of people on the poster (most probably due to the distance away from the first village from which most activities were recorded). However, could recognize most of the activities represented. She mentioned the following plants for the activities:

Ukuqhumisa – ityholo

Isiphondo – intsihlo

Ukutshiza – ityholo

Ukuhlamba ngeyeza – intelezi

Imfino – ugoqwane, utyuthu, isiqwashumbe

P10 claims most of the cultural activities are practiced in the village even at present.

10) P11

While he did not recognise most of the people on the poster, P11 could recognise the activities and mentioned the following plants under each activity:

Ukuqumisa – intsihlo

Ukuqaba – rooiwater

Isiphondo – intsihlo (also used for backache)

Ukufutha – ityholo

Ukutshiza – intelezi

Ukuvasa ngeyeza – inqwebeba

P11 claimed that most of the above activities are still practised and that most of the plants still occur within the village.

11) P12 and P13

P12 and P13 were able to recognise most of the people and activities represented in the poster. They mentioned the following plants against each activity:

Ukuqhumisa – imphepho, rhino dung

Ukuqaba – umavumbuka

Ukufutha – ityholo

Ukutshiza – ibhosisa

Ukuhlamba ngeyeza – use ready made product bought from herbalists

Imifino – irhawu/ihlaba, imbikicane, utyuthu

APPENDIX 6C: CULTURAL PLANTS PROJECT- INTERVIEW WITH P1

Interviewee's words - not in brackets

[Interviewers' words] – in square brackets

(contribution/interjection from other members)- in round brackets

[Makhule besithetha ngalento, eh, eyokuba sibona isiko lenu lesiXhoseni libekwe kweliphepha elijongisa ukuba kwenziwa, izinto zenziwa njani] Hm [Eh, sakubonisa kuxesha eledlule size apha leyo photo apho besibona ezinye izinto zesiXhosa obuzenza. Andisakwazi ukuba ubusenzani na.] (Ubesenza ukutshiza namakhubalo) Besitshiza [Hm] siyenzikhubalo. [Hm, ok. And imithi esetyenziswayo apha ekutshizeni?] Lomthi likhubalo [Hm. Lento etshizayo?] Yintelezi. [Hm] Iqinisikhaya [Hm] Icithinto ezimdaka zingasondeli. [Hm] Iyavsa [OK] Iyagabhisa [Hm, isebenza izinto ezininzi] Isebenza izinto ezininzi. [Hm] Ikhubalo nalo likwanjalo. [Hm] Uyalisebenzisa kuwe, [Hm] Uyalisebenzisa emfuyweni [OK] imfuyo iyakwazi ukwanda [OK] ibheke phambili ingadedelamva. [Hm] Iluncedo kakhulu ekhayeni, umzi ungabi ede ede. [Hayi noko, kukhahle. Bendijongisa pha ndithi xa sekuphuma ezinto sezibekwe kuleliyaphepha] Eh [Eh, kuphuma abantu, omnye uyatshiza, omnye uyaqaba] Eh [Eh, kuphuma lezinto ezenziwa amasikweni asesiXhoseni] Eh [Xa ezinto seziphuma seziyizinto eziphuma ephepheni elifuna ukuboniswa abanye abantu, ukubajongisa into lizenzanjani] Eh [zibafundise nje isiko lenu, likubona njani xa sekuphuma ngaloluhlobo?] Siyibona intle lento yokuba abantu bazifunde ezanto [Hm] zokhokho bethu, kuba zizinto zokhokho bethu ezi. [OK] Sisazigcinile ngoba abantwana bayayekelela. [Hm] Uyabona ke thina siyahamba ngoku sibadala. [Hm] Siyemka bengazinto. [Hm] Silovuyo xa banokuzibona njengoba behamba kwezikolo zenu bazibone [Hm] bazenze [Hm] bazibone bazenze [Hm] ngoba zilusizo. [Hm] Ewe [Ngoba esikweni nina liyazenza] Kusesikweni lethu. [Eh, ngoba nina liyakwenza] Ewe [laba abasakwazi] Abasakwazi ukwenza lento. Oba nomuyabaxelela, ah, kwenzeke xa uba liyoyibonisa izezincwadini lento [Hm] bayayi, banoyamukela [Bayoyi bawela nabo] Bayoyibawela nabo yenzeke ngoba iluncedo.

[Xa sijonga eli phepha kuyikuthi siyokuza nalo siliphe abantu basezilalini abavele bezenza lezinto lizokubanceda na?] Lizakubanceda, eliphepha lizabanceda nabo [Hm] ngoba abantu nakuthi ngokhu [Hm] abantu abadala baphelile, abakwazi ukubonisa leziyanto zokuqaba [Hm]. Abaninzi ngokwezinto ebesizenza bayaziyeka ngoba abazazi. [OK] Abazazi kantike ziluncedo emXhoseni. [Hm] Ewe. [Hm] Lisiko kuthi. [OK] Ngake kuthiwe lungele wena ntoni, lisiko. [Hm] Ungabona kuthiwa lomntwana akana similo, batsho akagqitshwanga, kuthethwukuba kange exelelwe. [OK] Kwenzukuthi ungenza angathi mgumtwanongagqitshwanga. [Hm, hm] Akukho ozinyangayo izinto zakhe [OK, ezesikweni] Ezesikweni lomntu. [OK] Kuba ngalohlobo apha kuthi.

[Xa kuyikuthi ujonga aba Bantu ababuya bezofuna ukwazi ezi izinto elizenzayo ezamasiko enu ezifana nalezi into ebezibekwe pha ephepheni] Eh

[Eh, ndobona abantu abaninzi abafuna ukunda ezonto ngabantu maybe abamhlope] Ewe [labantu abangasi basesiXhoseni.] Xhoseni, ewe [Uhm, akulikhathazi oku ukuba laba Bantu basuka...] Hayi, asikhathazeki nabo ukuba siyathanda ukuba wonke umntu aphile ngento ephilomnye. [Hm] Siyathanda ukuba wonke umntu aphile ngento ephilomnye [Hm] ukuthi xa ekwazi ukuyenza apho eyibona. [Hm, xa kuyikuthi lezinto zesiko esezibekwe ephepheni ziyokubekwa kwezinye indawo, maybe amasiko ehlukenene] Ewe, eh akafani [kambe kusendaweni yase Transkei, kambe emaPhondweni] ewe [Eh, libona kunganceda ukuba bajonge ezinto...] Ezinto zethu, kuba nabo baye, siyakwazi ukuba, ndiyakwazi ukubona ukuba amaMpondo aqhuba ngaloluhlobo nawo asibone ukuba thina amaXhosa siquba ngaloluhlobo. [Ok] Kuyiyonanto masiyazi ukuba lo nguMpondo uquba ngoluhlobo, lo ngumXhosa uquba ngoluhlobo, [Hm] lo ngumni uquba ngoluhlobo, [Hm] lo ngumlungu. Abelungu abaninzi ngokhu sebethandukwenza lezinto esizenzayo. [Ye, uhm, bayazi...] Bayazifuna nabo, bayazifuna. [Ok] Besi, uyabona sisefama. [Hm] uyabona thinumntwana siyamxhelela [Hm] Ewe, siyamxhelelibhokwe. [Hm] Abelungu bethuna abakho, umntwana ukuvela kwakhe, gqiba nje mhlambi umnyaka uye sanduphela, oh ngeyakhe. Kufikinto sevela kwenze estirosheni, exhelelwibokwe, ndipheke utshwala, uzanenkomo, siyaxhela, siyasela, siyathini, kumandi. [Bayazenza ezonto] Bayazenza ezonto, kuthiwe kuvela kubani [Hm] kuphiwumntwanigama. [Hm] Ngeyomlungu kuthiwa asitshe. Bayazenza kakhulu emafama ezinto [Hh, bebezenza nabo] Bebezenza nabo. [Ok]

[Xa sibona lendlela ebekwe ngayo lolulwazi lwenu olwamasiko selubekwe phaya ephepheni, kukho izinto maybe elingathi zingongezwa kulezinto ezilapho?] Ewe, njegoba lento ndiyiqonda ndiyabona, uyabona enye isandukundikposisa, uyakwazi ukuba lento ndiyibeke kulendawo ndiyayiqonda [Hm] Ayiyo nkatazo. [Hm] Iphuma nesiXhosa, [Hm] iphuma ngesilungu. Umlungu uzayazi ukuba kuthethwa lento, lomXhosa othe afumane lelophepha uzayazi ukuba kuthethwa lento. [Hm] Ayiyo problem. [Lento ukuba kubekwa Bantu kuboniswa ukuba lo nguzibani?] Ewe, nguzibani lozibani, siyayithanda leyonto ukuba uye loToni isinike i-photo sibona ukuba thsini, tshini, kuhlekwe kubemandi . [Ewe] Kubemandi, tshini ubanai, tshini ubani, tshini nangu ubani. [Hm] Ibentle lonto. [Hm] Ibenhle kakhulu.

[Ok. Eh, xa sesithi sijonga ezinto ngendlela ebelihlala ngayo, lina lithi ulwazi lusebantwini.] Ewe [Ukwenziwa kwawo amasiko, nangokhu into ekhathazayo yintoni kulaba bantwana bethu abancinci abezayo kumbe abazalwa sithi? Aba abazalwa kuni ezi zinto abazikuzazi. [Hm] Uyayibona lento. [Hm] Abazikuzazi, uyabona ngokhu baza zazi into uhlobo liquba ngalo. Mababone kubekho omakhulu, bebona ukuba kuqutywa ngaloluhlobo. [Hm] Bazakwazike, noma abayenzanga kodwa bayayibona. [Ewe] Ngalelihlo bayayobona [Hm, nabo bazakwazi ukuyenza] bazakwazi ukuyenza xa bafunayo. [Hm] Ongafuniyo uyakuyeka kodwake bazakubona indlela yethu yiyole.

[Hm, so, ubona kunganceda ukuba kuleliyaphepha kubekwe incasiselo yokuba lento ca isenziwa, maybe sithi ukutshiza kwenziwa ngadlela ngadlela ngadlela] Ewe [Maybe sithi ukutshiza kwenziwa ngedlela le] Kwenziwa iyeza elithile ntonintoni ntonintoni uyabona [Kunganceda] Inganceda lento ngoba

abanye abazikuyeka [Hm] uyaqonda. [Hm. Kodwa kubantu, abantu abangakwazi ukubala kumbe ukufunda incwadi] Ewe [Le indlela ebekwe ngayo...] Bazabona. [Hm] Uyabona uba lingabeki isiXhosa bayabona, uyabona bayatya, [Hm] ngubani lo unobani, tshini, kwenziwa isiko elithile apha uyabona [Hm] kuyabingelelwa, ngumtshado [Ewe] ngumgidi [Ok]. Uzayibona nxa ibekwe ubabona lababantu ukuba benzi into ethile apa, [Hm] benzi into ethile apa [Hm] Eh. [Ewe, so ufuna kungani kuyavula kungayekwi nje kubekwa lemithi esetshenziswayo, kubekwe namasiko lendlela abaphila ngayo?] Ewe indlela abaphila ngayo. [ukuba nacho kuzoceda kuba abantu bakwazi ukuba abantu basesiXhoseni basebenza ngandlela bani.] Uhm, uhm. [Hayi siyabulela , enkosi kekhulu!]

APPENDIX 6D: CULTURAL PLANTS PROJECT INTERVIEW- WITH P2

Interviewee's words - not in brackets

[Interviewers' words] – in brackets

[Eh, lento bendiyithetha, bendithi uphuma pha kuleya poster ukuba ubuthethwe le photo kusetshenziswa, unjongisa lezinto zamasiko ezenziwa apha kulendawo yakwenu. And then uphuma kuleya photo ungumntu obuqaba] Ndiqba e. [So bendifuna usi] xebele [ukuba] ndiqaba ntoni, kwenzeka ntoni [Ewe, xa uqaba kuhamba njani, usebenzisa ntoni, ilungiswa njani, njalo ukuqaba kusebenza ntoni ngoku?] Hm, ok. Ndiqabe nomavumbuka. [Hm] Umavumbuka ndimqabela ugqwaliso. [Ok] Hm, ndimqabela ukwenza mhlope [Ukwenza mhlope ijwabu, i-skin] Ok. [Yena umavumbuka umfumna kuphi. Yintoni umavumbuka] Umavumbuka. [Yintoni, ufaneka kuphi?] Ok, aphemahlathini. [Kundwao ezinjani?] Kundawo ezinjani, eziyintlambo! Phansi komnga. [Umenzanjani? Umlungisa njani ke?] Ndithathilitye [Hm] ndithathamanzi [Hm] ndilole kuqala ndigqabhe. [Ok. Eh. Xa ubona sekhuphuma leya foto yakho iphuma kuposter le endinayo efuna ukusetshenziswa ukubonisa abantu nje ukuba lenza kanjani emasikweni, ikhuphatha kanjani leyonto yokuba ubone iphoto yakho, ubuso bakho bubekwe kuleyondawo ubonakala uqaba? Uziva njani] ndiziva ndivuya, ndinovuyo [Hm] Ndikhulululekhile qha. [Ubona njani lento yokuba ubekwe kwilela phepha lezinto elizenzayo zamasiko alapha ekuhlaleni?] Ukuba kutheni? [Ubona kuluncedo na?] Ewe, ndibona kuluncedo ukuba kuzokwazisa abanye abantu, ngoba abazazi bona, bayakhuthola apha kuthi [Hm] qha. [Xa sithi le poster ilethwa kuni apha elalini ubona kuluncedo? Nditsho ngoba livele liyazenza ezinto lina.] Ewe. [Izanceda ngandlela bani?Iyabanceda njani abantu] Iyabanceda njani? [Like mhlawumbe bayazifunda ezinto kanye bayazi ukuba ziyenziwa baselokho bezenza Ukubona njani wena] Ndibona kakuhle. Ndiboniluncedo ebantwini. [Hm, inceda labo Bantu abadala kumbe inceda abancinci? Inceda baphi abantu?] Inceda bonke. [Xa sithi le poster iyosetyenziswa sithi kwezinye indawo ezingekho apha, mhlawumbe kwezinye izikolo, eh, mhlawumbi kukho abantu abangeko kulendawo, eh, ukubona kulungile ukuba uyokuphuma wena kuleya foto ngabanye abantu, maybe abaseTrankei kambe kwezinye indawo?] Eh, ndiyibonintle, lam iyandivuyisa. [Ok, and then xa abantu besiza kuni, mna ndibona abantu abathakazelela ezinto ngabantu basemazweni kambe abantu abangasi maXhosa jengam. Ubona kunengxaki ukuba aba bantu basuka kwezinye indawo asingobantu bakuni?] Hayi, ayibi yingxaki. [Hayi, ndiyabulela].

APPENDIX 6E: CULTURAL PLANTS PROJECT – INTERVIEW WITH R1

N.B.

Interviewee words -outside brackets

[Interviewer words]- in brackets

Ok, from the beginning yeah? [Yes] Ok, would just say it wasn't a normal type ah, of project in that, you know, we do design it sitting in the office and then go and get money, [Ok] it more evolved. [Uhm] And first of all we got funding to conduct like household surveys to record natural resource use among rural households in the former Ciskei area, [Ok] and we chose, ah, six villages, and two in, ah, three different vegetation type. [Hm] And then when we analysed that data we sort of realised how much of the resource material being collected is used for cultural purposes. [Ok] And once we had that information we then targeted our questions around understanding the role that the natural resources control in people's lives. Backed with that information we did further interviews like in the {A} District. [Ok] Ah, and it just, it was like more opportunistic. It wasn't like we went to every household there. Its just, you know, if we heard there was a ritual or some kind of thing happening at somebody's house, you know, we just went, we went there and asked questions. Yah, its very, not systematic in the traditional sense. It evolved [Ok] Yah, because, I mean when the project started we had no comprehension that this was how it... [It was going to work out] Yeah [Ok] 'Cause it was just purely going to be an economic analysis of the value of natural resources in people's lives. And then we saw how much of this culture we thought there's just no ways you can put monetary value to this. [Yah] You know, it's pointless, haha [Yah, that's true] Yah. [But the sort of original project you were working on was, was it the SANPAD project] Yes. [Ok] Yah, and it was purely an aim to document that how, you know, to get the economic value of natural resources, to quantify its worth in people's livelihoods. [Hm] So it was very much, you know, that's how it started. Ah, that you know, very much like C and S's work. [Ok] And then when I saw that there was something else going on... [The cultural part] Yeah [Ok] And then I knew that it will only be taken seriously if I had the sort of quantitative data to back it up. [Hm] it was so, you know, that's why the surveys were so useful [Hm] because you could say, of the total amount, how much was cultural and how much was utilitarian. [Ok] Yah, and so on. So that like backs it up. I don't enjoy that type of work, but, you know, I think because, ah, often if you don't do that, you just do in-depth interviews, they say so it's only like five houses, or you know, they want to know what the thing is... [More details] Yah. So luckily because I had done those surveys its all there [Hm] to back up, you know, the in-depth thing. [Yah] Yah, so that's, that basically how it evolved and I mean, and now, ah, even though the SANPAD project is long finished [Hm] ahm, the aim is to continue recording the cultural... [The cultural uses] Yan. Oh not just uses, and also wanted to expand it now to what the plants and the environments mean to people even. Playing such an important role in cultural things, what value [Do they put on it] is attached to it, yah. [That's good]

So, that, so it will continue to evolve. It's not like it's finished. [Ok] Yeah, but now the plan is, you know, to source funding for that. Ahm, [Yeah] the thesis is just portraying and, you know, coming out with a bold statement that these things are totally important culturally and that its not, you know, in the literature. At the moment it's very much like... [Medicinal?] Oh, and also that only like the traditional, hm, you know, like the Amazon Indian, you know, the people that are very cut off [Hm] from the rest of the world [Hm] only they use plants in this way. And I am saying, 'cause then with that, after I completed the rural survey [Hm] we did two urban centres, [Ok] {B} and {C} [Ok]. There were about 305 households [Hm] and Iso there was not one household that didn't use natural resources. [For cultural purposes?] Yah, [Oh that good] and these were even like rich townty households. You know, we targeted like shanty areas, informal settlements, middle class and very wealthy. And even the wealthy... [They still use it?] Yes, yeah. [That's quite interesting] Yah. [Yeah] Yah, so I did both the rural [And urban areas] Yeah. [Ok] Yeah [That's quite interesting] Yeah, no it was amazing to do and I was so excited. [Yeah, it is quite exciting especially if it extends to like urban communities whom we think are more like separated from the rural backgrounds] Yeah, its just so interlinked, the rural and urban, you cant really say [Draw a line] yeah, because I mean they're always home for the rituals and then they are either helping with the collecting [Hm] you know, because then when we go they are on holiday. It's like a social thing, go get the wood [Hm]. Oh, or they ah, provide like financial assistance to make sure the plans are always nice, and you know. [Hm] So, I mean it's always so interconnected. [Hm] Yeah [It's quite interesting] Yah that was very interesting.

[And since this was sort of like an unexpected outcome from the project, you didn't have any problems with like what were you original project, eh, goals?]

No. luckily SANPAD did not, ah, what can I say, were not very strict in that they are quite relaxed in that sense. And the main thing is to get output [Hm] you know, because it has resulted in like number of publications, you know, that's all that. That's like more important to them [Hm] than the fixed original objectives. It was a relief that we got the right funding. [Yah that wasn't restrictive] Yeah, for sometimes they can kill [Hm] But, I mean, when you are sitting in your office designing these projects, I mean that why you are doing them. It's too..., you cant think of what the outcome [Will be] Yeah, I am very much old fashioned, if you can look at it that way [Hm] Not no I will do this and this and this, haha [Haha, yeah] and this is what it will get out. [Hm] I think that puts you in such blinkers [Yeah, sort of restricts you in lot of ways, yeah]. And I mean you will only see what you want to see because the data can be telling you, but if you are not open minded, I think, you know, so much of our work is restricted by what we see things to be. [Hm] It's true, yeah, and you can convince yourself of anything haha [Yeah, its quite true]. And it's scary that, you know, I think lots of people make that mistake. Yah, they don't let the data talk to them. [Hm, thats interesting haha]

[And looking at like sort of the outcome as the poster, was that sort of like something you were expecting to come out?] Oh, no! no! no! Cause then we completed the ah funding, like SANPAD1 funding and then, ah, it was kind of then R2 like got interested in photographs, in photography. [Hm] And then he

was like attending a lot of these things with me and even on his own. [Hm] And he started documenting and yeah, you know how, like with images. [ok, yes] And then, ah, one of our Dutch collaborators came out, and we were just sitting chatting the one day and we were telling him how exciting we were finding this and that we want to do a book on this [Hm, Ok] which is still there, which we're still planning to do. It's true we got all the data now and we've also lined up a publisher [Oh, that's nice] Anyway, so, and yet, and it was his suggestion. He said why don't you do an exhibition. [Ok] So then we thought, so we, because both R2 and I, I mean there is very little satisfaction in writing academic papers. [Hm] You get there and have no feedback. [Hm, it true] It's very, I mean, we know we have to do it but then there is not any immediate reward. You don't ever hear... [The responses anyway] And then we thought we have never done an exhibition before, so let's try that. And so that's when we did that one up at the festival. [Hm] And that was amazing [The kind of responses that you got?] Yes! And immediate, and yeah whenever we are having a bad day we just need to look at that visitors book haha [Yeah. Howa was the visits eh sort if like, was it mainly the local people or...?] Oh! It was a mixture. [It was mixed kind of thing] And it was really nice that they were also like quite a large number of eh black families who also came [Hm] because that was the problem with, because we also had to get some additional funding that we also got from SANPAD, [Hm] and they thought we were partly targeting the wrong audience [Oh, ok] because they thought that festival was very elite. [Its more like academic type sort of] Yeah. So that's when they said no we need to like have a two-pronged approach. They will give us the money for the exhibition but then we must give something back [To the communities] To the communities, yes. But I mean we, you know, I don't know if this must be on record, we thought like they know this stuff, you know, what's the point really? [Hm, to take it back to the community] Yes! You know, well like this audience is so like not aware of this and that who we a re wanting to share this amazing knowledge with. [Hm] You know [Hm]. So that's why we decided to change the format to not take the format of the exhibition [Ok] but rather do like the interactive poster. [Hm] Because we thought to take like the very format, you know, what's the point? This is all, and to rather make it an awareness poster. So that like how that developed. [Ok] yeah. But I must, I did find it very eh, yeah, I find we always think the community needs to be, I mean in a lot of work it is very important, but this, you know, is like second nature to them! [Yeah, its something that they have always] Yeah, so I mean like why take? Ok, the education, you know, the conservation part of it, obviously we feel that's very important. [Hm] but you got oh! You use this plant and you use this plant. I think it's a bit silly haha, its not very important to have that kind of feedback to them. [Yeah] Whereas like the people at the festival, just, you know, they loved it. [Hm] Yeah. [Hm, that's good] And we also had people from Nature Conservation come and Working for Water, you know, they also enjoyed it a lot. [Hm] Yeah. [So it exposes the culture to a more wider audience that the local communities themselves that you were working with] Yeah, and also, I, just like in the sense, even though like, hm, Working for Water, you know, most of them are black and they know, but it was so, they felt proud that here is their culture being portrayed as something to be proud of [Hm] you know. So they really also got very much impressed like form than that its not something to be ashamed of or, you know, 'cause a

lot of it is, you know, related to, you know, need to protect yourself. You know a lot of times that is always seen as... [Maybe primitive] Yes! Whereas I mean, well, I don't believe its primitive, you know, that is part of who you are and, eh. Yeah, and I mean if we were all doing the same thing how boring this world would be [Yeah haha, it true, haha] Just that, it's like we are trying to be like America. [Hm]

Yeah, so like the book that we also aim to do, I mean obviously the big aim is the need to conserve so that people can continue the practices, but also, you know, make people feel proud of who they are. [Of their culture] Yeah! [Ok] You know all this modernisation, people might feel ashamed of if, I mean and they don't, it's just that they are still all doing it but its not openly coming out. [As a practice?] Yeah. So that's like how it all is [Hm, its quite interesting. Yeah, like I was saying I want to use the poster within educational settings] Yeah [Mainly within schools, and its sort of like, maybe in a way it turns over the traditional ways of doing things whereby the teacher goes and presents something and students are supposed to follow it. But here you are actually having a practice coming from the community setting] Yeah [And being brought into an educational setting, which is the other way round.] Yes that's right! {yeah, and then you have students interacting with that] Yeah [and trying to build up stories from their won cultural background, because you might find maybe some slight differences depending on the locality, like I intend to use it in around {S} area and also around {T} and around {U} Nature Reserve area] Oh, Ok. [Yeah] Sure, no that's gonna be very interesting. Ok. [Hm, I hope it sort of brings out interesting results.] Oh I am sure it will.

APPENDIX 6F: CULTURAL PLANTS PROJECT- INTERVIEW WITH R2

NB

Interviewee words - outside brackets

[] – interviewer's words

{ } - removed place names in text

[So what I am trying to find out is, as one person who has worked on the cultural plants project, is sort of the background to it. What prompted you to work on the cultural plants poster, and that community in particular where you sort of collected the information?] Information, ok, so there's two questions here. One question is what prompted us to work on the cultural plants. [Yes] the answer to that is that, is that we have for 15 years now been working on useful plants, not necessarily cultural plants. [Hm] But we started on medicinal plants. [Ok] And because I am a botanist and R2 is an anthropologist, [Hm] and so we worked well together in that field. So she started, she did a third year project [Ok] on amayeza medicine [Oh, ok]. And she was still a kid and I was working here. [Hm] That's how we met. [Ok]. She used to come in and ask me to identify plants. [Plants, ok] Then she did her honours also on amayeza, on medicinal plants. She came in and then we got to know each other. Then when she did her masters she also did it on medicinal plants. [Ok] then we got married [Hm] So it's a kind of a thing that just grows. Its not like we did, we did sat down and decided today we're going to work on the cultural plants. [Ok] Its just something that evolved. [that evolved, ok] Yah. [Ok] It's basically because of, ah, R1's interest in medical anthropology, [Hm] right, and it wasn't always cultural plants, it started of with... [Medicinal plants, yes. Yah] Right. Then we got together, we got married, and we carried on working together and we did stuff together, then we did quite an important survey that we got funded by, ehm, DWAF, Department of Water Affairs and Forestry funded us to do a survey of medicinal plants in the whole of Eastern Cape. [Ok] That was a big job and that was for us a turning point where we realised, you know, we're not just doing little bits and pieces anymore, this is a serious thing, and we took it on and took two years to do the survey. [Hm] You know that paper that you see? [Yes, I remember that paper] Yeah, that was a big thing and that kind of consolidated, hm, hm, where we were going with this work. [Hm] Thereafter we did a survey, quite a short survey, ehm, on veterinary medicine, [Oh, ok] plants used for animals. [Hm]

Ehm, and looking back in retrospect on those two big surveys, we realised that many of those plants aren't in fact medicinal as we from western point of view, from white guy kind point of view talk about medicine [Yeah] we think we got it wrapped up. [Yes, ok] It's not that kind of medicine at all [Hm] as such, spiritual healing and lot to do with the ancestors [Ok] that kind of medicine. [Hm] So we took the medicines in the, from the 60 most important medicines that we collected in the survey and divided them in two, and that took a long time because we had to go back and visit all those people, [Ok] and the healers and trainers and the traders, the people selling the medicine, [Hm] and we went and confirmed what is the use of this [Hm] ...(interruption)

And we had two boxes, and we said this one for physical ailments; for wounds, and for cuts, and for toothache, and headache and for sore feet, those are physical ailments, [Hm] and we put it in that box. [OK] Than the others were spiritual: for spiritual use for ritual uses, for amasiko, for... I don't know what the word is, for Xhosa things [Yes] traditional [Yes, cultural] cultural things we put them in that box. And we found that 30% of more of those plants were actually purely for that. [Hm] But they always in the past, in all these books, you'll see medicinal, they call them medicinal. [Yes] but they actually aren't really medicinal [Hm] as we define the word medicinal. [Hm] ehm, so that's where the interest came in, and we were surprised at that, that nobody has ever picked that up before. Nobody ever said "Yah, but they actually aren't medicinal". And, and you know, maybe we are just touching at straws, maybe its nonsense what we're saying, but its of interest to us. [Hm] So we are bringing it up. [OK] And you know, we get support form people, ehm. Then R1 just finished her PhD and her supervisor is at W University. [Oh, ok] and, and when he comes to South Africa to see her then he decided to stay with us in our house. [Hm] And one evening we were sitting and we were looking at the photographs on the computer. [Ok] These were all plant photographs but my other photographs on another folder are people photographs. [Hm] Yeah, and he was looking at them and he said would you like to show to other people, and I said yah, yah that's fine and didn't mean to rethink about it. Then he went back ...and he thought about it some more than he wrote back to me and he said "I am prepared to fund this. This university is prepared to fund this exhibition. We'll give you X amount of money, you blow the picture up, mount them and present them." But then we will obviously write a proposal, and it was all academic. [Ok] And we did write a proposal, say what it was all about and what it's for. [Hm] So we thought that it would be a good idea that was something useful that we could do, ehm, but not just to show the pictures because they're nice pictures. It had, it had an education aspect to it. So in other words what we are saying to people , and actually very strongly about it, is that fro years and years, since the beginning of time, nature conservation has been perceived by people in South Africa as police, as policemen. [Hm, Hm] They are the same thing. Nature Conservation is policeman, and the policeman is nature conservation. [Hm, yeah] People are scared of them, they've got a bad reputation, they don't like them because they're considered people with guns and big sticks and handcuffs. [Hm] We have to change that paradigm, we've got to shift that paradigm, we've got to teach people that conservation is actually for their own benefit [Hm] not the state that comes with the stick and says you mustn't use that plant, you mustn't chop that tree down. People must think for themselves and say why mustn't I chop that tree down [Hm] so that the whole country, farming people living in villages to town have a better concept, a better understanding of what conservation is [Hm] because obviously its very important, its like chopping your own feet [Hm, yeah] and say oh but ... now I can't walk. [Hm] Yeah [Hm] It's very obvious, I don't have to explain that to you. [Yah, that true]

Now, if you turn to cultural plants, plants that people use for cultural purposes, and you say to people " Do you want you're your children, do you want your son to got to the bush", they say yah yah, for sure, absolutely. Then you say

to them "but if your son goes to the bush he's gotta have the right plants. [Hm] He's gotta have the right plants for the bandage, he's gotta have isinquma for the rituals, gotta have those things, and your grandchildren and her grandchildren and in the future. [Hm] if we use those things up now, if we finish them, they won't be able to do that [Hm] in the way that you're doing it now. [Hm] in other words your culture, your rituals, your spiritual functions will fall away, yeah. "[Yeah] And then people think yoh. Then they sit back and they think yoh, unyanisile, but he's talking, making sense, [Hm, Hm] It's true what he says. [Hm] we think that's a useful tool. You know there're lots of other ways of doing it as well, doing education at schools, posters, whatever the case. But for us we think its useful, its just a tool, that's not to say we gonna change th pace of the earth, not to say that's the only way to do it. [Hm] But its just one way that we think we can sell conservation. [Yeah] People wanna understand things, they don't wanna be told "you mustn't use that otherwise ndizokubetha'. [Yeah] they don't wanna hear that. [Hm] If you go to people and say "its fine you can use but use it carefully, use it wisely because your children's children also want to use it." [Yes] Then I think people will understand, they will understand better and they will conserve thins. [Hm] And my point of view as a botanist, as a biologist is I wanna save the plants. R1's view as an anthropologist is she feels strongly that Xhosa cuktire mustn't die, mustn't disappear. [Hm] And you will note that the Xhosa culture, the strong Xhosa that still exists is in {A} and {B} [Yes]. Why, because those places were fenced off for 40 years. [Hm] Those people were kept out of... [Racial segregation?] Not to say that was a good thing. [Hm] It's a bad thing, but even so they were cultural baskets and kept aside. The rest of the world didn't know what was going on, neither did they care what was going on. [Hm] Now suddenly it's opened up. [Hm] Those fences are down, the border posts are down. [Hm] People are exposed to other ways of life. There're taxis, taxis are such an important means of transport to urban areas and back again. Suddenly people are being exposed. Even in the most rural rural areas there is a taxi there, you can guarantee. The top of that bloody mountain, Ntabankulu in Transkei, you can drive there and be there. [Hm] Suddenly thers's links to urban areas, so now people are exposed to urban, different cultures and different ways of doing things. Now is very very important time to educate people and to say to people "you need to keep your culture", because, you know there's a thing that I read the other day. It said something about in the Amazon there is one language that dies every year for the past ten years, and you can imagine that if a language dies and nobody speaks that language anymore, then there is no culture. [Everything is lost] Absolutely! Cause that's the most important part of it, isn't it? [Hm] And if that can happen here easily. [Hm, hm] It can easily happen here. So its not to say that it is. Thankfully, Xhosa people are very proud of their culture and they continue to do their rituals. Its very, still very important, even in towns and cities. [Hm] All over town. Fortunately we are lucky that they feel very strongly about it, and the flip side of the coin is that there are more people who are doing this at a commercial level. [Hm] If somebody lives in {X} they're not gonna go, they're not gonna drive to {Y} or {Z} and go and collect these plants. They just buy them. They just go to the shops and to the markets and they buy them. [Hm] And its very destructive, [Hm] 'cause people are harvesting a lot of stuff and they are only selling a little of it, and the rest of it

they are throwing away. [Yeah] So its very destructive. [hm] So part of this educational, part of this process is to educate people to look after these things, [Hm] because once they're gone then that use for them also goes. [Also disappears, yes]. Its fine you can use something else, you can use camomile or betadine to bhopa here, [Hm] but that important, the reason fro that is not just to heal, but also there is a cultural aspect to that. [Hm] And that would be lost, it'll be gone. So there's two sides to these. [Yeah] Its like a scale with two sides to it, you conserve one you conserve the other, you conserve this one you conserve that one. [Hm] So that's where this poster came into it. We had an exhibition, you saw the exhibition. [Yeah] You saw it was very successful, but it's just a block in town, on the calendar it was 2005, June 2005, qha, gcithi. Its over! [Hm] So what we needed to do was to build in something that has a life. [Hm]

So we had a meeting with your people, with D1 [and D2] and D2 [Yeah] an some other people, and we invited them as educationists like you saw [Hm] to take this information and build on it. [Ok] Not ot just reproduce it, that's what's ideal. We don't want people to just reproduce things. We want to take the concept and to build on it, and to create something as an educational tool, because I am not an education, [Hm], educationist, educational, educationist. [Hm] Is that the right word? [Yeah] That's not my job, I am a botanist and R1 is an anthropologist, we're paid to work as researchers, [Hm] we're not paid to educate people. So we invited your people to take this thing, and to build on it and create something that can be used as a tool to educate. [For educational purposes] Right, in exactly this concept about culture and the environment. [Hm, hm] What they did then, Kattie developed a poster and we now have that poster in 1,2, 3, 4 libraries in Eastern Cape: [1], [2], here in [3], one other place I cant remember. Anyway I didn't have anything to do with that, R1 did that [Ok] and presented the posters and they put them up in their displays. [Ok] The only that I did go to, was in [1]. We went together there because my parent live in [2] [Ok] and I was on my, was on the way there. [Hm] And we were putting it up in the foyer of the library. People were coming in, it was a week day, was Tuesday morning. So there were adults [Hm] who were without jobs and they'd just come to read books and the newspapers and the magazines and so on. When coming in they stopped, one by one they're coming and they stopped and looked, shu man, They understood the message, they understood the content, but ah, what can I say? Not, I don't think enough! So they'll look at it, and they'll check through it, and they'll understand it, and then they would walk, they would walk away and discard everything. It's just forgotten, everything! [Hm] We need to develop a tool to [Make a change?] inspire the people. [hm] So, you know, that costs lots of money and that's lots of money, and that's a national programme. [Hm] Right now with HIV and AIDS, and poverty and housing it's not a priority for government. [Hm] I understand that, it's fine. But I don't know if you have seen now on the TV, there's a thing called Love Life, I think its called Love Life. [Ok] Have you heard about it? [Yes I have heard about it] It's a series of films. Of short films that they're gonna show on TV and you buy a bundle. [Oh, ok] And it's about moral regeneration. So each one of those films has a message, and what they are trying to do at a national level, its sponsored by First National Bank. [Oh] And what they are trying to do is they show these

movies over and over again on TV. Ahm, I think they are seven movies and each one has a different message and they are important messages about love, about responsibility and about moral things [Hm] because the country is in a crisis in terms of moral discipline. The crime is just too bad [Yeah] and the young kids that are growing up in schools, they, their concepts of right and wrong is bit mixed up because some guy who's just off the top my head, I think of an example, he's the football captain of Bafana Bafana. He goes and rapes a woman and gets off scot free. [Hm] So now here's a kid who's six years old and he sees that, he'll think well, obviously rape is not an important thing uyeva. [I can do it as well, hm] So people are quite free, they're not sure with their morals, what's right and what's wrong. [Hm] I honestly believe that and I think that's a crisis that's much more important and much worth than we do, [Hm] to build morals again, to get people to understand what's right and what's wrong. [Hm] But the only reason I refer to that is because that's a tool, they're selling something, it's an educational tool. [Yes]

So to come back to what we do, [Hm] we need to give our views and educational people need to develop a tool, whether its formal, whether its videos or on the radio or it doesn't even have to be media at all. [Hm] It can be a completely new way of doing things. [Hm] There's hundreds of ways of educating people, but I believe it needs to, at the end of the day it needs to be a National campaign to save people's culture, and in there thereby doing that to save biodiversity. [Hm] and that how this poster came about. You okes actually agreed that you'll do it. We just feel quite strongly about two different contexts, biodiversity and cultural diversity, [Hm] and that's where the term comes from, biocultural diversity. [Yeah]

That answers one question. What was the other question? [The other question was why the focus on that particular community, but I think that has been covered] Ok, I can quickly answer that. [Yeah]. The reason is because hm, eh, along long time ago, back in the 90's, those people min that community had a land claim. Still hasn't gone through. It's been waiting fro 15 years to won land. It was white owned farms. Its actually a very old ehm, historically important farm where the guy by the name {VK} [Ok] who was a missionary [Hm] in the 1800's, a very long time ago, and he worked in this part of the country as a missionary. It's well documented, it's written about. But anyway as he moved in the 1800s it was still a time of conflict. There was still war all over the bloody place and there were no roads, there were no towns, and it was chaos. [Hm] And he will get on his horse with his people and he would move further and further inland trying to eh, sell religion [Hm] Christianity to people. It was his job, he was a missionary. [Hm] And that's as far as he got. [Ok] And when he got there he said this is {E}. {E} means, in Latin, it means 'so far, no further', [Hm] this is where I stop. [Ok] Cause that's as far as he got and he stopped there and he was tired and he was fed up with his job. So he farmed there and he built farms and an old mission station. Its till up the top of the hill behind where {N} lives. [Ok] That's where it got the name {E}. [Hm] Then over the years white farmers moved in and they farmed there, [Ok] and obviously they had people working for them there as labourers [Hm] who happened to be black people who came and worked on the farms and they lived in small houses in the homesteads. And over the years those

families increased and they became farm labourers. [Hm] then in 1972, I think it was in 1972, the homeland of {A} was proclaimed as part of the vast plan of the apartheid regime. They said no they gonna clear up these places and put all the black people in there and keep them away. [Hm, ok]. Ehm, so they gave the white farmers a little bit of money and said bugger off and you must go and farm somewhere else. This is now {A}, it's gonna belong to black people. [Hm, ok] Ehm, and those families who worked, the black families who worked on those farms are still there today. N's husband's father worked on that farm [Ok] in the early 1990s and his grandfather. [Hm] She married into that family, she is from another place, but her husband over the years has lived on that farm and they remained on that farm, [Hm] but hey never had title deeds, [Oh, ok] they just live there. And then over the years, what happened is other people started coming in and they said no no, you mustn't come here, this our place, this is our farm. [Hm] And it became a very complicated issue. government officials, {A} government officials used that farm and they claimed ownership of that farm with their cattle. And in fact they went as far as to say that people living there had to look after their cattle. [Oh, shame] It became a very abusive situation where nobody was clear on the title deeds, nobody knew who it belonged to. Then {A} fell in 94 and when it fell away they are still sitting thinking who does this land belong to. [Hm] and you not gonna go and build a bloody water windmill there, which is gonna cost a 100 000 rands or whatever the case is if its not your land. [Yes] You only invest in something once you know its yours. [Hm] So, they actually came to R University and, ahm, actually in fact it was N and some other people. N was chosen because she speaks a little bit of English. [Ok] Then she only spoke a little bit of English, now she speaks English much better. [Hm] And they approached R University because the {anthropological institute} had dealings with land claims. Then it was R, you know R [Yes] Yeah ok, she was very much involved in land claims, land distribution claims, land restitution. She used to be at {anthropological institute}, she is still in {G}. And they came to her to ask to intervene, oh what are we doing here, how can we move forward with this? [Hm] So what they did is they held lots of meetings to get restitution on these farms, there's five farms, X is only one of them. [Ok] And R1 met N through that process. [Ok] And then it was along drawn out process, we use to have meetings, it was called forums, we used to have meetings over a period of number of years. Still to this day they haven't got the claim. [Hm] It's unbelievable, its so bad. [Yeah]

So, anyway that's how R1 met N and then worked together she met people in the community and they grew up together and got to know each other, and I guess there was certain amount of trust that then developed over the years. [Hm, Hm] ehm, even, you know, even yesterday, I was there yesterday. There were so many people, there were lots of people who cma up to me "How is R1, How is J". They want to know my family. [Hm] So that became something that they took in and that exactly why that community [Has been a focus] has been focus, because its much easier to go to people who you know [Who you know, yeah] than to people whom you don't know. But, but, but, ehm, what I mean to make clear is that it wasn't a project per se, it wasn't something that we decided this is what we gonna do. [Hm] It evolved over a long period of about 10 years. We've been doing bits and pieces here. I had an interest in

veterinary medicine [Hm] and of cause those people have problems and they have bloody good farms. There's lots of cows [Hm] and a very wealthy farmland. [Hm] The people are poor, but they got good cows there. [Hm] Grassland is good. Its called and there is a swathe of what they call Smaldeel. It is part of the {W}. It moves through from East to West to that part of A. [Ok] And its very, very highly productive. [Hm, so its part of that area as well] Yeah. So then obviously I went there and spoke to people there about what plants they use... [For veterinary purposes] Yeah. Ehm, and the other reason of cause because they are very rural people and they have kept in touch with their culture and their rituals. [Hm] And they are still doing those things, whereas in other places maybe not much [The practices have fallen off, yeah]

I must admit, ehm, you know I don't really understand the dynamics of it, but we've got holiday cottage in {E} in the wild coast [Hm] that I've been going to since I was one. It belonged to my father, before there was his father. [Ok] And its just a little shack on the beach. [Hm] And I was there in April, [Hm] just walking around. People that are known to me there, and they've been known to me since my childhood. And I used to collect bird eggs, I used to be keen on birds. [Ok] I was always looking at birds. And they still remember me, and they come to me, and they will ask me, and they chat to me, and speak to me and ask after my family. [Hm] And in return I was asking them do you know about these plants and do you still use this. And I must admit I was only there for a couple of days, and realised that the cultural knowledge of plants in particular is less there that in {A}. And I can't understand why because it's very very rural. [Hm] It seems to me that poverty has lot to do with it [The way people relate to plants?] And those people are poor, yes, yes, they are poor. I've never seen such poor people. Here in {A} were N is people are poor but they can still afford to do rituals. Because rituals you gonna buy a goat or a cow, you gonna make beer, you know. [Hm] It costs money. There they don't have money, and I think, that why I think, I am not sure, but I think a lot of those constructs have fallen away [Hm] because they just don't know. And the people I've spoken to, the young people, sort of my age, they just didn't know about these things or they say, yah, hayi ndivile, no I heard of those things but I don't know. So that was quite surprising. Its obviously a very important dynamic for the anthropologists looking into plant studies to find out why. [Why, yes] Its seemed strange to me, I have always thought that the more rural... [The more the link?] but its clearly not that way. I think its money, I think its important for people to have money, to have access to these things. [Hm] but I don't know. [Hm, its quite interesting]. But anyway that's how we got in there. It was a friendship to, with people and families. That's how we chose, not chose, that place, but I if had a burning question, like if I went to market and we found this thing on the market and I want to know what the hell this is...[Made out of yeah] I wanna know what the hell this thing is, example uluzi which is used to make strings fro abakwetha. What do you use it for and what plant, plant is it made of? The first person I am gonna ask is I am gonna go to Nomthunzi and say "You know what this is?" and she will either say "yes" or she will say "no, but I will ask one of the people there...[Hm] who is knowledgeable about these things" Of cause its easy to do that because I know those people and they the kind of information that I am looking for. [Hm] They understand my questions. If I met a complete stranger and I say "What

is this?" they would say 'Why do you want to know this?' [Yeah] It will take me an hour to get the answer that I would get immediately because they know my interest is plants, my interest is in cultural... [Uses?] Yes. So they will give me the answer upright. [Hm] Whereas if I go and ask somebody else it will take a long, long time saying why do I want to know. [Yes, it's true] So it wasn't of choice, its not like we decide that's a nice place to go to. [Hm] It just happened and its still happening in that place. Yesterday I was there [Hm] and I met some new people, lovely people, and they were also doing rituals and things. So its going from there and its just happens to be in that area. [Hm] it could be anyway else, but its just in that area, that's how it happens. [Ok] Does that answer that question? [Yes it does, thanks a lot R2].

[Yeah, and sort of like, eh, looking at the education aspects with regards to the community around these plants and how they use them] Yeah [You have say that there needs to be a tool to get to the communities] Yeah [What do you think will be the best approach?] Yes men, Soul that's a million dollar question. [Hm] That's a million dollar question. You know that its important that the people you work with obviously have an understanding of things and you spend more time with them and you talk about it. And N works in the herbarium and we talk about it all the time. [Hm] She is thoroughly familiar with what the mission that's going on is. [Hm] She is thoroughly familiar with that. [Hm] That takes a lot of time and a lot of effort. You know, if she was working, she is not here now, If can have an amount of time on a one to one basis, sitting here, talking to you, then I really don't know, but what I do know is that media is very powerful, the radio and television is a very powerful tool. [Hm] There is no reason why there cannot be more than one tool, you can use as many tools as you like, and radio and television are very powerful tools. At the festival we had that exhibition [Yes] and those tow ladies went and spoke on the radio. I suggested to them, go there and tell them what we a re doing here, we want people to come and look and we hope that they will understand. [Hm] Yoh! and they were so excited and they went there and people interviewed both of them. [Hm] And even a month later people were just phoning. [Hm] They were just phoning. [Hm] They would just phone and they would say "Oh we heard on the radio ands we want to get this medicine or this medicine, where can we get it?" That such a poor tool, I mean they got the wrong message 'cause they thought that were selling medicine or something, [Yes] but the point is its such a powerful tool and it reaches millions of people, everybody got a radio and lots of people have got televisions. [Yeah] Ehm, so I don't know, I think that would be, at national level, that would be a very very important tool. [Eh] But you got to start somewhere, that's why I thought that, you know, we have this meeting with D2 and D1 and they said well, you know, lets develop a poster [Hm] because that's gonna last. [Hm] Eh, and we can't be there with all the time, so why give something and walk away from it. Eh, [Hm] I must admit, to be quite honest , you know, and I don't mean no disrespect to the department, [Hm] But I must admit I don't think it has been as successful as we hoped [Hm] 'cause its picture, that's all it is. [Yes] People walk past it, look at it, they will walk past it and immediately they have forgotten. [Yeah, its quite true because its not very interactive] That's quite true. The machinery of learning, of true learning, is to involve people. [Hm] that Confucius, that man, that famous Chinese

philosopher, he will say, he said that if you want to make somebody learn you got to involve them. [Yeah] They've got to feel it, that is they've got to smell it, they've got to taste it, that is they will learn. [Hm] That's you get all senses: touch and feel and smell and taste and site. [Hm] And if you are bombarded with a message on all those levels, touch and smell and taste and sight and hearing (clap) then we learn. [Hm] ... You develop a tool that has all those [That's quite interactive] Yeah [I understand that] Ehm, and the only way to do that, all five senses, is to have a dedicated person to do that. [Hm] You can't do it with a picture, or a TV, or a radio. [Hm] radio is hearing, TV is sight and hearing, pictures only sight, there's no tastes, there's no taste, there's no touch. [Hm] And so I don't know, that a million dollar question, that's what you are paid to be solving. [Yeah] Ehm, if you can develop a tool that sells information or sells that message to people on all those levels then you won it. [Yeah] Then you really won it. [Hm] And up until now, as I have said, Nature Conservation, it hasn't worked anywhere in the world [Hm] because it's big stick. [Hm] A big stick doesn't work. [That's right, yeah] Shoo, I don't know. I can't answer that question. [Yeah, its quite a big question really]. You know, it goes for anything. I mean it doesn't have to be this, it goes for HIV/AIDS education. [Hm] You know, they're doing a fantastic job on television, there's adverts all the time about HIV/AIDS, there's people travelling from parts of the world, they're travelling all over the place. I met two young people from Umthatha the other day, travelling from village to village education people about AIDS. [Hm] But they will drive out of the ... village and the kids will say phuuuuuu [its gone, hehe] blowing them up and throwing them away. It's a game for them. [Yeah it's true] I don't know really, I really don't know what the answer is, yeah. [Hm. Its something that has to worked upon] Yeah [Yeah]

This, this exhibition was in {G} for a year and now its here. [Hm] They are actually, now they are just trying to put it up. Its fine you know, people who are interested would come and look at it, people who really have that money would come to look at it. [Hm] But school kids, when they come to you they, [Hm] Ah, then they walk and it's gone already. [Yes] And then here you gonna see that these herbs are never gonna the protection either [Hm] form the community. You ask somebody "Do you wanna go to the movies, to the cinema of do you wanna go to the field" "No, I wanna got to the movies!" [Yeah] You know [Yeah, haha] The extra complex we have built in. You say to your kids "Do you wanna go to the beach or go to..." "No we wanna go to the beach!" [Yeah] I don't know. [They need more interaction?] Absolutely, absolutely. [Yeah] So, you know, we got a long way to go [Hm] with education, at all levels, not just about this project. [Hm] At all levels we got along way to go to educate people. [Yeah, quite true] its, its, it's a challenge, it's a big challenge, [Hm] not just here, throughout the world hey. [Yeah, yeah] Education needs to have more practice, more priority, and it need, quite honestly, a paradigm shift. It needs to move away from classroom. [Hm] You'll be sitting like monkeys in a classroom with a desk and a pen and the teacher goes on and on and on, half the people are sitting there like this (gestures), fast asleep. [Yeah, haha] We need to change that paradigm. Education needs to be something that kids wake up in the morning, even adults, they wake up in the morning and think ...! today is the day! [hahaha] Yooh, and off they go! [Yeah] How do we do that? [Hm] How do we sell that concept? People must

love to learn, they must love to learn, they must not sit up in bed and say "oh ...! I got to go to school today. [Haha, yeah] yeah it's true. [Thanks R2, thanks for you time] Ah, is that all. [Yeah] Ok! Good day.

