

FROM IMIFINO TO UMFUNO:

**A CASE STUDY FOREGROUNDING INDIGENOUS AGRICULTURAL
KNOWLEDGE IN SCHOOL-BASED CURRICULUM DEVELOPMENT**

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by

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ABSTRACT

This work is a school-based case study conducted amongst learners of a rural High School and the immediate community in Whittlesea in the Eastern Cape where I teach. The research was conducted by using different research methods such as worksheets, questionnaires, interviews, practical activities and observations as well as photographs to investigate three indigenous wild local vegetable food plants (*imifino*). The fundamental assumption of the research is that, *imifino* can be **looked after and cared for**, to become valuable vegetable food plants which can be used as supplements to the cultivated vegetable food plants (*umfuno*). The question was: How could this concept be brought into the curriculum? It had also been assumed that bringing knowledge of *imifino* into curriculum contexts could be of benefit to South African learners.

The study produced a variety of findings:

- There is a general feeling that those who eat *imifino* are the poor.
- There is a lack of interest among women interviewed in the preparation process, for example going to pick the food plants from the fields, washing them and preparing the leaves as food.
- *AmaXhosa* males look upon eating *imifino* with contempt.
- Some males among the younger generation are beginning to overlook tradition and are eating *imifino*.
- Inclusion of indigenous agricultural knowledge in the curriculum was supported by learners and community members. Learners have interest in knowing about indigenous food plants.
- Learners feel as Africans that they must learn about the indigenous food plants in school in order not to lose knowledge of these plants completely.
- The study also identified that interpretation of learning outcomes with an indigenous knowledge focus, requires careful attention to socio-cultural factors, and not just technical/practical factors.

Previous knowledge of learners and community members about *imifino* was mobilized to develop a sample OBE learning programme unit (LPU/Lesson plan) for the Grade 10 FET of Agricultural Science curriculum. The case study illustrates that Learning outcome 3 of the Agricultural Science subject can be achieved if educators involve learners and community members in developing learning programmes.

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CHAPTER 1

GENESIS

1.1 INTRODUCTION

The 1994 election brought about political change and a number of key changes in South African society. The new Government was determined to put in place educational reform structures that would transform the processes and practices of education. The first national minister of education, Sibusiso Bengu, introduced an Outcomes Based Education (OBE) framework and a new OBE curriculum known as Curriculum 2005. This curriculum was revised in 2001 following a first round of implementation after Minister Kader Asmal took office as the national minister of education.

Outcomes Based Education (OBE) principles of learning and teaching have become the educational philosophy of the ruling government. OBE has replaced the Christian National Education (CNE) philosophy of the apartheid government.

Government has, in collaboration with curriculum development experts, academics of universities, research institutions and other relevant bodies, produced curriculum statements on OBE. These statements cover learning areas and fields for all grades of learning (R-12) for the General Education and Training (GET) and Further Education and Training (FET) bands.

Curriculum 2005 stresses contextual learning - learning that will be of relevance to learners and from which learners will be able to socially construct knowledge. Curriculum 2005, in addition, stresses learning and teaching guided by critical and specific outcomes. Learning is expected to be contextual and meaningful to learners within the framework of the expected outcomes. This requires that educators develop relevant curricula (or learning programmes) in their areas and fields of leaning, in co-

operation with learners and other stakeholders, which foster the active involvement of learners.

Musker (1997) drawing on the definition of the National Qualifications Framework Discussion Document (1996) on OBE notes that:

Outcomes-based education and training requires a shift from teacher input (instructional offerings or syllabuses expressed in terms of content) to focusing on learner outcomes (NQF Discussion Document 1996, in Musker, 1997:10).

The policy, with its transformation intent, requires all educators and learners to be actively involved in bringing about positive changes in the lives of the general South African society.

1.2 MY RESEARCH SITE

I am an educator in Agricultural Science. I teach in a rural High School in a very dry Eastern Cape village called Whittlesea. The school is co-educational with an almost equal number of girls and boys. The school population is about 570 learners. The Grades in the school run from 8-12. Normally, I teach Agricultural Science in Grades 10-12. Most male and female learners study Agricultural Science as a subject in this school. There is a small school garden that is used for the production of cultivated vegetables, e.g. cabbages, carrots, potatoes, spinach and beetroot.

Whittlesea was formerly occupied by a white farming community. It is about 34 kilometers South West of Queenstown. As a result of the apartheid policies of the previous government, Whittlesea became part of the former Ciskei homeland. Two big townships, Sada and Ekuphumleni and a village, Shiloh, now form part of the greater Whittlesea. Despite the dryness of the Whittlesea area, between 1992 and 2002 a period of only ten years, three different large villages have sprung up between Whittlesea and Queenstown. Tambo village is the largest and nearest to Whittlesea. It is about 5

kilometers from Whittlesea. A few learners from Tambo village come to Khanya High School where I teach. These new settlements have further impacted negatively on the biophysical environment of Whittlesea and the surrounding areas (Asafo-Adjei, 2002).

Many of the people are unemployed and the majority of those employed either are teachers, nurses, policemen and women or clerks of a few government departments. Generally, the people of this community are poor. There is a lot of population pressure on the land as people have come to settle on previous farming lands with their livestock. Large numbers of the livestock populations have led to serious overgrazing problems with consequent environmental hazards. Animals die because of lack of water and/or food supply.

1.3 THE RESEARCH RATIONALE

The Government's determination to bring about curriculum change in the education system is a challenge to me as an educator as well as other educator colleagues. It requires that other educators and I change our behaviourist roles as educators (content driven and rote learning) and adapt to the changing demands of our profession (Outcomes-based learning). Learning outcome 3 of the FET National Curriculum Statement (2003) for Agricultural Science requires that 'the learner is able to understand and interpret socio-cultural developments in agriculture over time, and to use indigenous agricultural knowledge in relevant management practices, systems and technologies' (DoE, 2003). Indigenous knowledge systems have been neglected in the education system for so long and Government expects that educators, who are very important agents of change, will take up and meet the challenges posed by the new curriculum. This is indicated in the recent emphasis on Indigenous Knowledge Systems in the FET National Curriculum Statements (DoE, 2003).

My research question is about how agricultural knowledge of indigenous vegetable food plants can be mobilized in curriculum development processes using a school-based case study. The apartheid government, before 1994, did not encourage an all-inclusive

education system that benefited all South Africans. Education for blacks was designed such that not much was gained after going through school. Agricultural Science, for example, was studied only as a theoretical subject in black schools. Learners could not apply their knowledge of the subject in any way after leaving school. This is because learners did not acquire any skills whilst they were at school. What was studied was of little relevance to the learner after leaving school.

It is common to see school leavers without anything to do in the townships and village. I have always wished for change that would bring about economic improvement in the lives of the many learners, boys and girls, who have passed through my hands as a teacher and who I see roaming the streets with little/nothing to do.

1.4 AIMS AND OBJECTIVES

In light of the past educational experiences of this country, I decided to do this small-scale research as the beginning (Genesis) of an investigation into school-based curriculum development by educators and learners. It is also my wish that such humble beginnings can begin to form the basis of bigger things to happen in the educational transformation processes. This study focuses on Grade 10 Agricultural Science within the FET band and emphasizes learning about indigenous vegetable food plants.

One of the aims of this study is to enable learners to appreciate values inherent in indigenous ways of living. A further aim is to use the study to provide a framework for further investigation into mobilizing indigenous agricultural knowledge in the FET Agricultural Science subject.

The objectives of the research are to investigate how knowledge of three selected indigenous wild vegetable food plants (*imifino*) can inform locally relevant curriculum development in Grade 10 Agricultural Science. A second objective is to develop a unit of work for the new Agricultural Science subject in FET, Grade 10, with the title ‘*imifino* to

umfuno'¹. Three indigenous wild vegetable food plants *utyuthu*, *imbikicane* and *ihlaba* (*imifino*) have been identified as common edible vegetable food plants within the community where this research has been conducted.

1.5 OVERVIEW OF THE STUDY

There are six chapters in this study. Chapter 1 deals with the context of the study. This includes my role as an Agricultural Science teacher in a changing curriculum context (content based to outcomes based) and how this role has necessitated my becoming involved in curriculum development processes.

Chapter 2 provides an overview of other researches on indigenous knowledge and environmental education processes with relevance to school-based curriculum. The chapter also deals with historical aspects of the Southern *Nguni*, the focus of this study.

Chapter 3 describes the research design decisions that I made. The chapter discusses the methodology and methods that have been used in the study. This study is a case study of indigenous agricultural food plants in the school garden of a rural high school and its immediate community. I am guided by the fact that the methodology is interpretive in orientation (Lewin, 1990) and qualitative in approach (Patton, 1990). The chapter justifies the methodology adopted and the methods applied in this study. I describe how I have used worksheets, questionnaires, semi-structured interviews, participant observation, practical activities and photographs as research methods in this study. I also describe how I have gone about data analysis processes and how I have considered trustworthiness (validity threats) and how I tried to ensure that the research was conducted in an ethical manner.

Chapter 4 presents a first layer of analysis. It presents the findings of the study. It relays knowledge of the learners and knowledge of the community about the three indigenous

¹ *Imifino* is an *isiXhosa* word for uncultivated vegetable food plants. *Umfuno* are the cultivated vegetables. *Umfuno* are looked after and cared for. To me this is the main difference between the two vegetable groups. This study is about how **looking after and caring for** *imifino* could bring them closer to *umfuno*.

vegetable food plants, *imifino*. In addition, my own experiences during the research is discussed, particularly my experience of observing practical activities undertaken with learners.

Chapter 5 presents a second layer of analysis. The chapter draws on and extends the analysis discussed in chapter 4. Further findings of interest on *imifino* are presented. Chapters 4 and 5 are guided and supported by previous research (see chapter 2). A sample learning programme unit (lesson plan) for Grade 10 Agricultural Science is presented in chapter 5 and is based on the research process I undertook.

Chapter 6 makes recommendations and draws conclusions. The chapter provides a summary of the study and reflects critically on whether the question has been answered. The chapter also reflects on the methodology and methods used to conduct the research. Was the interpretive method I used the only way to go about conducting this research? Was it appropriate for my purpose? Have I answered the research question? I then make recommendations for future research into *imifino* and in particular future school-based curriculum development processes.

CHAPTER 2

INDIGENOUS AGRICULTURAL KNOWLEDGE AND CURRICULUM DEVELOPMENT

The children of Africa are today not only cut off from their roots and shunted from one cultural track to another, but are also a part of a cultural exodus in which the travellers end up with no memories, no baggage of any kind. On the other hand, the elders of Africa, those unique living manuscripts, are dying; and as they pass away, Africa's children lose more and more of the roots of its cultural truth (Odora, 1993:106).

2.1 INTRODUCTION

Local people, including farmers, landless labourers, women, rural artisans, and cattle rearers are the custodians of indigenous knowledge systems (Warren & Rajasekaran, 1993:1). The majority of the custodians of the indigenous knowledge systems mentioned above are mostly elderly people without any formal schooling. Many of the younger generations either have been to school and not working or are working in factories and industries in the big towns and cities. Many of these town and city workers, in the beginning, come home from time to time. Over time they establish roots in their new environments. Many of those that have moved to the big towns and cities and who were not able to secure any jobs, very often, completely forget about home. Yet the majority of the youth are still in school. When they finish schooling most of them will follow in the footpaths of those before them. And the movement process continues.

Odora (1993:106) observed that the children of Africa have been cut off from their roots in a *cultural exodus* (my emphasis). In my opinion the children at school and those that have left home for the cities are caught up in this cultural exodus. Those in the towns and cities soon lose track of home and those at school are taught what is "relevant" to their future survival in the towns and cities with little or nothing learned about their immediate environments. They ultimately lose touch with values inherent in indigenous ways of living. Most of them turn to western life styles and do not see anything good about their

origins. As the 'living manuscripts', the elderly (Odora, 1993), pass away, the youth lose more and more touch with their roots.

2.2 INDIGENOUS AGRICULTURAL KNOWLEDGE AND THE AGRICULTURAL SCIENCE CURRICULUM

The OBE curriculum being developed by the post apartheid government lays emphasis on indigenous knowledge systems in the newly defined learning fields (subjects) for Further Education and Training (FET). Agricultural Science is one such subject that emphasizes indigenous knowledge systems in the curriculum. The National Curriculum Statement on Agricultural Science (2003) within the FET band emphasizes the importance and value that learners must attach to indigenous agricultural knowledge in the principle statement and in learning outcome three (LO3). The principle statement states that 'Indigenous knowledge systems in the South African context refer to a body of knowledge embedded in African philosophical thinking and social practices that have evolved over thousands of years' (DoE, 2003: 4).

Learning outcome 3 (FET) states that: 'the learner should be able to understand and interpret developments in agriculture and use of indigenous agricultural knowledge in agricultural management practices, systems and technologies' (DoE 2003:20). As indicated in Chapter 1, this research will focus on how to develop curriculum that will incorporate knowledge of wild indigenous vegetable food plants into the Agricultural Science OBE curriculum within the Further Education and Training (FET) band.

Within the General Education and Training (GET) band, Agricultural Science is merged with the natural sciences. This is because Agricultural Science is considered as

an integrated science that combines the knowledge and skills in the physical sciences, life sciences, social sciences, earth sciences, engineering, mathematics and economics. The subject must be seen within the holistic science framework against the paradigm of an isolated science (DoE, 2002: 9).

This implies that Agricultural Science cuts across many subject areas and should not be seen as an isolated subject. It is only at the level of the FET that Agricultural Science becomes identified as a field of learning (a subject) in its own right.

Learning Outcome 3 for the Natural Sciences of the Revised National Curriculum Statement, Grades R-9 (GET), also states that: ‘Much valuable wisdom has been lost in the past 300 years, and effort is needed now to rediscover it and to examine its value for the present day’ (DoE 2002:10). Grade R-9 is the General Education and Training band. The band provides broad and general education for all South Africans.

O’Donoghue and Neluvhalani (2002:121-129) have observed that much of the wisdom in indigenous ways of knowing has been, and can easily be overlooked. They note that this results in *discontinuities and meaning-making challenges*, which need to be mobilized to enhance environmental learning within the school curriculum (my emphasis). Tomaseli and Shepperson (1999: 409) also note that unrecorded local ways of making sense and doing things tend to get lost in the exchange. O’Donoghue and Neluvhalani have been able, on many occasions in their works, to identify and explain indigenous ways used by people in the past in solving problems (see Vivian, 1986 and Maylam, 1994 cited in this text). In the examples below O’Donoghue and Neluvhalani (2002) highlight the discontinuities and the meaning making challenges, and share insight into ways of mobilizing knowledge and meaning making interactions. Some of the examples include: Sobantu [Bishop Colenso], his students and their encounter with buffalo (O’Donoghue & Neluvhalani, 2002: 22-24). Sobantu [Bishop Colenso] in recording how the buffalo was driven away did not record how his students started fire in response to the threat posed by the presence of the wild animal. One of his students, Magma Fuse, on the other hand, reported of how they (students) took some dung and grass to ‘make it smoke upon the oxen’. Fuse also wrote about the Bishop questioning this activity (O’Donoghue & Neluvhalani, 2002: 22). The Bishop who was, probably, white inquired: ‘What is this? What are you doing it for?’ The students replied ‘Why this now, people do it that so when cattle arrive at the place of others [wildlife], that they may not come to take their sickness, (Edgecombe, 1982: 169 in O’Donoghue & Neluvhalani, 2002: 23).

The story above reveals an indigenous practice situated in everyday experiences of the Bishop's students that the Bishop might have overlooked or did not understand. Many such encounters in the day-to-day practices of indigenous people may have been overlooked over years and may continue to be overlooked (appropriation) if indigenous knowledge systems are not recognized as knowledge that is worth knowing about. The use of smoke to drive away tsetse flies had a significance, which neither the Bishop nor his students could explain at the time. At the turn of the 20th century scientific knowledge established that there was a relationship between cattle, wildlife and the tsetse fly, in the transmission of the sleeping sickness disease. The finding became 'new' knowledge (O'Donoghue & Neluvhalani, 2002) about what was long known and practiced by the indigenous people. This 'new' knowledge was then appropriated (Giddens, 1991) into the colonial administrations and set up against earlier indigenous 'myth' (O'Donoghue & Neluvhalani, 2002: 23) among the indigenous people. Knowledge that indigenous people practiced was discontinued with the discovery of a scientific way of controlling tsetse flies even though what was then practiced made meaning to those who practiced it. It is for this that they (*ibid*) argue such meaning-making practices of indigenous people should be mobilized to enhance continuity in environmental learning.

Other examples can be cited about the discontinuities and meaning making challenges that have been overlooked. Underground pits for storage have been used by people for many years to store their grains (refer Maylam, 1994: 5-6). Masuku (Share-Net, 2002) with a team of co-workers constructed a grain pit under the supervision of an elderly community member. These storage pits are today's grain silos in commercial agriculture and processing industries. O'Donoghue and Neluvhalani (2002) identified methodological propositions developed through the grain pit construction process as: a matter of applying skills under the guiding eye of an authority, *an indigenous person* (my addition) and that construction of the pit was done without an explanation though with a method (unrecorded indigenous ways and processes of doing things). Another example is the collection of water in the river by indigenous people (Manqele, 1994) all of which have explanations buried in myth. I argue that these common sense ways of doing things

need to be mobilized in curriculum processes. By doing this learners will begin to appreciate the common sense knowing behind indigenous practices and the values inherent in local ways of living.

The re-discovery call by the Department of Education (2002:9) is important for learners and especially school-based educators. The President's call for an African renaissance is even more relevant in this context. O'Donoghue and Neluvhalani (2002) have noted that there has been much activity around indigenous knowledge development, yet little has been translated into curriculum perspectives and learning support materials (O'Donoghue & Neluvhalani, 2002: 22).

The rediscovery process, as outlined in learning outcome 3, could come about through curriculum development work. This is the path I have taken. But this would require mobilizing current indigenous ways of knowing with a further aim of gaining historical insights into indigenous practices of the past. The research I am undertaking is a way of finding out what used to be done in the past with wild vegetable food plants (indigenous agricultural practices). It is possible to trace back into the past and re-appropriate (Giddens, 1991) through learning and research. Appropriation (*ibid*), to my mind, is a concept that can be used to critically engage discussions about events of the past, which have been overlooked, disregarded or placed outside the margins of learning either deliberately or through oversight. O'Donoghue and Neluvhalani (2002:22) explain appropriation to mean:

a useful concept for probing the politics of knowledge creation.
It allows one to engage in processes of oversight, transformation
and marginalisation through which much contextual knowing
was lost and changed in the politics of human meaning making

The challenge now is for school-based educators like myself, curriculum developers and 'concerned others' to take up the call to go into our past and bring back to the present those *things of relevance* (my emphasis) that were left behind because of the many discontinuities (O'Donoghue & Neluvhalani, 2002) in our history and development. An

African saying has it that 'if you forget and you go back to take, it is not a mistake' (anonymous). The challenge for school-based educators is to find ways of going back into the past, through curriculum development processes, and to bring back into the curriculum useful indigenous knowledge systems that have been left undiscovered over the many years of South African history.

2.3 INDIGENOUS AGRICULTURAL KNOWLEDGE, FOOD PLANTS, SOUTHERN *NGUNI* AND RURAL LIFE

2.3.1 An historical perspective

Maylam (1994) suggested that aspects of archaeological evidence in southern Africa showed that early Iron Age people were cultivators. He supported this view when he argued that 'numerous grind stones have been found in early iron age sites, as have a number of pits, which have been identified as probable grain stores' (Maylam, 1994:5-6). Maylam notes further that archaeological evidence shows that the past was not static but ever changing. He observed that the early Iron Age cultivators were concentrated in those areas of land where rainfall and soil were most conducive to agriculture (Maylam, 1994:19). Maylam's historical evidence demonstrates how, long ago, indigenous people were able to identify and select sites suitable for agricultural practices.

The area in which my research takes place is inhabited mainly by the *amaXhosa*. *AmaXhosa* belong to the group of southern African people collectively called the *Nguni* (Maylam, 1994:20). *Nguni* economic base was broadly centered along herding, cultivation and hunting. They practiced shifting cultivation based on the 'slash and burn' technique (Maylam, 1994:23). These observations by Maylam are consistent with current agricultural practices of the *amaXhosa*. Most local peasants within my community farm by slashing and setting fire to plants as noted by Maylam (1994). This is done as a way of preparing the land for planting. Slashing and setting fire to plants is likely to destroy many indigenous edible plant species as well as soil microorganisms because of the consequent rise in the soil temperature. Another example of Iron Age practices currently

in use is storing grains in pits among some Zulus of KwaZulu-Natal (Maylam, 1994; Share-Net, 2002). *AmaZulu* are also *Ngunis*.

Little is known about the exact manner and date of the arrival of the southern *Nguni* in the region of the present day Transkei and Ciskei. There is however evidence to show that 'by mid-sixteenth century the Transkei was occupied by *Nguni* speakers practicing mixed farming ... their *occupation* of this region may have begun earlier' (Maylam, 1994:33).

In South Africa problems about land for farming by the *Nguni* became serious following the introduction of the Land Act of 1913. Of the Land Act Maylam commented, 'If the African peasantry was not killed off, it was certainly stifled by the Act. The land would be much more inaccessible. Opportunities for purchasing land were severely curtailed' (Maylam, 1994:143). It is evident from the above observation that the indigenous agricultural practices of the Black African people could have been severely curtailed by the passing of the Land Act. Schapera, 1937 (in Fox & Norwood Young) was quoted as writing, 'In many parts of South Africa the Bantu are no longer able to provide sufficient food for their own needs' (Fox & Norwood Young, 1982:25).

Maylam (*ibid*) further noted that with time, gradual commercialization of white farming, backed by colonial legislation, imposed pressure on cash tenancies and sharecropping arrangements, which forced many African peasants, (*Ngunis* and others), off the land. Racist legislation in 1913 and 1936 designated reserve areas for blacks called 'native reserves'. This racist legislation relegated 80% of South Africa's population to 13% of the land (van Onselen, 1996:8). The large black population naturally put pressure on the reserve lands. Population pressure was possibly a factor that reduced dependence on indigenous food plants in preference to cultivated, commercial but readily available food crops in shops.

It is most probable that the rapid and complex changes brought about by land reforms under colonial and apartheid governments and commercialization of agriculture may have

affected the lives of Africans generally, including their eating patterns. Local agricultural practices could not compete with commercial agriculture. Commercial agriculture is associated with western education and the western system of education in South Africa did not cater for indigenous agricultural practices or indigenous knowledge systems in the formal African school curriculum.

With local people going to school to learn about a curriculum that did not encourage indigenous ways of producing food and knowledge of indigenous food plants, focus gradually shifted to the readily available foods produced through commercial agriculture. Agriculture with a commercial bias is what has been taught in the formal school curriculum for many hundreds of years in South Africa. It has therefore been of little relevance to the rural child who is not able to gain employment after school. Many rural children have remained at home after leaving school because they have not been able to put into practice what was learned at school. They have, through historical patterns of discrimination, not had access to a wide range of post-school education and work opportunities.

O'Donoghue and Neluvhalani have argued that knowledge should not be treated as a commodity and that knowledge construction should not be located within an oppositional logic (O'Donoghue & Neluvhalani, 2002:20). They have also observed that 'dialectic perspectives separate out and oppose indigenous/ non-indigenous and Western/African scientific knowledge (*ibid*). The (general) National Curriculum Statement for FET (2003) aims at encouraging learning where one form of knowledge construction complements the other. Because the apartheid system of education deliberately neglected/ overlooked indigenous practices and their associated wisdom, much of what was local was lost to outsider ways (O'Donoghue & Neluvhalani, 2002) of understanding the lives of the African people. Not much that was African indigenous knowledge was considered knowledge worth exploring to supplement western knowledge in formal school curricula. Thus little opportunity for inter-epistemological dialogue was created (Odora, 1993).

There was little or no opportunity to pass on to the younger generations many of the indigenous agricultural practices of the older people, the “living manuscripts” (Odora, 1993:106). Even if the elders wanted to teach the young, there was no land or inadequate access to land for them to practice and acquire such knowledge. Furthermore, because agriculture had become commercial, food was produced in large quantities and was available for sale on the market. Money and western economic frameworks gradually wormed their way into the daily lives of the African people causing, wide ranging social changes. African adults were employed to work on farms and were paid to be able to buy food to feed their families.

Fox and Norwood Young (1982) recorded that there are about 500,000 plant species on earth. They (*ibid*) recorded more than 1000 indigenous food plants in southern Africa alone. Despite this rich diversity in indigenous food plant species in southern Africa, only few are cultivated (planted, looked after and cared for) and used as food. Many provide sources of food for cattle and other livestock. The seeds of many of these wild plants germinate profusely from animal dung around kraals (personal observation). When decomposed cow dung is applied as nutrients supplement to the soil, different varieties of seeds germinate into edible wild seedlings (personal experience). To me therefore the dung is serving as a valuable wild seed bank. If these wild edible seeds are properly managed (looked after and cared for) they could become cheap sources of edible wild food.

Hawke (1969 in Ucko & Dimbleby) made reference to how nomadic cattle in the Altai enriched the land during winter with their dung, which contained indigenous hemp (Hawke, 1969:19). This way, indigenous hemp gradually became domesticated. The ability of some indigenous food plants to withstand inclement weather conditions and continuous environmental changes make them plants that need to be looked at in curriculum practices.

2.3.2 Knowledge of food plants

Shava (2000) observed that despite the large numbers 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 food plants as food (Shava, 2000:20). He saw this situation as a knowledge gap that needs urgent attention. He acknowledged work done by Mtshali (1994) on knowledge of the elderly people of Maphulumo and Ingwavuma in rural Natal as some of the recent works done on indigenous knowledge. I see my work as an extension of Shava's work and as an attempt to foreground indigenous agricultural knowing in formal school-based curriculum development processes. It is also an attempt to rediscover some of the lost values inherent in indigenous ways of living and learning. Rose and Guillardmod (1974) documented plants gathered as foodstuffs by rural people of the *Transkei*. They stressed the close ties between rural people and the soil and their subsistence on what nature provides. They noted that in the *Transkei*, indigenous edible plants play a major role in mineral, vitamin and protein supplements to a diet low in essential proteins. They also acknowledged the vast indigenous knowledge of the *Xhosa* housewife in distinguishing edible food plants which 'she uses to supplement a usually monotonous carbohydrate diet' (Rose & Guillardmod, 1974:1688).

Fox and Norwood Young (1982) have noted that a considerable body of traditional knowledge is scattered in various publications and bringing it together might help to ensure that it is not forgotten. They noted that loss of such knowledge might occur as it was no longer of relevance to the urban black population and is already tending to be forgotten, ignored or despised in the rural areas (Fox & Norwood Young, 1982:14). With the new curriculum advocating the importance of drawing on the past indigenous systems, knowledge of indigenous food plants should not simply be looked at and treated as black people's knowledge. Instead it is a challenge to academicians, educators and learners as knowledge which, when correctly rediscovered, will benefit most sections of South African society.

In 1974 Rose and Guillarmod wrote:

It would be worthwhile seriously to consider the use of this cheap, ubiquitous drought resisting and acceptable form of nutritious foodstuff before we decide to mechanise agriculture and use weed killer, and perhaps end up with a barren earth and food too expensive to be readily available to our rapidly increasing populations (Rose & Guillarmod, 1974:1688).

Fox and Norwood Young (1982) reported that males despised the *imifino* plants as food. According to the authors males considered that the plants made them weak in the face of battle (Fox & Norwood Young, 1982:69). They (*ibid*) reported that a variety of *utyuthu*, (*Amaranthus thunbergi*) is eaten only by women in the Queenstown district because they believed the terminal leaves enhanced milk production. The belief that males abhorred *imifino*, they said, has fallen away (Fox & Norwood Young, 1982:69).

Fox and Norwood Young further observed that even though there is no certainty about where agriculture might have originated, it is certain that in southern Africa, agricultural pursuits were regarded as 'women's work' except the care of animals and ploughing (Fox & Norwood Young, 1982:21). This observation was also made by Shava (2000) when he reported that women knew slightly more of *imifino* than the men (Shava, 2000:23).

Mbangata *et al.* (1984) advised local people on the importance and use of *imifino*. They argued that wild plants had been used as food for centuries. In North America, Asia, Africa and throughout the world people lived on indigenous foods in the past. They (*ibid*) discussed the health values of these *imifino* plants. Even though they [*imifino*] are wild they contain lots of vitamins B and C, proteins and carbohydrates with minerals such as calcium and iron. They further suggested various dishes that can be prepared from *imifino*. They can be boiled and eaten as such, they can be prepared as salads or they can be prepared mixed with sorghum/*mealie* meal. When *imifino* is cooked plain it is called *ilaxa*. *Imifino* can also be prepared with ground *soya* beans. Boiled *imifino* can also be prepared mixed with groundnut (Mbangata *et al.* 1984:1-24). According to Fox and Norwood Young (1982) *imifino* can commonly be boiled as a relish either alone or mixed

with a little *kaffir*-corn meal or *mealie*-meal to form a green porridge. It can be mixed with a little fat after cooking or it can be eaten after cooking with milk and salt (Fox & Norwood Young, 1982:69).

Mtshali (1994) investigated environmental knowledge amongst two black communities in rural Natal and reported the wealth of environmental knowledge that existed in the two local communities. Mtshali, (*ibid*) however observed that there is a knowledge gap between the youth and the adult generation. She pinpointed lack of interest, school and church as factors responsible for this situation (Mtshali, 1994:74). In my opinion, other factors like television, music, modern ways of entertainment, non-involvement of children from the initial stages of learning, and the many food outlets even in small towns could be further contributing factors to Mtshali's (*ibid*) observation.

Improved food production practices and the availability of varieties of processed foods have resulted in varied choices even for the young. The variety of foods available and the impact of the formal school system have led to a situation where the average literate citizen does not pay much attention to indigenous foods. The general attitude of many people I talked to towards eating indigenous food plants is negative. For example, an elderly woman, Mrs. 'L,' (pers. com. 01/03/03) told me that many people look down on those who go looking for wild food plants to eat.

During one of her interviews, Mtshali (1994) observed that women knew more about the food plants than the men. The reason, I believe, is that women do most or almost all the cooking and will naturally come to know more about the food plants. African societies are mainly male dominated and cultural factors could have contributed to her findings. Amongst the Nuer and Dinka, of the basin of the Upper Nile, women provided most of the food consumed-grain and fish-while men herded the cattle (Isichei, 1997:66).

Shava (2000) investigated the use of indigenous food plants as food by members of the Tuku village community in the Eastern Cape. He reported that the youth had a lot of information to give him on indigenous food plants. This observation is in contrast to

Mtshali's observation. It is possible that the methodologies adopted by the two researchers could be responsible for the differences in their findings about the attitude of the youth on environmental knowledge. Shava's (2000) study was ethnographic and that may have given him opportunity and time to familiarize and interact with the youth as he stayed in the village. Mtshali's (1994) study was interpretive. She did not know the community well. She went to the village at appointed times and left after the appointment. There was no opportunity to stay on longer and interact with the youth. The research was also conducted during very turbulent political times (the period before the 1994 elections). In my experience, in traditional African societies, children are not very often allowed to take part in discussions with their parents or interact with people they are not familiar with. The young do not talk freely before their elders and may even have to move away from their parents' presence when elderly visitors arrive on their compounds. This may also have been a contributing factor to Mtshali's (1994) findings.

However Mtshali (1994), Masuku (1999) and Shava (2000) have all agreed that there is a wealth of knowledge among the elderly in rural communities.

A !Kung Sang of the Kalahari desert asked, 'Why should we plant, when we have so many *mongongos* in the world? (Isichei, 1997:67). According to Isichei, !Kung Sang people have knowledge of 105 edible food plants, the most important is the *mongongos* nuts. Another Sang described the perfect diet as honey, oranges, meat and *mongongos* nuts (Isichei, 1997:67). In Southern Ethiopia, elders and other knowledgeable community members are the key sources or "reservoirs" of plant lore. The consumption of wild food plants seems to be one of the more important local survival strategies and appears to have intensified due to the repeated climatic shocks hampering agricultural production and leading to food shortages. Local people know about the importance and the contribution of wild plants to their daily diet as well as being aware of possible health hazards such as stomach irritation occasionally occurring after consumption of certain wild plants (Wild food plants of Southern Ethiopia; 04/25/03).

The above observations about the !Kung Sang and Southern Ethiopian community is contrary to what Fox and Norwood Young (1982) reported about the *amaMpondo* and *amaXhosa* men/males who regarded wild food vegetables (*imifino*) as food only fit for women and children (Fox & Norwood Young, 1982:39).

Recent famine events in Zambia, Malawi, and Zimbabwe are reminders of how indigenous food plants can be useful sources of food supplementation for survival. This could be more so true especially during crop failure and considering the fact that subsistence agriculture over the years has given way to monoculture and reliance on a narrow food-crops base in many parts of southern Africa.

2.3.3 Views on indigenous knowledge

Indigenous ways exist for handling such issues such as solving problems, looking after the environment, adhering to unwritten rules and regulations and societal controls that bind indigenous people.

Odora (1993:101) noted that

the aspect of environmental integrity guaranteed by traditional land use and management, the respect and sometimes reverence with which indigenous people treat nature, the elaborate sets of institutions and rules which govern the use of natural resources, the highly localized adaptations of agricultural, herding and fishing practices so typical of indigenous people, are deemed unscientific and primitive.

Even though I hold similar views with Odora, I am not in total agreement with her. In the quotation above, she appears to be projecting a viewpoint that portrays indigenous ways of living as sacrosanct and without problems. In my view she also appears to be looking at indigenous knowledge and indigenous ways of doing things as 'the perfect and the ideal' and different from all other ways of knowing and doing things. Masuku (1999) warns against this problem. O'Donoghue and Neluvhalani (2002) have argued against

placing indigenous knowing in opposition to other forms of knowing. They (*ibid*) argued that 'knowledge differentiated in/as abstracted systems that are seen as exclusive and opposing can narrow and limit an engagement with the dynamic capital of knowledge sedimented amongst people interacting in the socio-historical contexts of southern Africa' (O'Donoghue & Neluvhalani, 2002:122).

Vivian (1992) has observed that people who rely very immediately on indigenously developed resources to manage their livelihood have such methods referred to as 'traditional' although the length of time they have been operable ranges from a few years to millennia (Vivian, 1992:56). Maylam and Vivian have argued that indigenous systems are not static but are constantly evolving (Vivian, 1992:56; Maylam, 1994:19). Vivian (*ibid*) has argued that even though indigenous knowledge is dismissed as 'intuitive' it has in fact been distilled over centuries and is often the best guide to sustainable resource management. She cites the Kayapo of the Amazonian basin as a striking and well-known example of a community that has a richly detailed knowledge of the plants, animals and soils of its environment, as well as the best means of managing its resources. She acknowledges the complexity of the Amazon ecosystem but argues that detailed indigenous environmental knowledge is the rule rather than the exception in traditional Third World societies (Vivian, 1992:58).

2.4 SCHOOL-BASED CURRICULUM DEVELOPMENT

Rountree, 1981, (cited in Mtshali, 1994:18) notes that educational institutions are so powerful in determining and rewarding worthwhile knowledge that people from a culture outside these institutions often accept that their own knowledge is inferior. As indicated earlier, perceptions on indigenous ways of knowing have, until recent times, not been part of any formal curriculum in the South African education system. Consideration was not given to curriculum that will enhance indigenous ways of learning and knowing in formal schooling. Because of the colonial and apartheid political history of this country, the educational system was also fraught with inequalities.

The change of Government in 1994 gave rise to the introduction of educational reform processes that include learning about indigenous knowledge systems with a focus on values inherent in these systems (DoE 2002. See chapter 1). The perception of inferiority noted by Rountree, (*ibid*) if true, is being overcome as environmental educators are researching various indigenous ways of knowing and are strongly advocating the inclusion of such knowing into formal school curriculum processes (See for example, Mtshali, 1994; Masuku, 1999; Shava, 2000; O'Donoghue & Neluvhalani, 2002).

As O'Donoghue and Neluvhalani (2002) have put it, in the social-politics of post apartheid transformation, there has been a strong call for '... the recognition and bringing forth of an African symbolic capital in the multi-cultural melting pot of schooling' (O'Donoghue & Neluvhalani 2002:130). By their call, teachers are expected to be active players in the post apartheid transformation process. All knowing that will be of benefit to the general South African society should be encouraged through both formal and non-formal ways. I understand the call by O'Donoghue and Neluvhalani (2002) to imply that teachers are expected to get involved in the educational transformation process by playing active and new roles that will bring about the rich African knowing which has been overlooked over many years in this country. Masuku (1999:56) found out in an interview that teachers could bring indigenous knowledge into the fore by not treating indigenous knowledge as a 'secret or a subject' but one that all teachers can draw on. She noted that if this approach was not followed 'indigenous knowledge could become a peripheral, disempowering specialist issue'. Indigenous knowledge, she observed, should not only be related to subjects that were traditionally associated with environmental education like Biology and Physical Science but also with History and Language. The OBE curriculum is a means of achieving these objectives, she observed. One of the major areas where teachers can play this role is in curriculum development. Masuku noted that 'curriculum and resource developers must start recognizing environmental education as inclusive of indigenous knowledge' (Masuku, 1999:56). I understand Masuku's argument to mean that indigenous knowledge should cut across all aspects of environmental education and the school curriculum. O'Donoghue and Neluvhani's (2002) call for the bringing forth of an African symbolic capital into the multicultural melting pot of

schooling is very relevant here. The teacher as a major agent of change can contribute significantly through curriculum development processes for the bringing forth of African symbolic capital. The call is for every educator to contribute to the development of indigenous knowledge within every area of the curriculum (Masuku, 1999).

2.4.1 Teachers as curriculum developers

‘Teachers should be curriculum **developers** rather than implementers and should **facilitate** appropriate learning’ (Du Toit & Sguazzin, 1999:13). The quotation above describes the new role that the present day teacher is expected to play under the new education system. In the past emphasis was placed more on textbook knowledge and learners were assessed by what they were able to reproduce from textbooks (rote learning). Textbooks are still necessary for learning today. However, the emphasis is directed at the development of curriculum where knowledge derived by the learner is socially constructed and is contextually relevant, addressing issues related to learners’ local needs. Apart from developing relevant curriculum, teachers are also expected to facilitate knowledge acquisition processes by helping learners to acquire the skills necessary for their survival after the schooling process.

Developing a curriculum requires designing appropriate learning programme units (lesson plans) and learning support materials (teaching aids) for learning, in response to learner needs the contexts of the learners. But more than that, the learner must be able to make sense out of his/her learning activities. It is for this reason that I have decided to take up the challenge of doing a small-scale school-based case study research in curriculum development.

Masuku’s (1999) call for curriculum and resource developers to include indigenous knowledge in environmental education processes further supports the role of the educator as an interpreter and designer of learning programmes and materials. This is explained by the Norms and Standards for Educators’ policy document (DoE, 2000). The document states that:

the teacher will understand and interpret provided learning programmes, design original learning programmes, identify the requirements for a specific context of learning and select and prepare suitable textual and visual resources for learning. The teacher will also select, sequence and pace the learning in a manner sensitive to the differing needs of learners (DoE, 2000:13).

The expectations above require that whatever teachers teach lead to the achievement of learning outcomes. These outcomes are framed within the Outcomes-based Education philosophy and National Curriculum Statements. Masuku noted that indigenous knowledge practices should receive attention in subjects, which could encourage learners to explore indigenous knowledge in their practical projects (Masuku, 1999: 56).

2.4.2 Outcomes-based education

The kind of learner envisaged in the Revised National Curriculum Statement (RNCS) (2002:8) is one who will be imbued with the values and act in the interest of society based on 'respect for democracy, equity, human dignity, life and social justice'. From this statement, I understand that the type of citizen expected to emerge out of the new education system cannot be formed only through content, textbook learning and methods. Such methods are not going to satisfy the educational requirements of the new citizen. This calls for all teachers to be guided by critical outcomes and learning outcomes in their teaching.

According to the Revised National Curriculum Statement (2002:14) 'a learning outcome is a description of what (knowledge, skills and values) learners should know, demonstrate and be able to do at the end of the GET band ... learning outcomes do not prescribe content or method'. Learning outcomes describe what learners should achieve at the end of a learning process (RNCS, 2002:14). Since content and method do not form part of determining outcomes, learners are assessed to determine the depth of what they (learners) have acquired through learning. Content and method are derived in context, and teachers are encouraged to develop contextually relevant lesson plans, that also extend learners current knowledge base. Some guidance as to what is expected is provided in the assessment standards, but there is still plenty of scope for educators to

define content and methods in relation to the expected learning outcomes. By assessing learners, teachers find out what learners have achieved.

For the kind of learner that is envisaged, there is also a need for a new kind of teacher. The RNCS (2002:9) envisages 'a teacher who is qualified, competent, dedicated and caring who will be able to fulfill the various roles ...'. For the purposes of this study, I will be exploring my 'new role' as developer of learning programmes for an outcomes-based curriculum. As noted in chapter 1, this work will focus on the development of lesson plans for LO3 of the Agricultural Science curriculum in the FET band.

2.5 CONCLUSION

In this chapter I have discussed the place of indigenous agricultural knowledge in curriculum development and in particular the Agricultural Science curriculum. I also considered LO3 of the National Curriculum Statement (FET) as a guide in the development of an Agricultural Science learning programme unit. The chapter also looked at the indigenous food plant knowledge and history of the rural *Nguni*. Views held by other research workers on indigenous knowledge regarding the place of indigenous knowledge in the curriculum have also been discussed. The need for teachers to take up the challenge as school-based curriculum developers in a changing learning context has been established.

In the next chapter I describe the methodology and methods used in the research. I also describe the research process.

CHAPTER THREE

RESEARCH DESIGN DECISIONS

3.1 INTRODUCTION

According to Yin (1994), a research design is an action plan for getting from *here* to *there*, where *here* may be defined as the initial set of questions to be answered and *there* is some set of conclusions (answers) about these questions. A research design is the logic that links the data to be collected to the initial questions of the study (Yin, 1994:19).

Nachmias and Nachmias (1992, cited in Yin, 1994:20) defined research design as a plan that guides the investigator in the process of collecting, analyzing, and interpreting observations. In this chapter I share the research design decisions I made for this study. This includes an overview of the methodology and the methods. Different data collecting methods used to generate information for the development of a school-based learning programme unit (lesson plans) for Grade 10 (FET) Agricultural Science will be discussed in order to describe how the different research tools were used to generate data that will be used to answer the research question.

Yin (1994:20) advises the researcher to adhere to the research question because the main purpose of a research design is to help avoid a situation in which the evidence does not address the initial research questions. For this research design, I used interpretive case study as methodology. The methods used include worksheets for learners, questionnaires for some community members, semi-structured in-depth interviews with sampled community members, a focus group interview with eight selected Grade 10 agricultural science learners, and practical activities and observations in the school garden. The findings of the learners will be reported as they wrote them. Any wrongly spelt words will be reported as such and corrections will be made in brackets. Photographs were taken on different occasions during the research period for the purpose of narrating and interpreting activities in the garden and in the community. They were also to serve as

evidence of what took place during the research. Field notes were also taken at different times during the research in the school garden and in the community. A journal with recordings of texts was also used.

Selected Grade 10 agricultural science learners went to the school garden bi-monthly between 19/02/2003 and 14/05/2003 to observe three local wild vegetable food plants (*imifino*). The process of **looking after and caring for** the *imifino* as is done with the cultivated vegetable food plants *umfuno* was the major focus of the learner observations. It is also the focus of the research.

Literature on previous works that relate to the research question were referred to and critically engaged with. Because the research is qualitative (Patton, 1990) and interpretive (Lewin, 1990) each of the methods used has been discussed in much detail. Data and how it is analysed and issues of ethics and validity are also discussed in this chapter. Findings from the data generated during the research process will be discussed in Chapters 4 and 5.

3.2 METHODOLOGY: AN INTERPRETIVE CASE STUDY

3.2.1 An interpretive orientation

The research is qualitative (Patton, 1990) as well as interpretive (Lewin, 1990). I understand a qualitative approach to research to be about collection and use of authentic data qualitatively derived. I also understand qualitative research to contain or include data that is relevant to the research question. According to Hitchcock and Hughes (1995:125) qualitative researchers and field workers are likely to pick up a range of documents from their research sites. In their opinion data other than documents can also be collected at research sites. Such data needs careful scrutiny by the researcher to be able to make valid interpretations. They (*ibid*) argue that one of the principal tasks of qualitative data analysis is organizing and making sense of data.

I hold the view that a researcher's ability to use quality data picked from the research sites, the ability to organize data and interpret information accurately is essential in making research trustworthy. An interpretive case study is a trusted interpretation of qualitative data of a specific study. In this research, all different forms of data collected in the study of the *imifino* will be organized and interpreted to enable readable meaning making and to provide informed research-based insights about the *imifino* investigated.

All my interviews with community members required listening more to narratives than to the use of numbers (Kincheloe, 1991). Community members narrated 'oral history' (Hitchcock & Hughes, 1995:218) of their experiences in harvesting, cooking and eating *imifino*. I had to listen to be able to capture the unexpected (Mtshali, 1994). Listening was also necessary to be able to make proper meaning in terms of literal and interpretive understanding (Hitchcock & Hughes, 1995:223) of what was being narrated. It may however be very important to go a step further than the literal meaning made out of any data interview transcribed into a text. Good interpretation requires one to dig deeper into any information and to look for meaningful ideas in any available data collected. Valid interpretation, to my mind, will require a researcher to adopt higher-level deductive reasoning to be able to bring to the surface any possible hidden information and insights.

According to Hitchcock and Hughes (1995:213) letters, diaries and photographs all contribute as sources of documents for any qualitative research. Yin (1984:86 cited in Hitchcock & Hughes, 1995:214) argued that it is only when all the evidence produces a consistent picture, that the research team may be satisfied that a particular event had actually occurred in a certain manner. With this argument in mind every effort has been made to ensure that information collected is relevant to the research. Yin (*ibid*) encourages the use of varied forms of data in any qualitative research process. It is for this reason that many investigative tools were used.

3.2.2 Case study of a school

As indicated above, my research was qualitative and interpretive. It took place in the context of a case. A case study is a way of investigating an empirical topic by following a set of pre-specified procedures (Yin, 1994:15). Bassey defines case study as ‘the study of a singularity which is chosen because of its interest to the researcher ... and the reader of the report’ (Bassey, 1999:75). This case study is focused on finding available information locally on indigenous vegetable food plants (*imifino*) using a rural school garden and the immediate local community in the context of one school (the school where I teach). The study was chosen because of its interest to me.

Data collected by learners using worksheets and questionnaires designed for some community members were used to develop the framework for the research activities. To be able to achieve the objectives of the research, it was important for me to work closely with learners and community members to find out what they knew about indigenous vegetable food plants within the local environment. This information will be used in preparing learning programme units (lesson plans) for mobilizing and exploring indigenous agricultural knowledge within the Grade 10 OBE Agricultural Science curriculum (DoE, 2003) (See chapter 5).

3.2.3 Selecting research participants

In the context of this case study, respondents were purposefully selected because of language difficulties. *IsiXhosa* is not a language I speak fluently. Therefore, as much as possible, I had to choose *isiXhosa* speakers who are familiar with the English language in order to minimize my outsider ways (O’Donoghue & Neluvhalani, 2002) of understanding and interpreting indigenous knowing among the *amaXhosa*. I also had to be careful not to appropriate (Giddens, 1991) indigenous knowledge in my outsider ways of seeing things, rather than as is seen and understood among the *amaXhosa*, the indigenous people, whose knowing I was trying to foreground into curriculum development processes.

It has been said that the elderly are the living manuscripts of indigenous knowledge (Odora, 1993; Mtshali, 1994; Masuku, 1999; and Shava, 2000). Shava however reported that the youth are also repositories of some indigenous knowledge (see section 2.3.2). The informants in this research therefore included elderly as well as younger community members. With my Grade 10 learners as another group, I was able to draw on knowledge of the youth, the middle aged and the elderly, forming an adequate sample for the research.

3.2.4 Participation in the research processes

As indicated in Chapter 1, uncultivated vegetable food plants are called *imifino* by the *amaXhosa*. The concept of the development of *imifino* to *umfuno* (wild, uncultivated to domesticated, cultivated vegetable food plants) in school-based curriculum contexts requires the process of **looking after and caring for** the *imifino* as in the case of the *umfuno*.

The looking after activities involve cultivation processes such as preparing the ground for planting, weeding (around the *imifino*), providing them with plant food, supplying them with adequate and regular water when necessary and observing the growth patterns on a regular basis. My view is that when *imifino* are **looked after and cared for**, there will be little or no difference between *imifino* and *umfuno*. *Imifino* may no longer be considered as weeds because of the care and the looking after. *Imifino* are weeds because they appear as plants where they are not wanted. The looking after and the caring for process may make them wanted plants.

Selected Grade 10 learners went into the garden at two weekly intervals to observe the growth of the three plants. This was done in order to enhance the quality of the research. Learner involvement in the observation also contributed to justifying practical activity as one of the necessary tools or instruments in the research process. This is also a key component of Agricultural Science Education. The learner observation approach was

important as a way of comparing results with my own field observations. The approach was also relevant because according to Parker (1997:33) a curriculum that involves learners in a variety of disciplined activities is one of the expected outcomes of the new OBE curriculum. Observing the plants was not only by learners but also by a community member on one occasion and myself as participant observer. I was an active observer because I was fully involved in the observation processes from the beginning of the research to the end. According to Yin (1994) participant observation provides certain opportunities for collecting case study data. Yin (ibid) cites one's ability to gain access to events or groups and the ability to perceive reality 'inside' the case study rather than 'external' to it as major opportunities in participant observation (Yin, 1994:88). He noted however that participant observation has a potential to be biased. The investigator might have less ability to work as an external observer and may, at times, assume roles contrary to the interests of good scientific practice (Yin, 1994:89). I have tried not to be influenced by my participating as an observer. For this reason a community member was invited to the garden to make observations and to talk to learners about their observations, to complement and triangulate my observations.

3.3 RESEARCH METHODS

As can be seen from the above overview of the case study process, various research tools were used. They include worksheets, questionnaires, in-depth semi-structured interviews (Walker, 1993), focus group interviews (Nyamathi & Schuler, 1990; O'Brien, 1993; Morrison, 1998), observations, photographs (Hitchcock & Hughes, 1995) and practical activities in the school garden. These qualitative methods were all used to generate data for the study. I will now discuss how I used each of these methods in some detail to provide more insight into the research design decisions I made.

3.3.1 Worksheets

At the start of the research process eight Grade 10B Agricultural Science learners were given prepared worksheets to go out into the immediate school environment to identify

any uncultivated food plants (Appendix A). The class is made up of 38 learners. Data from all 38 learners would have been too large to handle considering that this is a small-scale case study. Only eight learners were chosen to enable fairly easy data handling. This exercise was carried out to be able to find out what learners already knew about indigenous food plants bearing in mind that to mobilize indigenous knowledge, it is important to have an understanding of learners' prior knowledge. It was considered an important requirement to finding ways of mobilizing indigenous knowledge in curriculum contexts (O'Donoghue & Neluvhalani, 2002). The exercise was also intended to serve as a steppingstone to identifying the plants and developing the framework for the looking after activities in the garden. The work sheets were not prepared to target any specific indigenous vegetable food plants for identification. Learners were to try and name any common vegetable food plants that they were conversant with on the school compound including the school garden. The school garden was specific because of the cultivation activities needed in the research. Another aim for the worksheet exercise was that tangible information would be gathered from the worksheets and this would inform the structure for further investigation. This would be guided strongly by the research question and the objectives of the research.

3.3.2 Questionnaire

In addition to what emerged from the worksheet exercises, questionnaires (Appendix B) were also given to eight selected learners to be distributed to community members. The eight learners were to distribute questionnaires to all ages of community members. The questionnaire was aimed at finding out what community members know about wild indigenous vegetable food plants within the community. No identities were to be provided by the learner handling the questionnaire or the community members answering the questionnaires except for the ages of the community members. This was done to eliminate fear amongst learners who might return questionnaires with displeasing or incomplete answers. The purpose of the questionnaire was to add to the information provided by learners in the worksheets. The information from the learners (worksheets) and community members (questionnaires) was used as a basis for the design of the

practical activities in the garden. As with the reasons for the worksheets, the quantity of the questionnaires sent out was not large. Each learner was expected to return his/her questionnaire. No problems were encountered by learners in the distribution and collection of questionnaires from community members. The questionnaire was written in English and translated in to *isiXhosa* by a colleague. The *isiXhosa* translation was to ease the answering of questions by community members who might not be comfortable with the English language.

A discussion of the questionnaires with learners after they were brought from the community could not take place because of the time needed for the cultivation processes. Discussing the questionnaires would have helped to probe the knowledge gap between community members and learners.

3.3.3 Practical activities in the garden and observations

I realized from oral discussions I had with some of my learners on 10/02/2003 that I would have to adjust the timing of my project, especially the practical activities in the garden. The adjustment would help me to plant the local vegetables and make reasonable observations within the time available to me before autumn. Some of the learners had expressed fear that the plants might not grow long into the autumn. We are a rural community and community members know much about the seasonal changes, so I believed and also entertained the fear the learners had expressed. On 11/02/2003, I gave out questionnaires in English and *isiXhosa* to learners to give out to community members. Community members were free to answer the questions in the language of their choice. I sent out the questionnaires as a quick means of checking on the names of the plants that the learners identified on the school compound. On 19/02/2003, I went out of school to look for the tractor owner, Mr. M. He farms on a piece of land between Whittlesea and Queenstown. He told me about his joy in farming except for the many cobra snakes on his land. Ploughing was done on the 20/02/2003 in the morning. Local indigenous vegetable seeds of the three plants picked from any available dried plants were nursed on the 20/02/2003. They were watered. I had no stock of seeds because I did not know what

seeds to collect when the plants had not been identified. Time was running out on me if I was to be able to do the research successfully.

On the basis of the worksheet exercises performed by the learners and the information provided by community members in the questionnaires, practical activities were set up in the school garden to study three indigenous vegetable food plants. The practical activities were set up around the looking after and caring for of *imifino* as sources of food that can be used to supplement other cultivated vegetable foods in the diets of the community.

The identified *imifino* for investigation are *utyuthu*, *ihlaba* and *imbikicane*. Learners, community members and I, as an active participant observer, were involved in specific investigations about the *imifino* for the period between 20/02/2003 and the 14/05/2003, a period of about three months. Eight learners were divided into groups of 3:2:3. The first group was called learner observation group 1 (log 1). The second group was called learner observation group 2 (log 2) and the third group was called learner observation group 3 (log 3). Learner observation group 1 was assigned the responsibility of observing only *utyuthu* on a two weekly basis for the three months. Group two was assigned to observe *imbikicane* on a two weekly basis. Group three was to observe *Ihlaba*. The groups were to make observations every two weeks for three months. Findings of the practical activities will be discussed in chapter 4.

The three different *imifino* were initially nursed as seeds in the garden after ploughing. They did not germinate even though they were provided with adequate water. However, seeds sprouted freely in many parts of the school garden. The land was provided with organic matter as a basic source of nutrients for plants that will be grown in the garden. Time factors and the approaching seasonal change, influenced the quality of plant material used for the research.

Mtshali, (1994 cited in O'Donoghue & Neluvhalani, 2002) accidentally came across wild vegetables growing in homesteads where organic matter had been dumped regularly in rural Natal. The application of organic matter has its significance on the growth of the

plants. At the time I thought that learners might be able to find out through theoretical reflections while doing their observations as part of practical activities, the significance of organic matter on plants. I felt that it might also help to bring out the ‘science’ behind Mtshali’s (*ibid*) findings.

O’Donoghue and Neluvhalani (2002) have argued that indigenous knowledge and western science should not be seen as oppositional but as supplementing each other. Observations by learners, myself as the researcher and on an occasion, a community member, were made during the research. The observation formed a major component of the research. It was important to follow the looking after and caring for processes of the *imifino*, because it is the core item for this work. It is the outcome of the looking after and care that will justify the research processes and the need for its introduction into Agricultural Science curriculum development processes. In my view the looking after and care for these local vegetable food plants is a beginning of a local domestication process that is central to the concept of crop production in Agricultural Science.

As noted above, the learners went into the garden bi-monthly to make observations of the three plants being looked after: *utyuthu*, *ihlaba* and *imbikicane*. (I went with learners into the garden on an occasion to see how they made their recordings during their observations). The learners were given different field notebooks in which to make their observations. The learners were to make separate observations on the germination of the plants, the rate of their growth, the plant sizes, flowering, flower colour, taste of the leaves at different times during their growth, seed formation, seed colour and size. I did not interfere with what learners wrote in their different notebooks (Appendix F). I had also made field reports on several occasions in the garden. These will be used to compare with the observation notes of the learners.

3.3.4 Focus group interview

Morrison (1998) stated that Borgardu (1926) used focus group interview as a response to the cost of conducting individual interviews: ‘in a sense, Borgardu got a lot of interviews

for the price of one' (Morrison, 1998:167). O'Brien (1993), supports Morrison's viewpoint, when he argues that 'group interviews are an effective and relatively inexpensive means of interviewing several people at once' (O'Brien, 1993:361).

My decision to use focus group interview in this research is, however, not about cutting cost. The method was chosen to enable the unearthing of all the divergent thoughts and any latent information that learners might have wanted to talk about, or that may have been missed in the use of worksheets and questionnaires or during the use of other research methods involving the questionnaires and practical work. The method was also used to listen, reflect, interact and gather many views on the same topic at the same time.

The use of focus group interviews as a research method, to my mind, encourages free talking and constructive exchange of opinions, ideas or issues between groups of selected people. In this case a group of eight Grade 10 agricultural science learners were chosen to discuss what they knew and felt about three indigenous vegetable food plants, *imifino*. They were also asked to deliberate on the idea of mobilizing indigenous agricultural knowledge of the *imifino* to supplement the FET Agricultural Science curriculum. Nyamathi and Schuler (1990) argued that the focus group interview is a qualitative research method for gathering information which, when performed in a permissive non-threatening group environment, allows the investigation of a multitude of perceptions on a defined area of interest. They (*ibid*) have further noted that '... the major goal of data gathering is the generation of detailed narrative data as opposed to numerical data. As such, it is a systematic study of the world of everyday experience' (Nyamathi & Schuler, 1990:1282).

Being a rural school, the learners' ability to speak English fluently is affected by the dominance of their first language, *isiXhosa*. The discussions were held in *isiXhosa* and moderated by an *isiXhosa* speaking colleague. All that was discussed was written down in *isiXhosa*. The discussion in *isiXhosa* was to allow for a free, in-depth and open discussion of the issue from *imifino* to *umfuno*. The discussions were translated into English by a colleague for my benefit (Appendix F). From the focus group discussions

data was generated that helped to make possible interpretations in the study. I am aware that the transcription from English into *isiXhosa* may have led to the loss of some meaning.

Morrison (1998) notes however, that the view point of Nyamathi and Schuler that focus group interview is a systematic study of everyday experience may not be totally acceptable. Morrison argues that the topic of investigation may be distant from that of everyday experience, but nevertheless one would wish to know what people feel and think about it (Morrison, 1998:166). Morrison's view is more acceptable to me because participants in a focus group interview may not necessarily be conversant with what is to be discussed and so it may not be an everyday experience as argued by Nyamathi and Schuler (1990).

3.3.5 Interviews

Yin (1994) considers interviews as one of the most important sources of case study information. He observed that case study interviews are of an open-ended nature in which you can ask key respondents for the facts of the matter as well as the respondent's opinion about events (Yin, 1994:84). Anderson *et al.* (1994:170) have argued that interviewing is the main instrument used in case studies. Cantrell (1993:96) has also argued that interviews can be grouped as structured and semi-structured. I used the semi-structured interview method to enable me to develop a wide area of discussion for the respondent, to converse and unearth ideas. I needed in-depth information from a cross-section of community members to be able to develop my envisaged school-based curriculum unit. Cohen *et al.* (2000:268) highlighted some of the purposes of interview, among others to test or develop hypothesis, to gather data, as in surveys or experimental situations, and to sample respondents' opinions.

Semi-structured questions were used for interviewing community members. As I had indicated earlier on, the use of this method of questioning was to allow for maximum

talking by the interviewee. It was also to give me an opportunity to listen to new ideas that may not have occurred to me to investigate.

Cohen and Manion (1994), however, see some disadvantages with the use of the interview method apart from its advantages. They have noted that interviews are unusual methods of conducting research (Cohen & Manion, 1994:271) because they involve the collection of data directly from interaction between individuals. Interviews also (*ibid*) have the disadvantage of being subjective and of being biased on the part of the interviewer. This observation by Cohen and Manion (1994) was noted when I played a tape of an interview I had conducted with an elderly community member. I appeared to have been mooted ideas that might support the research question. The observation helped me to avoid instances where the work would appear subjective and biased. Cohen and Manion, (*ibid*) however, agree that interviews can go into depth in helping to collect information in comparison with other data collecting methods. Yin (1994) noted that overall interviews are essential sources of case study evidence because most case studies are about human affairs. These human affairs should be reported and interpreted through the eyes of the specific interviewees and well-informed respondents can provide important insights into a situation (Yin, 1994:85).

A tape recorder was used in interviewing all six interviewees. They had been notified that the oral discussions would be recorded. What was said in all the interviews was transcribed onto paper. I interviewed six community members, Mrs. M. M wife of one of the respondents, and a couple invited by Mrs. S, to be called the Ss' during the research period. There were four women and two men. Two of the women Mrs. S and Mrs. L are 67 and 58 years respectively and they could be describes as 'elderly'. The two other women Mrs. D and Ms. N are below 50 years. Both refused to give me their ages but said they were below 50 years. They could be described as 'middle-aged'. Mr. M is about 70 years and is the Chairman of the School Governing Body (SGB) of Khanya High School He is an elderly man. Mr. M.M is about 40 years and is a teacher. The wife, Mrs. M.M, works with Adult Basic Education and Training (ABET). She is about 31 years old. Mrs. M.M was initially not part of the sampled respondents but the husband invited her to join

in the discussion. Mrs. S is a retired school principal. I interviewed her on the 1/03/2003. Mrs. L is a Head of Division in a High School. I interviewed her on the 27/06/2003. Mrs. D teaches in a high school. I interviewed her on the 22/04/2003. Ms. N is a primary school teacher. I interviewed her on the 16/03/2003. I interviewed Mr. M on the 30/03/2003. Mr. and Mrs. M.M were interviewed on the 26/08/2003. I interviewed all of them once but I have been in constant contact with Mrs. L, Ms. D and Ms N. This is for purposes of face validity (Lather, 1986). All the interviews took more than forty minutes. In the case of Mr. M, I realized the tape recorder was not on for almost one-quarter way into the interview. I did not go back to start the process because I would not be comfortable telling him of the mistake and asking him to start it all over with me.

3.3.6 Photographs

Photographs were taken of some of the activities that took place in the field. Photographs of the *imifino* plants were taken in the garden during various growth stages (refer to figures in sections 4.1, 4.3, 4.7). Hitchcock and Hughes (1995) described photographs as important documents that perform the same or similar roles as texts in research (Hitchcock & Hughes, 1995: 212). I consider the use of photographs as important supporting documents for writing the thesis as well as evidence of work done during the research process. To make their use in the research meaningful, selected photos have been described by narrating the events that led to the taking of such photos. The use of the photo narrative will help the reader to understand the activities depicted in the photographs. Photographs are considered documents or texts in research when they are well used (Hitchcock & Hughes, 1995; Yin, 1994).

3.4 DATA ANALYSIS

One of the principal tasks of qualitative data analysis is organizing and making sense of the data (Hitchcock & Hughes, 1995:215). They (*ibid*) have advised about the importance of organizing documents to be readily available as sources of information and easy to retrieve. Bassey (1999) explains his understanding of data analysis as an ‘intellectual

struggle with an enormous amount of raw data in order to produce a meaningful and trustworthy conclusion which is supported by a concise account of how it was reached' (Bassey, 1999:84).

Three different exercise books were used to record the findings on the different categories that have emerged on plants studied during the research. Main categories emerged around the plants *utyuthu*, *imbikicane* and *ihlaba*. I used a fourth exercise book for the curriculum as another major category. I found out what community members knew about each of the plants and community members views on the curriculum. I also found out what learners knew about these plants from the worksheets, records from the garden and focus group interview. Sub-categories emerged which are of relevance to the research questions.

The findings, organized into categories and subcategories are discussed in Chapters 4 and 5. In chapter 4, I discuss the first layer of analysis. This is a detailed discussion of all the categories and sub-categories that had emerged earlier on in my study. I present the categories and sub-categories in the form of a table for easier understanding (see table 3.1 below). These categories emerged from an analysis of the transcribed interviews, worksheets, questionnaires, observations by learners in the garden, field notes and journals, photo narratives and all raw data necessary for the study. In chapter 5, I discuss the second layer of my analysis. Further findings are organized into a second set of categories and subcategories, which emerged from further analysis of the data. These are important insights necessary for the mobilization of indigenous knowledge among learners and community members. The categories and subcategories for the second layer of analysis are also presented in a tabular form below (see table 3.2 below).

Table 3.1 First layer of analysis: Categories and subcategories

Category	Subcategory
1 Plant 1: <i>Utyuthu</i>	(A) What learners know about <i>utyuthu</i> (B) What community members know about <i>utyuthu</i> (C) Photo narratives about <i>utyuthu</i>
2. Plant 2: <i>Imbikicane</i>	(A) What learners know about <i>imbikicane</i> (B) What community members know about <i>imbikicane</i> (C) Photo narratives about <i>imbikicane</i>
3 Plant 3: <i>Ihlaba</i>	(A) What learners know about <i>ihlaba</i> (B) What community member know about <i>ihlaba</i> (C) Photo narratives about <i>ihlaba</i> .
4 The curriculum	(A) What learners say about indigenous plants in the curriculum. (B) What community members say about the curriculum and what role curriculum can play in rediscovering (re-appropriating) indigenous knowledge.

Table 3.2 Second layer of analysis: Categories and subcategories

Category	Subcategory
A. Attitudes towards <i>imifino</i>	(a) General lack of interest (b) Factors causing lack of interest
B. Myths surrounding males eating <i>imifino</i>	(a) Possible factors influencing men not to eat <i>imifino</i>
C. <i>Ubunthu</i>	(a) Culture of doing things together, even in eating (a) Learning through peer interaction
D. Time for change?	(a) Young males and positive attitudes towards <i>imifino</i>
E. The Curriculum	(a) Teachers and curriculum development within OBE contexts (b) Learner participation in OBE

3.5 TRUSWORTHINESS

Hitchcock and Hughes (1995) identified validity or truth and accuracy as criteria for assessing both evidence and research (1995:223). Bassey (1999:74) argues that reliability and validity are vital concepts in surveys and experiments - but not in case study research. Bassey (*ibid*) refers to the use of trustworthiness introduced by Lincoln & Guba (1985) and says trustworthiness as opposed to reliability and validity has successfully illuminated the ethics of respect for truth in case study research. Establishing authenticity is a practical, technical undertaking and looking for consistency and plausibility is an essential part of this process (Hitchcock & Hughes, 1995:224). Because the information I gathered would be interpreted according to my understanding of the meaning I make out of the information, I worked in close partnership with my learners and community members. This helped to ensure elimination of bias, distortion of facts and minimized any threats to the trustworthiness of this research.

According to Kamorovsky (cited in Lather, 1986:270) 'if illuminating and resonant theory grounded in trustworthy data is desired, we must formulate self-corrective techniques that check the credibility of data and minimize the distorting effect of personal bias upon the logic of evidence'. Some of the **self-corrective techniques** I have incorporated into my research design include from time to time checking (if they are available) with most of those who are involved in helping me to achieve the desired research results. I have not relied on a single source of evidence to draw conclusions bearing in mind that the research is qualitative and will not involve controls and measurements. It is in light of this that I have adopted **multiple methods** in the case study. I did not rely only on one source of information. I used worksheets, questionnaires, interviews, focus group interviews, observations, photographs as different tools to seek information on the mobilization of knowledge amongst learners and community members. I have also tried to reflect often on all my decisions to prevent bias in my work. I sought information from my learners (discussion with learners on 11/02/2003) and took advice from them. I made sure I crosschecked with community members and learners any information that was not clear to me. This made my relationship with my learners a

reflexive one. I relied on them the same way I expected them to also rely on me. Lather stresses the importance of **reflexivity** when she said, 'Our best tactic at present is to construct research designs that demand a vigorous self-reflexivity' (Lather, 1986:270).

Merriam (2001) reminds the researcher and the reader that because educational enquiry is applied, 'it is imperative that researchers and others have confidence in the conduct of the investigation and in the results of the particular study' (Merriam, 2001:199). Citing Firestone (1987) Merriam says qualitative study provides the reader with a depiction in **enough detail** to show that the author's conclusions make sense. Merriam stresses that no matter what the type of research, 'validity and reliability are concerns ... the way in which the data were collected, analysed, and interpreted and the way in which the findings are presented' (Merriam, 2001:199-200). In summary, Merriam says, 'validity, reliability and ethics are major concerns ... the extent to which research findings are congruent with reality is addressed by using triangulation, checking interpretations ... and clarifying researcher biases and assumptions' (Merriam, 2001:220). In this case study I have tried to listen to and obtain as much information as possible. I have made sure I have used **thick description** (enough detail: Merriam, 2001) to reflect what learners and community members have told me.

Of **triangulation** Lather (1986) says it (triangulation) is critical in establishing data trustworthiness. By triangulation I mean the establishment of the same evidence from different data collecting techniques. I can draw an example from my study of the plant *ihlaba*. From interviews, learners chewing *ihlaba* leaves in the school garden and my personal experience from chewing same leaves, it came out clearly that the *ihlaba* leaf is bitter. I have been able to use different research tools to establish a fact. Lather (*ibid*) suggests that the researcher consciously uses 'designs that allow counter patterns as well as convergence if data are to be credible' (Lather, 1986:270). Lather argues that even though **face validity** has been treated lightly and dismissed, it is important in research. Citing Reason and Rowan (1981:248), Lather says 'Good research ... goes back to the subjects with the tentative results and refines them in the light of the subjects reactions'. Lather has critically commented on 'Analysis which takes account of actor perceptions

of their situations could result in research being incorrectly declared invalid' (Lather, 1986:271). My application of reflexivity, self-corrective techniques, multiple methods, thick description, triangulation and face validity in my study indicates that I have tried to make the research as trustworthy as possible.

3.6 ETHICAL ISSUES

Jorgenson (1989) noted that research ethics center on the value of human life and rights of the individual (Jorgensen, 1989:28). He elaborated on issues like peoples right to privacy, confidentiality, and freedom from exploitation. With this information in mind, all my interviewees were informed by writing letters to them about my intention to interview them on indigenous vegetable food plants within the Whittlesea area (Appendix C). The purpose of the interview was also clearly stated. It was for the writing of a Master of Education degree thesis in Environmental Education at Rhodes University in Grahamstown although Jorgensen said 'the researcher is not necessarily obligated to inform people of research intentions or even protect them from possible harmful consequences' (Jorgensen, 1989:28).

I live in a rural community and many of our ways of solving problems do not necessarily follow any rigid patterns. As an example, I did not receive a single reply to my letters from any of my chosen interviewees. I did not take offence because I considered such actions normal with the community. I had to go to the community members after letters were sent to confirm receipt of the letters and to book for the days of the interviews. In my rural community, this approach is normal. I also made sure that the appointment times were convenient for the respondent interviewees. Even the appointed times were flexible and could be changed for the convenience of respondent interviewees. In all my pre-interview introductions, I stated the reason for the interview and showed my appreciation for the opportunity to be able to conduct the interview with the respondent interviewee (Appendix H). At the end of each interview, I asked if an interviewee or if interviewees had any objections to my mentioning/including his/her/their name(s) in the study. None of them objected. I used the first letters in their surnames in my report. After the

transcribing, I crosschecked with Mrs. D, the respondent interviewee, whose manuscript I wanted to use as an appendix in the thesis (Appendix H). It was not possible, due to time factor, to cross check all transcribed work with all interviewees. The focus group interview was in oral *isiXhosa*. The oral work was transcribed from *isiXhosa* into English. Since I had earlier indicated (see section 3.3.4) that I do not speak or understand *isiXhosa* fluently, I only had to rely on my belief that what was transcribed was the truth of what had been discussed and that the information was reliable. My learners who participated in the focus group interview agreed that the translation into *isiXhosa* was correct.

As Stake (1994, cited in Merriam, 2001) observes, 'Qualitative researchers are private guests in the private spaces of the world. Their manners should be good and their code of ethics strict' (Merriam, 2001:214). Patton (1990:354) also points to the primary function of the interviewer being 'first and foremost to gather data, not to change people'. I am relying on data gathered recognizing that I am only a guest (Merriam, 2001:214) of the places where I gather my data.

My Principal whom I consider the gatekeeper of the school was informed in writing (Appendix D). Even though he did not reply back in writing he orally acknowledged receipt of my letter. I share the same offices with my Principal. In my letter to him, I indicated my intention to work with the Grade 10 Agricultural Science learners during the research period. No letters were written to the learners. The class was informed when they were in Grade 9 (2002) about my intentions to do the study with them when they got to Grade 10 in 2003. When they came to Grade 10 in 2003, I went to the class and negotiated with them about how I would want some of them to help me do the research. I explained to the class that I could not take a large number of them for the research because they are a class of 38. Information from 38 learners at a time would make my data too big to handle. My study is only a small case study and wanted to handle data effectively. Together we all agreed on who would participate. Participants were chosen amongst members of the class by the class as a whole. I also took a colleague to their class to explain in *isiXhosa* about my desire to involve them in the study. No learner was

coerced into accepting to take part in the study. Bassey (1995) identifies three major dimensions of research ethics. He identifies democracy, respect for truth and respect for persons. I believe that in this research even the identification of the three plants using worksheets was democratic enough. The process of choosing learners who would observe the plants involved all learners. Finally in choosing the community participants I was true to myself in admitting that *isiXhosa* is not a language I speak well. Even though democracy, respect for truth and respect for humans are ideals for a good research, Bassey admits they are not without clashes (Bassey, 1999:75).

3.7 CONCLUSION

The methodology outlined above, guided my research design decisions. In this chapter I justified why I chose a qualitative interpretive approach as the methodology for the case study. Various qualitative research methods were used to collect data from learners and community members to counter arguments against bias, data analysis, trustworthiness, ethical issues and triangulation. The research methods used were also identified and the choice of method was justified and explained. Reasons were given for the choice and selection of research participants. Data analysis strategies were explained and issues of trustworthiness and ethics were discussed critically in relation to the study.

In the next chapter, I report on the findings generated through the use of these methods. Chapter 4 will discuss the first layer of the analysis and present the findings. These findings describe what learners and community members know about the three *imifino* plants, and their perspectives on IK and the curriculum.

CHAPTER 4

LEARNERS, COMMUNITY MEMBERS AND INDIGENOUS AGRICULTURAL KNOWLEDGE

Why should any one cultivate a cereal where natural stands are as dense as a cultivated field?

Harlan, J., American Agronomist (in Mostert, 1992:51).

4.1 INTRODUCTION

Findings about indigenous agricultural practices on three local vegetable food plants amongst learners of a rural high school and its surrounding community will be the focus of this chapter. Rural communities know a lot about indigenous food plants (IK and Today Series, 2002; O'Donoghue & Neluvhalani, 2002; Shava, 2000; Masuku, 1999; Mtshali, 1994; Rose & Guillarmod, 1974). This chapter is also about analyzing what learners and community members know about the three indigenous food plants. The outcome of the analysis will form a framework or basis for developing a school-based curriculum unit for learners.

As indicated in chapters 1 and 3, three indigenous vegetable food plants were observed in the KHS garden for a period of about three months, 20/02/2003 to 14/05/2003 by a group of eight selected 10 Agricultural Science learners. The three vegetable food plants studied are *Utyuthu* also known as *Imbuya* or *Unomdlomboyi*, *Imbikicane* or *imbicicane* (Fox & Norwood Young, 1982: 403) and *Ihlaba* also known as *Irhawu* and *Ihabe* (Fox & Norwood Young, 1982: 403). *Utyuthu* is *Amaranthus thunbergii* and *Imbuya* or *Unomdlomboyi* is *Amaranthus hybridus* (Fox & Norwood Young, 1982: 421). The amaXhosa have the same names for the two plant species. My study was about *utyuthu* (*Amaranthus thunbergii*). Through out the writing of this report, *Utyuthu* will mean *Imbuya* or *Unomdlomboyi* and *Ihlaba* will mean *Iharwu* and *Ihabe*. Mtshali (1994), identified *imbuya* as *Amaranthus thunbergii* (Mtshali, 1994:38). Botanical names for the

three plants have been included in the findings for purposes of future research. The three plants emerged as the main categories in the first layer of analysis. The curriculum also emerged as an important category. Data relating to categories will be presented individually together with their emerging sub-categories in this chapter.

4.2 PLANT 1: *UTYUTHU*

The botanical name for *utyuthu* is *Amaranthus thunbergii*. Its English names are pigweed and cockscomb (Fox & Norwood Young, 1982:38).

4.2.1 What the learners know about *utyuthu*

In this section I discuss what learners know by analysing the different insights gained from different data sources. All eight learners were able to identify *utyuthu* on the school compound and in the school garden as an indigenous vegetable food plant in the worksheet provided by me (Appendix A). Six learners said *utyuthu* grows in the summer whilst two learners said the plant grows in spring. Mtshali (1994) reported that *imbuya* grows throughout the year in Natal, from the beginning of Spring until the end of winter (Mtshali, 1994:40). Her findings may relate to the climate in Natal (KwaZulu-Natal).

As indicated in chapter 3, the eight learners were divided into observation groups in the ratio of 3:2:3 to observe activities in the garden. The group (log 1) assigned to observe *utyuthu* reported that *utyuthu* seeds were planted on 19/02/2003 in the school garden (Appendix G). The date contradicts my date of 20/02/ 2003. The seeds were watered with watering cans. On the 5/03/2003, the group (log 1) went to observe if the *utyuthu* seeds had started to germinate. They reported that they saw seeds [seedlings?] in the garden other than that which they had planted. They also experienced and reported that temperature was high on this day.

A month after, on 19/03/2003, the learners (log 1) recorded seeing many seeds [seedlings?] growing among the cabbages that had been planted in the garden. They

picked some of the *utyuthu* leaves and tasted them. The leaves tasted like meat (Appendix G). The leaf size had also increased.

Learners (log 1) went again into the garden on the 2/04/2003 and recorded that the *utyuthu* plants had started flowering. Flowers were green. I was in the garden with them on this day but I did not tell them what to do or what to write. I observed however that the plants were producing squirrel tail-like tiny flowers in the position of the terminal bud. On this day they recorded having noticed the stems of the plants becoming hard. The leaves still tasted like meat but were harder. Learners (log 1) recorded that Mr. R, the gardener, was not weeding out the *utyuthu* seeds (seedlings), and that he was looking after them. They also reported seeing some *utyuthu* plants outside the fence of the school garden. Those behind the fence did not look as healthy as the one Mr. R was looking after in the garden.

Learners made another visit to the garden on the 16/04/2003. They recorded that *Utyuthu* was a colonizing plant because it was growing all over the garden. They also noted that Mr. R was regularly watering the plants. I had also observed that the *utyuthu* plant was spreading fast in all available spaces in the garden. I had on some occasions instructed Mr. R to remove specific ones that I had pointed out to him.

When I asked the learners why the plants were growing so well they said it could be the watering and the fertile soil. I asked this question to draw their attention to organic matter effects on soil fertility. Learners also observed that plants were forming very small seeds that appeared black in colour.

The group (log 1) was again in the garden on the 14/05/2003. This was the sixth and the last visit of the group to the garden. They reported that there were many flowers. Leaves were no longer tasty and were becoming yellowish. The season was changing. The plants were no longer growing well and stems were reported to be hard.

In the focus group interview with the learners, learners discussed the three wild vegetable food plants collectively and not plant by plant. The learner focus group was the same group of learners who administered the questionnaires in the community. They also worked with the worksheets and have been involved in the growth and observation processes of the three plants in the garden. These prior experiences gave them confidence and so we were able to have a fruitful discussion (Appendix F). This confirms what Nyamathi and Schuler (1990:1282) observed that when focus group interview is conducted in a permissive, non-threatening group environment, it allows the investigation of a multitude of perceptions on a defined area of interest. Though the discussion was in *isiXhosa* and I did not understand everything that was said, the transcribed work revealed the depth of the discussion. I was present during the focus group interview and I observed how keen all participants were to contribute to the discussions.

The group was divided on whether to continue eating the wild vegetables or not. One learner said:

Teacher, especially in our living days, it will not help any thing to eat uncultivated food, (Teacher makes Mmm sound in the throat) because of the time we are living in. (Teacher makes Mmm sound in the throat) and the food really has no energy. I also think if those days the cultivated food was there, the olden days people would have preferred to eat it but because they had no choice they ended up eating wild plants (Focus group discussion, 26/06/2003).

In response, another learner said: 'As for me teacher, I don't see it like that, that we should throw away our custom'. Another also quickly cut in to say, 'I too teacher. I don't think we must put this food aside, cause [because?] if we put it aside we are practicing to forget about our norms and customs' (*ibid*).

4.2.2 What community members know about *utyuthu*

In the questionnaires administered by the learners, all eight respondents named *utyuthu* as an indigenous vegetable food plant. They also said *utyuthu* is a summer plant (Appendix

B). On whether high school learners should learn about indigenous food plants a 55-year old community member commented in English: 'We have to be an example of those who think that these types of food are old fashioned. We have to keep our culture going'. A 61-year old community member wrote of the vegetable food plants, 'It should be encouraged among high school learners because they will know about the food of their ancestors'. The use of the questionnaires helped me to confirm *utyuthu* as one of the plants to be studied in the research. The use of the questionnaire also helped me to plan my activities in the garden.

Four of the six interview respondents know some other name by which *utyuthu* is known. Mrs. S, Mrs. D, Ms N and Mrs. L said the plant is also called *imbuya*. Ms. N also added that the *amaZulu* also call the plant *imbuya*. Mr. M did not give an alternative name for *utyuthu*. Mr. and Mrs. M.M also did not know a second name for *utyuthu*.

Mrs. D said even though she is *isiXhosa* speaking, she is an *Hlubi*. She said among the *amaHlubi*, *utyuthu* is called *imbuya*. 'Because what happens with me, I am an *Hlubi*. I belong to the *Hlubi* tribe. The way I will call this plant from there is not the term we are using it here sometimes' (Mrs. D, pers. com. 22/04/2003). The *amaHlubi* live in the former *Transkei*.

Mrs. S, Mrs. D, Ms. N, and Mrs. L said they had eaten *utyuthu* regularly as a vegetable when they were young. Mrs. L said *imifino* was part of their daily diet when they were young children. She said they were always instructed by their grandmother to go and harvest some *imbuya* or *imbikicane* after school whilst the grandmother was away hoeing in the maize fields.

Mrs. L said:

Bob, my grandmother would say, after school when you arrive, I won't be here. You take the bag. You must go to the field. Go and collect *imbuya* or *imbikicane*. When you come back, please cook it. I will go and hoe my *mealies* (maize) in the fields down there' (Mrs. L, pers. com. 27/06/2003).



They lived in their village with the children of teachers and nurses. The teachers' and nurses' children ate cabbages and potatoes at home and came to narrate it to them at school.

So we grew up thinking we are from poor families.
So we then associated eating the traditional things with poverty.
As young children we had always wished for the days
when our parents would have money so that ... we would eat
cabbage like the daughter of teacher so and so
(Mrs. L, pers. com. 27/06/2003).

Eating cabbage symbolized status or class in the village. They who ate *imifino* felt they were poor and had always wished for the day when they would become teachers or nurses and stop eating *imifino*. Mrs. L said they thought they were children of poor people and really wished to move away from the *imifino* diet. 'At the age of ten, Bob, we knew this is this and this is this. You grow up with it. It is the knowledge you get as a young girl' (*ibid*). Mrs. L described how bad they felt eating *imifino* every time. 'It was the food we ate every time during the summer season' (*ibid*). Mrs. L associated the growing times of *imifino* with the time maize grows. As an answer to a question I asked about the time the plant grows, she said 'Yes Bob, it grows, starts growing in October, as soon as the *mealies* grow, it starts growing' (*ibid*). This answer also confirms the findings that *imifino* are summer plants (see section 4.2.1).

I asked Ms. N how she came to know about the wild vegetable plants, she replied, 'I grew up in a place where the elderly people, those days, were not used to the cabbages and the carrots and the rest (Ms. N, pers. com. 16/3/2003). She remarked. 'They [the elderly] used to pick the wild plants when they go to weed. They bring those things back home as the vegetables and prepare them for us to eat. So I got to know that these things are edible' (*ibid*).

I asked Ms. N if she would like to prepare the plants as food for her children to eat. She replied 'Mmm, I never tried, I never tried' (*ibid*). 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 go and weed and pick these weeds back home' (*ibid*). Mrs. D also expressed similar feeling when I asked if she prepares *imifino* as food. 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' (Mrs. D, pers. com. 22/04/2003). She continued, 'and when you come back, you have to wash it. There is a lot of work' (*ibid*). It appears there is a general lack of interest among the women I interviewed though Mrs. D said she eats *imifino* if it is prepared.

Mr. M knows a woman who comes into his garden often to pick some *utyuthu* and some other vegetables but admits he does not know what ingredients the woman puts into preparing the *utyuthu*. 'They mix it with something, whether *mealie* meal or flour there is something they mix with' (Mr. M, pers. com. 30/03/2003). Again the answer by Mr. M is an indication of a lack of interest in the plants. He keeps them because he knows his neighbours eat them and not because he has a special interest in keeping them as food for his family.

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. The following quotation is his response to a question about how he feels about eating *imifino*: 'Aah, I am not ashamed of it. Nothing is happening. I am as strong as I was. More over, I can be 'more stronger' (his emphasis). I may say I am more stronger because I am eating *imifino*' (Mr. M.M pers. com. 26/08/2003). It emerged from the interview that Mrs. M.M mixes spinach and cabbage with *ihlaba* and *utyuthu*. This appears to be a good way to go about eating *imifino*. If they are mixed then the mixture is neither pure *imifino* nor *umfuno*. Mr. M.M remarked during the interview, 'Yeah, any plant that is natural and is palatable, you can take, you can eat, then I do not destroy' (*ibid*).

Mrs. S knows the *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. Mrs. S said she prepared the vegetables once for the family but they said, ‘ha, we are not used to this so you are going to eat this alone. So I found it useless’ (Mrs. S pers. com. 01/03/2003). Mrs. S continued, ‘even their father was not interested’ (*ibid*) (compare to Mrs. D’s comment that an *Hlubi* man will never eat *imifino* no matter what and Fox and Norwood Young’s (1982) observation that *Pondo* and *Xhosa* men will meticulously remove all traces of *imifino* from their diet). She said the plants are found in their garden but are considered at best as weeds. ‘Because we find them in the garden, they become weeds. So sometimes, I find the people come to ask that they will take these. Then I allow them in the garden. Now you find they don’t only pick this. They get others also’ (referring to the cultivated plants, *umfuno*) (*ibid*). During the interview Mrs. S also sent me to the house of her neighbours Mr. and Mrs. Ss. There is a small gate in the fence that divides Mrs. S’s property and that of Mr. and Mrs. Ss. It appeared Mrs. S had previously made arrangements with the Ss’ about my visiting them for the interview. The Ss’ originally came from Cradock. When Mrs. S and I arrived at the Ss’, Mr. Ss quickly went and uprooted some young seedlings of *utyuthu*, *imbikicane* and *ihlaba* at a corner in his yard to show me. Mr. Ss speaks very little English. He said people of Cradock eat indigenous vegetable food plants even now. I asked him [Mr. Ss] what he felt about teaching high school learners about indigenous food plants. He kept quiet for a while and asked Mrs. S (interviewee responded in *isiXhosa*) to help him give the answer to my question. I assumed his quietness to be due to his inability to answer me in English and also his respect for Mrs. S, knowing that she is a retired teacher.

4.2.3 Photo narrative of *utyuthu*

The picture descriptions of *utyuthu* in this research are intended to narrate how the plant can grow side by side other cultivated plants like cabbages when it is properly **looked after and cared for** (see figure 4.1 and 4.2).



Figure 4.1: A community member pointing at *utyuthu* (Note the broad leaves)



Figure 4.2: *Utyuthu* and cabbages growing side by side in the school garden.

4.3 PLANT 2: *IMBIKICANE*

The botanical name for *imbikicane/imbicicane* is *Chenopodium album* (Fox & Norwood Young, 1982: 38). Its English names are fat hen or lamb's quarters.

4.3.1 What the learners know about *imbikicane*

All the eight learners identified *imbikicane* as an indigenous vegetable food plant on the school compound and in the school garden. Six learners said *imbikicane* is a summer plant and two said it grows in the spring season.

During the observations, learner observation group 2, (log2) were assigned to observe the growth processes of *imbikicane*. They were to look for all the aspects of growth as was done by learner observation group 1. The learners reported that they nursed *imbikicane* seeds with me on the 19/02/2003. This date contradicts my date of the 20/02/2003. The seeds were watered. On the 5th of March 2003 the two went to the garden and saw small, small plants (seedlings?) of *imbikicane*. Mr. R was watering the plants. They reported that the temperature was 35°C. Learners again went to the garden on the 19/03/2003 and the following is a part of what learners recorded:

Imbikicane come bigger and bigger after we pour manyo [manure].
May be is the seak of manyo [sake of manure].
We tasted *imbikicane* so nice not beater [bitter]...
When *imbikicane* grows in the soil without manyo [manure]
it be came tasteless (log 2, 19/03/2003).

Learners reported on 02/04/2003 that *imbikicane* was growing bigger and taller than *utyuthu* and *ihlaba*. I had also noted that the *imbikicane* plant is the biggest of the three plants being observed. Plants that were in the shade were also doing better. Learners noted the seed colour to be blackish and seed size to be small. Mr. R was not clearing away *imbikicane* as weed. Instead he was watering them. They reported, 'Mr. R is not widing [weeding] but is watering them and he look after plants' (02/04/2003). I was with learners on this occasion to observe what they recorded and how they were recording

their work. I tasted the *imbikicane* leaves. They tasted like any other leaf. Learner group 2 reported that 'I tasted the leaves and it tast [tasted] good'.

Learners reported on the 14/04/2003 that the *imbikicane* plants were beginning to die. They attributed this to the changing season. They inquired from Mr. R, the gardener, why the plants were dying but he had no positive answer to give them. They however observed that *utyuthu* and *ihlaba* plants were not dying. They concluded *utyuthu* and *ihlaba* plants were more resistant than the *imbikicane*. I believe learners wanted to report that *utyuthu* and *ihlaba* plants may have a longer lifespan than *imbikicane*. They observed the seeds again and saw that they looked small and blackish. They attributed the death of *imbikicane* to factors such as the change of the season (it was Autumn), age of the plants, lack of water and frost. Mr. R watered the plants regularly so water could not have been a major factor. The final visit of learners to the garden was on the 14/05/2003. There was no living *imbikicane* in the garden. They reported that the wind was blowing and had spread the seeds of *imbikicane* away. I do not know how they saw the seeds being blown away. I was in the garden around those days but I did not observe any strong wind blowing neither did I observe that the seeds were being spread by the wind. They however said *imbikicane* would be the first to grow [sprout?] when the rain falls again. I had observed that *imbikicane* (which were the biggest of the three plants being observed) had withered though they were still in position.

4.3.2 What community members know about *imbikicane*

All eight respondents to the questionnaire mentioned *imbikicane* as one of the indigenous vegetable food plants that they know. Six respondents said *imbikicane* is a summer plant and two said it is a plant that grows in the spring. Four community members said they had eaten the plant before. Two said they have never eaten the plant before and two did not answer the question. One of the respondents who had never eaten the plant before is 17 years old. The respondents who did not answer the questions are 18 and 49 years old.

One of the respondents ranked *imbikicane* as the most preferred vegetable food plant amongst the three local food plants. Two respondents placed *imbikicane* second in order of preference amongst the three local vegetable food plants. Four respondents said it was the least preferred amongst the three plants and a 55 year old respondent did not give the expected response. The respondent instead wrote cabbages and potatoes, the *umfuno*.

In response to a question if the children of the household would eat any of the *imifino* if it were to be prepared, six respondents said 'Yes'. One respondent, a 17 year old did not answer the question. The 18 year old replied, 'Ofcause they will' implying 'Of course they will'. Six respondents said they would support a school programme that would encourage the teaching and learning of these vegetables and other food plants. Two respondents aged 49 and 50 years did not give any answer.

Six respondents said *imbikicane* grows in summer whilst two said the plant grows in spring. Three respondents said children do not know about the indigenous food plants. Three others said children know about indigenous food plants. Two people did not respond to the question. Seven respondents said the plants grow in the garden, near the kraal and just anywhere. One respondent did not answer the question. Five respondents did not agree to the question that it is poor people who eat local vegetables. Two seriously disagree. One respondent did not give any answer to the question.

All six interviewees (community members) know about *imbikicane* as an indigenous vegetable food plant and that it is part of the collective group of indigenous vegetable food plants called the *imifino*. It appears that the processes involved in collecting and preparing *utyuthu* are applicable to *imbikicane*. The shoots are not cut off as is done in the cabbages and lettuce. The leaves are picked singly from the stem to allow for more leaves to grow, similar to the harvesting of spinach. This way, it is possible to harvest many leaves from the same plant for a very long time. All respondents said the plants are prepared mixed together. It clearly emerged in all the interviews that during harvesting the leaves are all mixed in the one container. Mr. and Mrs. M.M. were interviewed around the winter period.

This is what Mr. M.M. had to say about *imbikicane*:

... this time of the season, this time of the year, this season,
it is [*imbikicane*] not there. It's very rare, rare. Is scarce, scarce, scarce.
You will see it ... (turns to the wife: am I right to say it is summer?)
it is a summer plant. In summer it will be there. It is not there now, *imbikicane*
(Mr. M.M pers. com. 26/08/2003).

Mr. M.M also confirms observations from the learner worksheet and community questionnaires that *imbikicane* is a summer plant. Mrs. M.M said she came to know about those plants through the teachings of her grandmother. 'My grandmother tell me that this one is *utyuthu*, this one is *ihlaba*, this one is *imbikicane* and this one ... I forget the names' (Mrs. M.M pers. com. 26/08/2003).

4.3.3 Photo narratives of *imbikicane*

Photographs were taken of *imbikicane* in the school garden and in the homes of some community members. The photographs were taken to tell a story to the reader of the response of *imbikicane* to various growing conditions (see fig. 4.3 below).



Figure 4.3 A community member identifies *imbikicane* (*imifino*) among cabbages (*umfuno*)

I visited a home where a community member took me to his mixed cropped garden. Very big pumpkins were growing among the wild food vegetables, particularly *imbikicane*. The pumpkin stems appeared extra large to me (see fig. 4.4 below). Could there be a relationship in soil nutrient utilization and sharing amongst these plants?



Figure 4.4 In the garden of an elderly community member *Imifino* is growing side by side with *umfuno*. (Note size of pumpkin stems and size of *imbikicane*).

4.4 PLANT 3: *IHLABA*

The botanical name of *Ihlaba* is *Sonchus oleraceus*. There are many English names and they include sow thistle, milk thistle, annual sow thistle, wild lettuce and wild thistle. *Ihlaba* is also called *Irhawu* and *Ihabe*. In this study, *Ihlaba* will be used to mean all the other names.

All the eight community members wrote down *ihlaba* as an indigenous vegetable food plant in the questionnaires administered by learners. Six respondents said *ihlaba* is a summer plant. Two community members however said it is a plant that grows from the start of the spring season.

4.4.1 What the learners know about *ihlaba*

Six of the eight learners were able to identify *Ihlaba* as an indigenous agricultural food plant in the worksheet exercise. Two learners mentioned *Irhawu*. Mrs. L also mentioned *irhawu* but said she was not sure if *irhawu* is the same as *ihlaba*. Five learners said *ihlaba* is a plant they have often seen in their communities. Four learners said their mothers prepared *ihlaba* for them. Two said it was their grandmothers who prepared it for them and two said they prepared it themselves. As to where it commonly grows two learners said near the kraal and five said just anywhere. One learner did not give an answer. All eight learners said they have eaten *ihlaba* before. All of them said they would be interested in learning about the indigenous food plants in class.

The third group of learners, log 3, was allocated to observing *ihlaba* in the school garden. They made their first report on *ihlaba* on the 19/02/2003. They reported that the seeds were 'spread' [nursed?] in the garden and they were watered. Watering cans were used to water the plants. Two weeks after, on the 5/03/2003 three of them went to check if the seeds were 'coming' [germinating?] but did not see anything. They also reported that Mr. R the gardener was always watering the plants. They saw cabbages growing. The temperature on this day was reported to be high. It was 35°C.

Their next visit was on the 19/03/2003. They reported starting to see small seedlings of *ihlaba*. They attributed this to manure that was applied previously to the soil. They tasted the young leaves and they tasted bitter. They also observed that the leaves exuded white liquid [latex?]. The leaves were reported to be spreading on the ground, and they were green and soft. According to the learners, they looked beautiful. By the 2/04/2003 the plants had started to flower. Learners reported that the flowers were ‘yellow and beautiful’. They saw that the stem was soft and the leaves continued to spread on the ground. Leaves tasted bitter again when tasted. Learners reported that bitterness is a characteristic feature of *ihlaba*. They wrote ‘It doesn’t stop tasting bitter until it dies. Even when it is ready to be eaten it’s still bitter’.

Mr. R was still applying water. On this day learners went to the field with me to observe *ihlaba*. The next visit was on the 16/04/2003. Learners reported that the plant was growing bigger and bigger and the leaves spreading more and more. The more they grow the taller the plants become and the stems remain soft. The leaves are still exuding the white liquid. This is how the learners described the *ihlaba* plant.

The stem is steal [still?] very soft the leaves have white water inside, and they taste bitter as usually [as usual].
The more they grow the more they are beautiful.
They are very attractive. Yellow flowers are forming white seeds.
The white flowers look like seed [silk?] cotton.
They are light. The wind was blowing them away.
(Learner observation group 3 (log 3) 16/04/2003).

On the 14/05/2003 learners reported that change of weather had caused the plants to die. They wrote, ‘they are no longer beautiful and also they loss [lose?] attraction ... this is the season for them to stop growing’.

On some occasions when I was in the garden I broke a piece of the *ihlaba* leaf to observe and to taste. It exuded some white liquid [latex?]. I tasted the leaves on more than three occasions. I did not experience the ‘very’ bitter taste expressed by most of the learners and community members though there was some bitterness in the taste. It is possible the

leaves taste bitter when they are cooked. *Ihlaba* leaves look like spinach though they are smaller. They look thicker than the *utyuthu* and *imbikicane* leaves. Even though I have been told during the interviews that *ihlaba* is a summer plant, I have seen them in winter in isolated places where there is organic matter and in the shade of trees. They are succulent plants that produce beautiful yellowish flowers.

4.4.2 What community members know about *ihlaba*

All respondents know about *ihlaba* except Mrs. L who was not sure if *ihabe* and *ihlaba* are the same plants. She explained that in Sterkspruit, they live side by side the Sothos' 'I don't know how they call it in this part of Hewu (the district where I work), because you know in Sterkspruit we have our own terms which are almost sometimes like Sotho terms because we live with the Sothos' there' (Mrs. L, pers. com. 27/06/2003).

Mr. M said *ihlaba* is bitter. I believe he was saying the leaves are bitter. I was in the field together with Mr. M and he showed me the plant. *Ihlaba* has pale yellow flowers. When the flower dries it turns whitish to brown. The dried flower looks silky and very light.

Mr. M.M said that his children do not refuse to eat *imifino* 'not unless you put more of *ihlaba* in there. Because more of *ihla* *ihlaba* is bitter, is bitter, so if you put more of it than *utyuthu* that *imifino* of yours will be bitter so it will not taste nice for the kids' (pers. com. 26/08/2003). He said the best method to get good tasting *imifino* is 'a little bit of *ihlaba*, you mix them in a certain ratio ... they know, the women know how to ... if you mix, that you put more of *ihlaba* there, nobody will eat your *imifino*' (*ibid*). Mr. M.M. however said some people like the bitterness of *ihlaba* in their meals. 'Some people like it as too bitter as it is. I had some old women, like my cousin sister's eeh mother, yeah she likes it as bitter as it is, not sweet one. You must put more of *ihlaba* there. Then it tastes nicer for her' (*ibid*).

Ms. N knows about the *ihlaba* plant. She also said the plant is bitter especially when it is old. She described the plant by saying it produces yellow flowers. Plants with yellow

flowers usually have the flowers cut off and then they are cooked. When I asked how she came to know about these plants she said it was the grandparents who brought the plants home from the fields. Those days she said the elderly were not so used to the *umfuno* or the cultivated vegetable food plants like cabbages and spinach.

Mrs. D mentioned *ihlaba* but said it is used as medicine. She said it is used in treating an attack of fever. Mrs. S also mentioned *ihlaba* as a vegetable food plant but she said they only consider them (vegetable food plants) as weeds in their garden. She and her household do not eat *imifino* because she tried it once and the whole family including the father of the house refused to eat.

Mrs. D said *ihlaba* is not eaten as food by the *amaHlubi*. It is rather used as medicine. She said '*Ihlaba*, we don't use it as food to be eaten. We use it as a medicine' (Mrs. D, pers. com. 22/04/2003). She described another plant, *Mhlonyana*, a diminutive sized plant like *ihlaba* that is used as medicine for stomachache. 'Then when you are having "iflu" you try a little bit of it into your nose ... in fact, that smell like if it is "iVicks" which is working and does work' (*ibid*). She admitted that the *ihlaba* plant is part of the group of plants called the *imifino*. Mrs. D said *imifino* are not found in dry places. 'And you can see how dry it is here' (*ibid*) (referring to the general environment of the research. See chapter 1). 'The moment it is dry, there is nothing that you can get' (*ibid*). She observed that there is a lot of work involved in its preparation. The collection, the washing entails a lot of work. 'That should be done by people who are not working' she said (*ibid*). Mrs. D did not mention *ihlaba* as a vegetable food plant that is bitter but said that some of the *imifino* are bitter. *Ihlaba* is a food plant that four of the six respondents identified as being very bitter.

Mr. M said when the *ihlaba* plant is flowering the flowers are yellow, but when they are dry the flowers turn white. He also said *ihlaba* is prepared mixed with other *imifino*. Mr. M said *ihlaba* is very bitter. He picked some *ihlaba* leaf and started chewing it. When I asked him why he was chewing it he replied, 'Bitter, very bitter. The women mix it with

something. They can get *imbikicane* but they want *ihlaba* between them' (Mr. M, pers. com. 30/03/2003). Mr. M said *ihlaba* is a summer plant.

4.4.4 Photo narratives of *ihlaba*

I took a photograph of Mr. M in his garden pointing to some indigenous food plants. The photograph did not identify each plant clearly but it tells the story that Mr. M mixes both *imifino* and *umfuno* on the field. Therefore there is a looking after and a caring for all the desirable plants in Mr. M's garden.



Figure 4.5 Mr. M pointing at some of the *imifino* he keeps with *umfuno* in his garden.



Figure 4.6 An elderly community member stands by a matured *ihlaba* plant in his garden.

Other photographs taken of *ihlaba* in the school garden demonstrate how possible it is to crop *imifino* and *umfuno* on the same field. The language being portrayed by the photographs is that if wild plants are **looked after and properly cared for** they could yield much food.



Figure 4.7 *Ihlaba* plant growing among the cultivated crops.

I took pictures also of Ms. N in her garden with her child identifying *imifino*. Ms. N said she applied organic matter (manure) to the garden soil. Even though she does not eat *imifino* anymore she said she could eat it any time. The pictures were intended to expose how big leaves of indigenous vegetable food plants could be when they were given the required nutrients.



Figure 4.8 Ms. N and her child identify *imifino* in her garden.

4.5 THE CURRICULUM

In all the research tools used for this research the issue of introducing indigenous agricultural knowledge into the Agricultural Science syllabus was probed. In the students' worksheet, all eight learners agreed that indigenous agricultural practices should be taught in Agricultural Science.

In questionnaires administered by learners in the community, community members were asked what they thought about teaching indigenous agricultural knowledge in the curriculum. All eight respondents agreed that it is necessary in order for learners to be able to know what existed in the past.

Community members who were interviewed also agreed that indigenous agricultural knowledge should be taught in the curriculum. One community member Mrs. S said it would require some research work to be done to be able to teach it effectively. 'Besides because this people and modernization people think these food plants are used by people who are very much poor. If the plants are taught in schools then learners are going to realize that plants are very important so everybody will be alert' (Mrs. S, pers. com. 01/03/2003).

Mrs. D said it would require the involvement of teachers. Teachers should form cluster groups so as to make the teaching effective. She also said learners should go on holidays in the rural areas from time to time to bring them closer to their natural environment. 'The only thing is that we should organize ourselves as teachers first and collect these things, and have a resource center of some kind' (Mrs. D, pers. com. 22/04/2003).

Even though Mr. M agreed that indigenous agricultural knowledge should be taught he was not very sure if learners would whole-heartedly accept the idea. Mr. M said ' I don't know. Maybe they will, maybe not' (Mr. M, pers. com. 30/03/2003).

Mr. and Mrs. M.M said the community must encourage teaching of indigenous agricultural knowledge in the curriculum. Mr. M.M said 'when women ate *imifino* they lived longer (laughter by all) so we men are dying' (Mr. M.M, pers. com. 26/08/2003). I asked Mr. M.M about his views on teaching indigenous agricultural knowledge to learners. 'Well as of that one, I think it is very much important for our learners to know everything that grows around themselves' (Mr. M.M, pers. com. 26/08/2003) . He stressed the need to know especially about the vegetables. 'Look at the rate of hunger, the rate of poverty in our country'. He said if learners have their gardens plus the little bits of

'cents' they earn from somebody then at least they are 'leaving the poverty' (*ibid*). A second reason to teach learners about indigenous food plants he said 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 them raw as they are, thinking that they (plants) are these mushrooms ... and the children died' (*ibid*). He said there is need for learners to be able to identify the plants by practical means of teaching. Referring to Zambia, Malawi and Zimbabwe where there is hunger Mr. M. M said 'You know, people are hungry but the plants are around them ... But the plants cannot talk to them to say we are your food' (laughter by all) (*ibid*).

Ms. N said it is necessary for learners to know their roots. They must know where they come from. She suggested that something must be done about teaching about the indigenous food plants and especially for those in the secondary level. When I asked Ms. N what must be done she said:

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 the indigenous plants ...
If you don't have money to buy then, we shall be
compelled to prepare these types of feeds [foods].
(Ms. N, pers. com. 16/03/2003)

Mrs. L said it is necessary that we know our roots. 'We need to go back to our roots' (Mrs. L, pers. com. 27/06/2003). It is important to teach our children about life in the olden days. 'You know, the good old, the old days, Bob, olden days, they were good. There is much that was good in the past, so we can take the good and then teach our children' (*ibid*). Mrs. L cited the traditional foods and medicines as good things to be taught to our children (learners). There is a clear relationship between Mrs. L's observation of things of the past and Learning Outcome 3 (DoE, 2003). The way we heal ourselves with traditional medicine is a thing she will remember her grandmother for, for a long time she said. They, as children, were taught the processes of identifying herbal medicine in the bush.

Thus from the above, it would seem that community members think it is useful to teach about indigenous agricultural knowledge for historical, cultural and contemporary health reasons.

4.6 CONCLUSION

This chapter has presented the findings of the study according to the categories and subcategories identified in the first layer of data analysis. I looked at the three plants in the study and the curriculum as major themes because information on them will influence mobilization of indigenous knowledge curriculum processes. I therefore had to rely on what learners and community members knew about these plants. In each case learners and community members had a lot of knowledge about these plants. It also seemed that, in the community, there were instances where people were ‘looking after’ the indigenous vegetable food plants (*imifino*) (see for example figure 4.5). 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.

In chapter 5, I will discuss these and other issues in more depth. To do this, I engaged in a second layer of data analysis. The discussions focus on the general attitude of the interviewees towards *imifino*, in order to explore these socio-cultural dimensions of *imifino* in more depth. This is an important dimension informing the curriculum development work, which I outline in Chapter 5 in some detail.

CHAPTER 5

INDIGENOUS KNOWLEDGE AND CURRICULUM DEVELOPMENT

5.1 INTRODUCTION

This chapter provides a more detailed analysis of the research findings. The findings are discussed by drawing on some of the insights gained from literature review work in chapter 2. The outcome of the analysis will inform the framework for developing a learning programme unit (lesson plan) in this research. The learning programme unit can serve as a model to be followed by Agricultural Science educators in Outcomes-based teaching and learning on indigenous vegetable food plants in Grade 10 (FET) learning. It emerged during the writing of my research proposal that *imifino* is a collective term used for wild vegetable food plants. As noted in chapter 4, it was difficult during the interviews to specifically talk of one plant in isolation of the others. This observation became apparent when data was being organized into the different categories in chapter 4. Respondents used the word *imifino* as if it was only one plant species. In effect when *imifino* is used in the context of this study it will refer to the three plant species being studied. The collection of the vegetable food plants from the field, preparation, the right proportions for cooking to give the required taste were, very often, lumped together during the interviews. In fact, *imifino* are always, for the required taste, eaten as mixed vegetables. Interview respondents were, however able to describe the physical features of each of the three plants. Discussions of my findings will take cognizance of the fact that the three *imifino* investigated are often referred to collectively.

It may be mentioned here that the three plants that were studied (*imifino*) only form a very small percentage of the many wild vegetable food plants known by rural communities. Shava (2000) did an ethnographic study in a community to probe their knowledge of indigenous food plants. He reported being shown 21 species of wild spinach (Shava, 2000:23). Mtshali (1994) also did a study in two rural communities and reported that the communities had a wealth of knowledge of indigenous food plants (see

section 2.3.2). Fox and Norwood Young (1982:26) reported that Grivetti (1975 in Fox & Norwood Young, 1982) recorded 120 edible leaves in KwaZulu-Natal. It, therefore, is possible that many more exist in the many rural areas of South Africa, which have not been recorded in the literature.

In this 'second layer' of data analysis, I was able to identify a number of categories that seemed significant to a study on *imifino*. These are:

- Attitudes towards *imifino* (see section 5.2).
- Myths surrounding males eating *imifino* (see section 5.3).
- *Ubunthu* (see section 5.4).
- Time for change (see section 5.5).
- The curriculum: Curriculum once again emerged as a theme with many valuable insights gained into how the topic of *imifino* may be approached in the Agricultural Science curriculum (see sections 5.6 –5.10).

Following this analysis I provide an outline of a learning programme unit (see section 5.6) that is based on the research insights and processes.

5.2 ATTITUDE TOWARDS *IMIFINO*

I will discuss my findings on the general lack of interest in eating *imifino* based on the interview discussions I had with interview respondents and the learners. I will then discuss the possible factors that may have contributed to such attitudes.

5.2.1 General lack of interest

Utyuthu, *Imbikicane* and *Ihlaba* are the three *imifino* studied during this research. *Utyuthu* appeared to be the most commonly used of the indigenous vegetable food plants studied and the most ubiquitous. All six respondents interviewed knew the plant *utyuthu* and did not have any doubts in their minds about what the plant looks like. Learners also

knew the plant because all eight of them were able to identify and write down the name. All the four female interview respondents Mrs. S, Mrs. D, Ms. N and Mrs. L. expressed lack of interest in eating *imifino*. Their reasons were varied. For Mrs. S it was because the family members refused to eat food prepared from *imifino*. She did not see any need for preparing it again. Mrs. D and Ms. N said they had no time to go collecting the plants and preparing them for food. Mrs. L recounted her early age experiences when she vowed that the day she would become a teacher she would stop eating *imifino*.

The observation of lack of interest by the female respondents may appear to be in conflict with the findings of Rose and Guillarmod (1974). They described *amaXhosa* women as more conversant with these vegetable food plants specifically the women of *Transkei* whom they had studied (Rose & Guillarmod, 1974:1688). Orr and Gilks (in Fox & Norwood Young 1982:39) also noted that 'the Kikuyu women (of Kenya) had a virtual monopoly of the green leaves as these are not eaten to any extent by the males'. Mtshali (1994:77) noted in her study that women had emerged as the heads of the family. This being the case many of the women had to play male roles because their husbands were away from home. Mtshali's (1994) study was carried out amongst two rural communities. Even though my study is also in a rural community, it is with a difference. The women I interviewed have been westernized. It is possible to carry out this research in the same area but with different respondents, typical rural women, and the findings may be different. Be it as it may, Fox and Norwood Young also made observations of a lack of interest in knowing about indigenous plants (Fox & Norwood Young, 1982:14).

The study by Rose and Guillarmod (1974) was probably carried out on a cross section of certain categories of women and not only on a selected few, as in my case study. The women selected for my case study have all been to school unlike, maybe, the rural women of the *Transkei*. It is possible that women studied were less literate because their husbands were said to be in the mines (Rose & Guillarmod, 1974:1688). My observation, however, confirms the findings of Fox and Norwood Young (1982) who noted that there was the possibility of indigenous knowledge being lost if nothing was done about it. They (*ibid*) observed that knowing about wild food plants was becoming of little or no

relevance to the urban black population and was 'tending to be forgotten, ignored, or despised in the rural areas' (Fox & Norwood Young, 1982:14). Besides these other observations, the attitudes of the women I interviewed confirm what Odora (1993) wrote about the children of Africa being cut off from their roots and shunting from one cultural track to another (Odora, 1993:105). The four women interviewed are all literate. They have acquired western dietary patterns of living. They earn money at the end of the month because they are gainfully employed. They are able to decide freely what to eat in their households.

Mrs. S, for example, said she tried cooking *imifino* once in her house and her children refused to eat it. Even the father of the children refused to eat it (Mrs. S, pers. com. 01/03/2003). Mrs. S said in her interview that *imifino* were popular food plants when they were young. What then could be making her household to reject the food? To my mind it is the change in the lifestyles in the homes and the easily available cultivated food plants.

Ms. N said she did not have the time to go and weed and bring the *weeds* (my emphasis) home to prepare for her children (Ms. N, pers. com. 16/03/2003). In my interview with Ms. N she showed me a few indigenous vegetable food plants in the garden. I took a picture of some of the *imifino* with Ms. N (see figure 4.8) identifying some of the *imifino* plants. The plants were in her garden just behind her house. She did not need to weed in the field to bring them home. This, to me, demonstrates her lack of interest in eating these plants anymore. I do not, however, reject her reason of 'lack of time' because Ms. N is a worker in a government department.

Mrs. L on the other hand said she was fed up eating the *imifino* because of her childhood experiences (Mrs. L, pers. com. 27/06/2003). As children, she said they thought *imifino* were eaten by the poor whilst *umfuno* were eaten by the rich. She had always wished for the day when she would train as a teacher and be rich and stop eating *imifino*. She even thought teachers and their children were rich (*ibid*).

Mrs. D expressed similar feelings as Ms. N. She identified 'time' as a major factor (Mrs. D, pers. com. 22/04/2003). Mrs. D added that if *imifino* are prepared and ready then she has no problem eating them. She pointed to a house of an elderly lady, *makhulu*, near her place of work and said that *makhulu* (old lady) often prepared *imifino* and called her (Mrs. D) to go and eat. Mrs. D said harvesting *imifino* is laborious especially in dry areas like the place where this research is being conducted (see section 4.4.2). She observed that all the plants were not available in a single place. They were scattered and certain types might not even be available at all in the area. Mrs. D said collecting *imifino* for cooking could best be done by people who are not working. She is working and can always buy food from the shops. Fox and Norwood Young (1982:14) made a related observation when they said the indigenous food is being ignored or despised in the rural areas.

Mr. M. is not very literate but he speaks fairly good English. He admitted certain women were coming into his garden to pick *imifino*. He knew that *imifino* are prepared and mixed together. He however did not know with what *imifino* are eaten (see section 4.4.2). This again shows a lack of interest in the indigenous plant foods. Even though he allows people into his garden to pick the food plants he is not concerned about how they are prepared or eaten.

Despite there being a general lack of interest among five of the six respondents, Mr. and Mrs. M. M have an entirely different attitude towards the *imifino* plants. They feel there is nothing wrong in eating *imifino*. Even on the day of the interview they had eaten some *imifino* that morning. Shava (2000:74) reported that 'though in the past *imifino* were eaten only by women, they now are eaten by men as any other cultivated vegetable is'. Shava's finding resonates with what Mrs. D said. She noted that in her staff room the young men ate *imifino* if they were called to eat after the preparation though as an *Hlubi* she said her tribal men never eat *imifino*, no matter what (Mrs. D, pers. com. 22/04/2003).

From the focus group interview with learners, it appeared certain learners were not in favour of their being taught about the indigenous food plants. As an example, a learner made the following comments, 'Like teacher, in the present time it is not important (Teacher responds in the throat: Mmm) because our culture has been changed' (pers. com. 27/06/2003). Such children could be coming from homes where parents are able to buy *umfuno* regularly for the home. They may even have heard their elders talking about people who go looking for these kinds of vegetable foods. But other learners' felt that to learn about indigenous vegetable food plants is to know about part of the African culture. I hold the view that knowledge of *imifino* should not be treated an African 'thing' (my emphasis) because I believe that when properly rediscovered (DoE, 2003) and developed, knowledge of *imifino* will become immensely beneficial to many South Africans. One learner argued that if *umfuno* were present during the times of their great grandparents, he was sure, those grandparents would have eaten the *umfuno* instead of the *imifino* they ate at that time. Such statements confirm the lack of interest in the *imifino*. In his study of a village community in the Peddie district, Shava, (2000:69) observed the division amongst the community members on whether there was a continued use of indigenous food plants in the community. 'Some said that the community now generally regarded indigenous foods as dirty and a source of disease since some of it was collected and eaten raw and unwashed and also that it was food for the poor' (Shava, 2000:69). Shava (*ibid*) said there was a general agreement amongst community members that "commercial foods had become dominant to the extent that indigenous foods were now sidelined' (Shava, 2000:69).

5.2.2 Possible factors causing lack of interest in *imifino*

Social change, change in socio-economic and social status and the negative attitudes expressed by the women I interviewed could be some of the factor contributing to the apparent lack of interest in eating *imifino* these days. The interview was conducted in English. The ability to speak English in a rural community places the women on a different plane. These women have been through school, and have been influenced by western ways of life. Their choice of food is influenced by their ability to buy varieties of

foods from the shops. This is reflected in the observations of Fox and Norwood Young (1982) when they said, 'Dietary changes following the coming of the white man have been far reaching and still continue . . .' (Fox & Norwood Young, 1982:24).

Another factor could be the general attitude of society about those who eat *imifino*. It appears that eating *imifino* has a negative 'flavour' in local communities. This may have been the trend over many years that the more advanced educationally one becomes the farther one is moved away from local ways of life. This is reflected in the many ways the formal school system conditions and disciplines the mind of the learner as he/she progresses on the school ladder. This view, to me, appears as if one has to strive to attain a certain way of life that is better than the other. Two respondents, Mrs. L and Ms N, said people say eating *imifino* is only by the poor. Shava (2000:69) has made similar observations. Mrs. L said:

It is associated with poverty. They have no work so they can't afford to buy food or to buy cabbages or to buy potatoes. So if you go and pick up these food plants from the garden then people who are looking at you will say 'oh shame she is starving. She has nothing to eat with her pap'. So she picks that thing up to eat with pap (Mrs. L, pers. com. 27/06/2003).

She said in days past, people who ate *imifino* were not associated with poverty. 'Some elderly people would say, those who want *imifino* please come and pick it up . . . they are inviting people to come and pick up the food plants. Go and prepare and eat before they destroy them' (Mrs. L, pers. com. 27/06/2003). Mrs. D also said the belief these days is that if you eat *imbuya (utyuthu)* you are poor because these days it is these *makhulus*, the elderly women, who have nothing to eat who go up in the mountains looking for these things (Mrs. D, pers. com. 22/04/2003).

It is interesting to note that, even though *imifino* 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* is R2.50'. This *utyuthu* was cleanly washed and put in a plastic with some green

leafy onions added to it. If you bought a packet and you went home, you knew you had meal on the table (Mrs. L, pers. com. 27/06/2003). Such information by Mrs. L reveals that the *imifino* plants have some economic value. When I asked Ms. N if people would be interested in buying *imifino*, she replied 'I don't think they will be interested in buying and selling in typical rural areas'. Ms. N said that in Johannesburg it is sold on the streets as *morogo* (Ms. N, pers. com. 16/03/2003). Mrs. D also said she saw *imifino* being sold in Johannesburg. 'I don't know where they get it. They sell a small thing for Three Rands (R3.00)' (Mrs. D, pers. com. 22/04/2003). She said people from the Eastern Cape knew *imifino* so they bought a lot of it. Mrs. S was not sure if local people would buy *imifino* within the community. She said people who eat these plants go about themselves collecting what they would need (Mrs. S, pers. com. 01/03/2003). The experiences of Ms. N and Mrs. D in Johannesburg are reflections of the economic importance that people still attach to these vegetable food plants.

5.3 MYTHS SURROUNDING MALES WHO EAT *IMIFINO*

The data revealed that there appears to be some myths surrounding males who eat *imifino*. I did not ask Mr. M why *amaXhoxsa* males do not eat *imifino* because from answers he gave me about *imifino* preparation, it became clear that he had nothing to do with eating that kind of food. He did not know what was put in the vegetables and he did not care to know. This is evidenced in his reply to one of my questions when he said he knew *imifino* were mixed with something but did not know what that thing was (Mr. M, pers. com. 30/04/2003).

Mrs. D is a *Hlubi*. She said *amaHlubi* males would never eat *imifino* no matter how it is prepared (Mrs. D, pers. com. 22/04/2003). I asked Mrs. D why this was so. She said there was the belief that if one ate *imifino* one would be a coward (myth?). There is always the traditional belief she said. 'If you do this, this will happen. There is always that belief' (*ibid*). Even though Mrs. S also said her husband refused to eat *imifino*, she did not assign any belief to it (Mrs. S, pers. com. 01/03/2003). Mrs. L used the word 'myth' as the underlying factor for males not eating *imifino* (Mrs. L, pers. com. 27/06/2007). She said

usually women ate the *imifino* together and as they were eating they would be 'chatting a lot' (*ibid*). Usually the chatting ended in gossip. According to her, the men avoided eating *imifino* to escape gossip.

Fox and Norwood Young (1982:39) said:

a *Pondo* or a *Xhosa* male regards *imifino* as an effeminate food only fit for women and children. He may eat such leaves if they are cooked separately, but will strictly avoid doing so if they are cooked with cereal ... often a *Xhosa* man might be seen laboriously removing all traces from his ration of the green vegetables added to protect him from scurvy.

Even though they (*ibid*) did not know the reasons for these tribal preferences they understood such attitudes to be breaking down. That there is no clear reason for men avoiding eating *imifino* confirms Mrs. L's argument of a myth factor. In general they said Sotho-speaking people did not show such differences. This study is about a rural *amaXhosa* community. Mr. M.M said he knows an old man in the township where this research is being conducted who says he will eat spinach alone if it is not mixed with maize meal but if the *imifino* are mixed with maize meal he can never eat it. Quin (cited in Fox & Norwood Young 1982,39) quoted a *siPedi* as saying 'meat is a visitor but *morogo* is a daily food'. This statement demonstrates the significance of *imifino* (*morogo*) in the daily diets of the *siPedis*. The speaker uses meat as a visitor figuratively. This to me means that meat comes once in a while but *morogo* is present daily in the diets of the people. Shava, (2000:65) reported that elderly people that he met on the roads, during his research, were surprised at the idea that he was doing a study on indigenous plants. 'It was evident from their talk that most no longer used indigenous plants' he said. This finding confirms my observation that the women I interviewed all showed a general lack of interest in eating *imifino* (see section 5.2.1). Shava (*ibid*) did not say how many of the elders he met were women or men, nor did he give an idea of the depth of discussion that he had with them that led him to make such a conclusion.

5.3.1 Possible factors influencing men not to eat *imifino*

African societies have lived with beliefs and superstitions over many hundreds of years. These beliefs have influenced the roles that various members of African families play. The men believe in their ability to be in charge of difficult situations. At home they remain the head of the family. On the fields they do the much harder work and even in wars they instruct the women and children to be in the background. Isichei, (1997:66) gives an example of male roles amongst the Dinka where women provided most of the food consumed (grain and fish) while men herded cattle (see section 2.3.2). Cattle herding is viewed as very difficult work and men believe that the herding of animals is a man's work.

Mrs. D. said during the interview that if an *Hlubi* man ate *imifino* and was being beaten the *imifino* would appear on his shoulders. A man that is being beaten is a coward and he is not strong (Mrs. D, pers. com. 22/04/2003). Mrs. L also said they were told when they were children never to eat *imifino* that were beginning to flower. If they did they would go mad. She said whenever they saw a mad person they said that person had eaten a flowering *imifino*. I asked Mrs. L what her belief is presently. She said, 'Bob, now I know it was a way to preserve the seeds because the seeds were not being collected and stored' (Mrs. L, pers. com. 27/06/2003). Shava (2000:68) also reported that *imifino* are mixed with *mealie-meal* to make *isigwamba*. Shava (*ibid*) further noted that *imifino* were, traditionally eaten by women as they were believed to make men weak and cowardly (*abengangofazi* - like a woman). Ms. N however said in the area of this research, the people know *isigwamba* as *imifino* cooked without the addition of any mealie-meal or flour. Ms. N said *isigwamba* is an *isiZulu* word and that the *isiXhosa* equivalent is *ilaxa* (Ms. N, pers. com. 13/12/2003). In the focus group interview some of the learners said eating *imifino* results in one becoming weak. One learner commented that there is no strength in the *imifino* food and there was no need to eat such food. This learner is male but is young. He might have heard that males who ate *imifino* are weak though he has personally not experienced it. Mrs. S said her husband refused to eat *imifino* when she tried it once in her house (Mrs. S, pers. com. 01/03/2003). Mrs. L identified gossip

among women while they eat *imifino* as the main reason of men refusing to eat *imifino*. I am of the view that since men do not want to be seen as weak they would avoid anything that will weaken their positions or status as men. Mrs. D said even some men refuse to eat even the cultivated spinach because they consider spinach as *imifino* (Mrs. D, pers. com. 22/04/2003). Some men would only eat *imifino* if *imifino* are cooked separately from the maize meal. However, Mr. M.M said he eats *imifino* regularly with his family (wife and children) and that *imifino* even makes him feel stronger (Mr. M.M, pers. com. 26/08/2003).

5.3.2 Fear of the poisonous wild plants

Mr. M. M said he once heard on television that some kids (children) plucked and ate some wild vegetable food plants and they died. He said he removes those plants that he does not know or need from his garden (Mr. M.M, pers. com. 26/08/2003). This may serve as sufficient precaution against any of the children going to pluck any wild pants in the garden and eating it. During my interview with Mrs. S she mentioned that some of the plants are poisonous (Mrs. S, pers. com. 01/03/2003). The fear of death is enough to discourage many people from eating *imifino*. Mrs. D also said if certain types of plants touch the skin it becomes so irritating (Mrs. D, pers. com. 22/04/2003). Mrs. L also said some of the edible plants have thorns on them and they only become harmless when the rain falls or when some water is put on the plant (Mrs. L, pers. com. 27/06/2003). This is why learners have to know about these plants to be able to appreciate what is good and what is bad. Knowledge of all these types of plants is necessary in our current curriculum. This calls for a curriculum that is well structured to teach about these plants many of which are very valuable to many South African communities.

5.4 UBUNTU

Ubuntu is a *Nguni* word which means ‘people sharing what they have among themselves’. Mrs. L said in the interview that women ate their food of *imifino* together (Mrs. L, pers. com. 27/06/2003). In the process the women gossiped which was why the

men avoided eating *imifino*. I understand the sharing of the food by the women to mean sharing of other thoughts and ideas also. It is not all gossip that is bad. Many women might have taken positive advice from their gathering and eating together. In addition many of these women would have learnt about other food plants from their gatherings during the eating of *imifino*. Mrs. D said the eating of *imifino* was according to strata in the family or community (Mrs. D, pers. com. 22/04/2003). Grandmothers ate separately and mothers also ate separately while the youth also ate on their own. In the African culture the young do not take part easily in the discussions of the adults unless invited to do so. Even then it is done with some observations. This arrangement for eating therefore opens up channels for free discussions among the youth or the mothers and even the grandmothers.

5.5 TIMES ARE CHANGING

Many of the people whom I interviewed said they acquired the knowledge of *imifino* from their grandmothers (Mrs. D, Ms. N, Mrs. L, Mrs. M.M). Many of my learners said it is their grandmothers who have been preparing *imifino* for them to eat (Appendix A). Mrs. L described how her grandmother would instruct them to go to the fields after school to collect *imifino* for the day's meal (Mrs. L, pers. com. 27/06/2003). Ms. N said she grew up in a place where the elderly people brought the weeds from the field as food (Ms. N, pers. com. 16/03/2003). Mrs. D said if she goes home in the *Transkei* she eats *imifino* regularly and even in her current working place there is a *makhulu* (old lady) who prepares *imifino* regularly and calls her to come and eat. If *imifino* is prepared in the staff room they all eat it including the young men (Mrs. D, pers. com. 22/04/2003). Mrs. M.M said 'my grandmother tell me that this is *utyuthu*, this one is *ihlaba*, this one is *imbikicane*, this one is mmm . . . I forget the names' (Mrs. M.M, pers. com. 26/08/2003). These grandmothers are some of the 'living manuscripts' Odora has referred to (Odora, 1993:106). There is a possibility of this knowledge from the grandmothers dying out gradually until it is no more. Fox and Norwood Young (1982) had observed that urban blacks are beginning to forget, despise and reject indigenous ways of doing things (see section 5.2.1).

Vivian (1992:56) has argued that indigenous systems are not static but are constantly evolving. This view point was expressed also by Maylam (1994:19) when he wrote about Iron Age people and some of their agricultural practices. Vivian (*ibid*) has said indigenous knowledge is an important guide to sustainable resource management. Mr. and Mrs. M.M indicated that they eat *imifino* regularly in their home. Mr. M.M said there are many reasons that he took to eating *imifino*. He said *imifino* clears off TB, (Terrible *bhabhalaza*) a hang over due to heavy drinking. But clearing a liquor induced hang over is not the only reason Mr. M.M decided to eat *imifino*. He said he had fever. He tried western medicine but he was not recovering. He was told by some people to go to his garden. There are plants that you can cook, heat yourself . . . and drink some of it . . . and the fever was gone. Mr. M.M said many of the local food plants are medicinal and natural also. 'The medication from the doctors could not help me. Now I am eating *imifino*. I am not a weak man. It is just a myth. I always eat and eat'. Mrs. M.M remarked that her brother-in-law said he was going to start eating *imifino* because he did not understand why women are not dying like the men (Mrs. M.M, pers. com. 26/08/2003).

5.6 THE CURRICULUM

The insights into some of the social, cultural and economic facets of *imifino* are crucial for informing curriculum development involving indigenous knowledge of the plants. From the discussions above, it is clear that indigenous agricultural knowledge does not only involve technical/practical knowledge and skill (how to care for and look after the plants), but an understanding of their socio-cultural and economic values. This indicates that curriculum development that focuses on indigenous agricultural knowledge should be sensitive to context and cultural factors.

As indicated earlier (see section 4.5) curriculum emerged as a category in my interviews with community members, in the worksheets and in the questionnaires. Curriculum emerged also during a focus group discussion by learners. Learning outcome 3 of the National Curriculum Statement on Agricultural Science (DoE, 2003:20) stresses the need for indigenous knowledge in the formal school curriculum (see section 1.3). Mr. M. M

gave two reasons why learners should know about local food plants. He cited the need to know about the vegetables because 'they are important and helpful' (Mr. M. M, pers. com. 26/08/2003). He said as water was available in most homes it has become easy to grow these crops because they come out on their own (a looking after and caring for process). He gave a second reason as 'the need for learners to know about the good and the bad plants (see section 5.3.2). Mrs. L said skills are not taught in our schools currently. She brought before me a clay pot that she bought from a local woman. Mrs. L said the woman who makes these pots and sells them did not go to buy from shops to come and sell. She molded the clay and designed the items and baked herself. Mrs. L said if a white person were to put these clay pots into a shop, people would rush to go and buy them. 'It is the mindset' she said. This observation by Mrs. L confirms the general lack of interest identified as one of the factors influencing a negative attitude towards eating *imifino*.

The next section illustrates how I have (and will in future) intergrate indigenous knowledge of food plants in to the Agricultural Science curriculum in Grade 10 FET. The learning programme unit that I propose is based on the research process I followed here and includes the socio cultural dimensions of indigenous agricultural knowledge, as discussed in this chapter.

5.7 DEVELOPING A LEARNING PROGRAMME UNIT (LESSON PLAN) FOR GRADE 10 AGRICULTURAL SCIENCE

5.7.1 Planning for the learning programme unit

It may not be appropriate to develop a learning programme unit on indigenous agricultural knowledge without taking into account the community. Masuku (1999:58) noted that 'adult members (community members), (my brackets) as providers of related knowledge, were going to be valuable resource'. Masuku (1999) suggested that learners could go to community members to seek information from them. This is a way to reduce problems of logistics, she observed. There are many factors in the community that will

influence the development of the programme apart from community members' involvement. Socio-cultural, beliefs, myths and economic factors are all important in considering the development of a useful learning programme unit.

5.7.2 Activities and outcomes

Based on the research process conducted for this study, a number of different learning programme outcomes and activities can help to structure an OBE learning programme unit on '*imifino to umfuno*' for the Agricultural Science subject in Grade 10. This learning programme unit consists of a series of lesson plans (activities) over a period of time, and includes a consideration of how learning will be assessed, given that assessment is an important dimension of OBE. As indicated in section 3.2.4, a curriculum that involves learners in a variety of disciplined activities is one of the expected outcomes of the new OBE curriculum (Parker, 1997:33). Based on the research processes in this study, I have identified a number of learning activities, which I describe below in some detail.

- **Activity 1: Mobilising prior knowledge of the learners and community members (at the start of the learning programme unit)**

Type of activity: (individual activity): I would start by mobilizing prior knowledge of my learners and the community members. For the learners, I would give out worksheet prepared by me (see appendix A). In the worksheet I would look for information that would help them identify plants commonly known to them. For community members I would prepare questionnaires in which I would seek information on locally known indigenous vegetable food plants (see appendix B). Whilst I am mobilizing prior knowledge of learners and community members, I would also involve the learners in the preparation for planting (see activity 4 below).

- **Activity 2 & 3: Gardening Activities (ongoing activities)**

The research findings revealed that the unit could appropriately be taught successfully in the summer. For my purpose the period November to March of each year will be appropriate because those are the times when rain falls (see table 5.1 below). November is an examinations month. Schools are almost closing at that time and syllabus would have already been completed. Normal school year work programme is usually divided into about 28 weeks. It will almost be impossible to do any other work in the syllabus if the unit on *imifino* is not well coordinated. The available time for teaching and learning about local vegetable food plants may be late January when schools open to end of April, a period of about fifteen weeks. This is the peak period of summer when the plants are said to mostly available. It takes about four months for the plant to mature, form flowers and develop seeds. It will be necessary to programme the observation period to fit into teaching other topics in the syllabus. This is necessary in order not to spend too much time on the plants.

Table 5.1. Plan of activities that may be carried out in the garden from Jan-April of the year

Month	Activity
January	Preparation of the ground and nursing of different <i>imifino</i> seeds. Records of all activities to be kept by learners.
February	Observing germination of seeds in groups. Two to six learners per group. Learners to keep individual or group records.
March	Observing growth patterns, plant size, leaf colour, etc. of the different <i>imifino</i> plants being observed. Learners to keep individual or group records.
April	Observation continues in groups as learners continue to keep records of changes to the plants.

- **Activity 2: Preparation of the ground and planting (Fourth quarter of January)**

Type of activity: (Group activity). Learners will develop/cultivate a small area of land on the school compound for an *imifino* garden. It is suggested that the work be done in groups. Preparation of the land may start as soon as schools open in January, possibly the last week of the month of January. Land could be ploughed if a tractor is available or learners could use simple farm tools like hoes, spades and pick-axes to cultivate the ground. The use of simple farm tools to cultivate the land is a common practice in homes of rural learners. The use of these tools will help learners to learn how to keep the tools in good condition. An example of keeping a tool in a good condition is washing the tools after it has been used or drying and oiling farm tools to keep them from rusting. Teaching and learning about indigenous food plants may not need a large field or a big garden. It should take a class of 20-30 learners about five school days to prepare the land for planting. Small plots may be used and planting may be done immediately after preparing the ground. Inputs like seeds may have been collected the previous year.



Figure 5.1: Learners preparing the land for ploughing and planting

Type of assessment: Task based (performance assessment). Task-based assessment will require learners to perform assigned tasks such as clearing, digging and preparation of a seedbed in the field. They could also try and identify some of the local food plants on the compound as an activity. The identification of plants can be done with learners using worksheets prepared by the teacher. Learners will be assessed on the effectiveness of their work in the field and also in the worksheet. The teacher can develop a marks sheet that can be agreed upon with learners. The marks may rank from 1-5. 1 is least and 5 are most. The criterion for awarding marks to learners will be determined by the teacher. Performance assessment is appropriate for practical activities.

Learning Outcomes: *Learning outcome 2* of the National Curriculum Statement (2003:16) states that ‘the learner is able to demonstrate an understanding of the dynamic nature of agricultural knowledge and the appropriate technology, and to interpret and apply this knowledge to agricultural management practices and systems to ensure a sustainable agricultural environment’. In this instance the use of farm tools, their maintenance and management of the soil during the study are expected outcomes that must be achieved by the end of the study. Sustainable use of the soil and the use of tools appropriate for indigenous practices are some other outcomes to be achieved. If learners use farm tools effectively they will be achieving learning outcome 2. *Learning outcome 3* of the same document (*ibid*) is about indigenous agricultural knowledge, historical development and practice. The outcome states that ‘the learner is able to understand and interpret socio-cultural developments in agriculture over time, and to use indigenous agricultural knowledge in relevant management practices, systems and technologies’. The use of learner worksheets and application of questionnaires are means of *mobilizing* (my emphasis) the historical and socio-cultural developments in agriculture (LO3).

- **Activity 3: Looking after and care for *imifino* (ongoing activity)**

Learning outcomes: Learning outcome 1, 2 and 3 (see learning outcome 2 and 3 above) will be addressed in this activity. *Learning outcome 1* is about investigation and analysis (skills development). The learning outcomes will be reflected in the way the plants are

looked after and the soil is maintained during the cropping period. By the time the looking after activity is over, learners must appreciate the dignity in the use of the hands, develop skills in simple farm activities and appreciate the values inherent in indigenous agricultural practices.

What is involved in the looking after processes? This activity requires that the plants are observed regularly. Observation will include weeding around them, watering them, looking out for any abnormalities in their growth, and application of plant nutrients. It will also be important to keep adequate records of the time the plants take to become established (growth period). This information will be necessary for the timing of future planting.

Type of activity: (Group activity). Learners will be engaged in visits to the garden. From the time of planting to the time when the plants will mature and die, groups of learners will make visits to the garden every two weeks (bi-monthly). This may be done in pairs or in threes. The teacher will schedule the group visits to the garden with the learners. Learners will observe and record germination patterns, rate of growth by the different plant species, the response of the plants to water and nutrient application, time of flowering, seed formation, and any other relevant factors.

If there is no one to do the watering and nutrient application then learners will do it by developing a roster that the group will adhere to. Groups will get their own recording books, which must be checked by the educator on a regular basis. Different columns can be created in the same books for the different plants that will be identified for observation. New items that will be necessary for observation can also be given headings in the notebooks. The looking after activities will go on for the life span of the plants. It could involve seed collection by learners for future gardening activities. This could take a whole quarter (January- April).

Assessment: (Group or peer). The assessment criterion can be negotiated between learners and educator. The teacher and learners will agree on what is to be observed on an

occasion. The teacher will find out if learners had done what was expected by checking their recording books and by getting regular feedbacks from learners. Other learners could help teacher in assessing what their peers have done. If learners assess themselves they develop skills to be more objective. Assessment of the recording books will be the main strategy.

- **Activity 4: Interviewing community members**

Type of activity: (individual activity): Mobilizing indigenous knowledge of community members in the study of *imifino* is an integral part of the development of the learning programme unit (see activity 1 above). Learners will get more information if they interview community members on what community members know about the plants. Another advantage is that learners are able to bring diverse information to the class for discussion. The teacher can also interview community members to confirm the information that learners have. Apart from interviews, the teacher could also draw up relevant questionnaires for learners to be administered to community members. The teacher will have to assist learners to interpret the information they are gathering from the community, and to discuss different issues that come out of the information gathering.

Learning outcome 3 will be addressed through this activity. The quality of the information brought to the class can be assessed. Discussions on the information can also be assessed.

- **Activity 5: Discussions/debates/focus group discussions on social and cultural issues affecting eating *imifino***

Knowing about *imifino* may not come about only in the school garden activities. Various topics could be developed by the educator, in collaboration with the learners, for class debates. Based on the interview data, some topics that can be debated may include:

(a) *Imifino* are only eaten by the poor. Is this statement True or False? Why?

(b) Eating of *imifino* makes men to be weak. Do you agree or disagree with the statement? Why?

(c) Eating *imifino* is a thing of the past. Is it True or False? Argue for or against this statement.

Topics like the one above and others to be developed by the teacher and the learners can be a useful means of developing the communication abilities of learners. Working with indigenous agricultural knowledge therefore allows for integration across learning areas. Integration is an important feature of the new OBE curriculum.

- **Activity 6: Keeping planting material for the next season**

Type of activity: (Group activity). Selection for planting has been practiced by rural communities for years. They are able to pick seeds of quality for future planting activities. Different types of planting materials are kept, for example grains and seeds of fruits. In order to be able to investigate further any future work on *imifino* it will be necessary to keep seeds for planting. This activity may be performed in groups. The teacher will keep record of how the seeds were collected and how learners intend to keep the seeds for planting the next season. Other records learners can keep may include the type of the plant and the size.

5.7.3 Summary of the learning programme unit

From the above, it is clear that all the learning outcomes for the new Agricultural Science subject can be covered through this learning programme unit called '*Imifino to Umfuno*'. The main focus of the learning programme unit, is however, on learning outcome 3. A range of assessment activities can be undertaken to assess whether learning has taken place, as per learning outcome requirements. Table 5.2 below provides a summary of the activities outlined above, the learning outcomes and the assessment possibilities.

Table 5.2 Summary of the learning programme unit

Activity	Learning Outcome	Assessment
1. Mobilizing prior knowledge of learners and community members, using worksheets and questionnaires.	LO 3	Individual, group or peer to assess whether learners can mobilize knowledge amongst community members
2. Preparing the ground for planting.	LO 2 & LO 3	Task-based to assess practical skills and agricultural knowledge of learners
3. Looking after and caring for <i>imifino</i> .	LO 1, LO 2 & LO 3	Group, peer and educator assessment to assess practical skills (observation) and agricultural knowledge of learners
4. Interviews with community members.	LO 3 (could be integrated with outcomes from languages, social sciences or arts and culture)	Peer assessment to assess learners understanding of community knowledge
5. Class debates	LO3 (could be integrated with outcomes from languages, social sciences or arts and culture)	Peer and educator assessment to establish quality of debates
6. Storing planting materials for next season.	LO1, LO 2 & LO3	Educator assessment to assess practical skills of learners

5.7.4 Putting school knowledge to use after school

Maylam (1994:143) observed that the Land Act of 1913 severely curtailed opportunities for purchasing land by black people. As indicated in section 2.3.1 until 1994 racist legislations delegated 80% of South Africa's population to 13% of the land (Van Onselen, 1996:8). These observations describe the depth of the inability of many of the people to have land for growing the basic household food needs. Indigenous food plants

therefore had no place in the garden or in the small fields allocated to those who have been dispossessed of the land. The small piece of land was used in cultivating bigger, domesticated crops that yield better harvests. With the change of government and with land reform programmes being put in place to allocate the landless people with more land, this position may change over time. The shift from content-based teaching to outcomes-based learning (DoE, 2003) requires that learners are able to put to proper use their acquired skills after school. For agriculture one of the ways of doing this is to put what is learnt at school to practice on the land. This may be one way of solving some of the unemployment problems of the youth. While this study represents only a small contribution to this much bigger vision, it puts in place a methodology for exploring more relevant and contextual approaches to the teaching of Agricultural Science in the FET.

5.8 INSIGHTS GAINED IN RELATION TO LEARNING OUTCOME 3

As indicated in section 1.3 learning outcome 3 in the Agricultural Science curriculum is about indigenous agricultural knowledge, historical development and practice. The National Curriculum Statement (2003:20) states that ‘the learner is able to understand and interpret socio-cultural developments in agriculture over time, and to use indigenous agricultural knowledge in relevant management practices, systems and technologies’. The National Curriculum Statement (DoE, 2003) stresses the need for educators and learners to make every effort to go back in time to rediscover indigenous practices which may have been lost due to outsider ways of seeing indigenous systems (O’Donoghue & Neluvhalani, 2002). The study has enabled me to understand (gain an insight) into some of the possible problems that curriculum developers and educators may face in introducing indigenous knowledge systems into school-based curriculum development processes. At a macro level, are the problems created by the Land Acts of 1913 and 1936. The problem of distribution of land to the landless will have to be addressed if rural learners are to benefit from practical agricultural skills learned at school and from indigenous agricultural knowledge. Agriculture is a practical subject and learners can only practice agriculture effectively if land is available for their use. If this is not addressed, what is learned at school will remain only in the mind. But most importantly,

learning outcome 3 has enabled me to follow, investigate and describe (mobilize) the changes in indigenous agricultural practices in relation to some indigenous vegetables over time (historical developments).

At a micro level, this study has enabled me to mobilize learners' knowledge and community knowledge of indigenous local vegetable food plants. The insights gained show that there is a lot more that should be done by educators, community members and learners if learning outcome 3 (LO3) is to be achieved. It emerged that there are negative beliefs about men eating *imifino*, there is stigma attached to eating *imifino*, peoples' social status have changed over time and some think eating *imifino* indicates a state of poverty. In theory the expected outcome is a lofty ideal. In practice, the idea may take quite a time to take root particularly because indigenous knowledge needs to be carefully explored in context, if one is to achieve an ethically sound re-appropriation of indigenous agricultural knowledge (see section 2.4.2).

Studies done in 1974 by Rose and Guillarmod revealed that women were authorities on the indigenous food plants (Rose and Guillarmod, 1974:1868). Some forty years after, the perception has changed. Women that were interviewed in this study did not show any positive interest in going back to start eating *imifino*. The insights gained also have confirmed Fox and Norwood Young's observations about black communities in urban areas tending to forget, despise or look down on eating indigenous food plants. The insight also confirms Shava's study in which he noted that certain community members were no longer in favour of eating *imifino* and were even surprised that he (Shava) was doing studies on indigenous food plants (Shava, 2000:69). This indicates that there may be complex socio-cultural factors to take into account when engaging with learning outcome 3.

5.9 REFLECTIONS ON SCHOOL-BASED CURRICULUM DEVELOPMENT

My reflections are based on my experiences during this research. The OBE curriculum has placed a new role upon the shoulders of educators. Firstly educators need to

understand the learning outcomes, which include both the critical and specific outcomes. These are basic curriculum requirements. Without this educators will not have any direction. Secondly the development of a school-based curriculum does not require the expertise of the educator only. This is because the OBE curriculum is more learner-driven than the previously content-driven and rote-learning (behaviourist) system. It would therefore require the involvement of learners and community members (Masuku, 1999) and all stakeholders to develop a curriculum that does not only produce one who can read and write but one whose life is oriented to survive in South African society. My involvement in this study has thrown light on my role as an educator and has helped me to understand the complications in curriculum development. The study has also helped me to understand the important role that learners and community members can play in developing successful learning programme units of relevance to educators and learners alike.

5.10 CONCLUSION

I have used various research methods to mobilize learners' and community knowledge of *imifino* using an interpretive methodology. In this chapter I have tried to identify some of the factors that might have negatively influenced the eating of *imifino* among some community members. There has been a general lack of interest in eating *imifino* and there is a stigma attached to eating *imifino*, particularly amongst males. It also emerged that some young males are eating *imifino* and nothing is happening to them. The learners have also shown an interest in getting an insight into knowledge on the indigenous food plants. This information has been useful because it informed the development of a learning programme unit that may gradually remove some of the negative perceptions about *imifino* from amongst learners and community members.

In this chapter I have outlined a learning programme unit on '*imifino to umfuno*', and I have indicated what learning outcomes could be achieved and assessment strategies that could be relevant during learner assessment. The learning programme unit is based on the research processes and the findings of this study. It represents a case study of school-

based curriculum development in which I, as a teacher, have gained insight into learning outcome 3 and some of the implications and complications of school-based curriculum development within an OBE system.

Even though this is a case study and my findings may not be generalized, in the next chapter I will make recommendations that may inform future research and curriculum development work on *imifino*.

CHAPTER 6

REFLECTIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter firstly summarises the study. It then reviews the different methods used and reflexively reviews the research. Could anything in the research have been changed or done better? This is the question I will reflect on in this chapter. The chapter culminates in a set of recommendations to inform *imifino* research and indigenous knowledge curriculum development work in Agricultural Science. These recommendations do not assume that the study is generalizable, but it is hoped that others may find the insights gained in this study useful in future research.

6.2 SUMMARY OF THE STUDY

It took about three months to conduct the study, from about 20/02/2003 to 14/05/2003. As indicated in section 1.4, the research question was about how indigenous agricultural knowledge could be mobilized in school-based curriculum development. It was formulated as a response to the challenges posed by Learning outcome 3 of the National Curriculum Statement (DoE, 2003) on Agricultural Science for Grade 10. The research question intended investigating two objectives: Firstly to investigate how knowledge of indigenous vegetable food plants (*imifino*) can inform locally relevant curriculum development in Grade 10 Agricultural Science. Secondly to mobilize knowledge of learners and community members to develop a learning programme unit (lesson plan) for Grade 10 Agricultural Science with the title, *imifino to umfuno*. Through achieving these objectives, it was assumed that learners would appreciate values inherent in indigenous ways of living. It was also hoped that this research would provide a framework for further investigations into mobilizing indigenous agricultural knowledge in the FET Agricultural Science curriculum. The research was interpretive in orientation and many qualitative research tools/methods were used to investigate the research question (see section 3.2.1). I turn now to a reflexive review of the research methods.

6.3 REFLECTIONS ON THE RESEARCH: METHODOLOGY AND METHODS

To investigate school-based curriculum development using learning outcome 3, I used qualitative methods of investigation and an interpretive case study methodology (see section 3.2.1). I chose the qualitative and interpretive orientations because I needed to find in-depth information from my learners and their immediate community whose knowledge forms the basis of this study. As indicated in section 3.2.1, I decided on qualitative research because I needed to mobilize what knowledge my learners and the community members had. This required listening more than measurement or calculation of data. I needed to be able to interpret what knowledge I have been able to mobilize to enable me to answer the research question. I also needed to make meaning out of the information I got from learners and community members to be able to effectively interpret the findings of the research. I was guided by reading the works of Yin (1984), Patton (1990), Lewin (1990), Bassey (1999) and Merlin (2001) in formulating my methodology (see chapter 3). To be able to get an accurate interpretation of the information that I got, I resorted to using multiple methods of investigation. These multiple methods and their use in this study are discussed below.

6.3.1 Learner worksheet

The use of the learner worksheet was useful as a starting point for the research. None of the plants studied had been previously identified either by the learners or the researcher. The plants were identified only after learners had gone round the compound and to the school garden with the worksheet. The worksheets enabled me to formulate the research strategy. The worksheets also helped me to know how much learners knew about the plants. The use of the worksheet as a starter, to my mind, was appropriate because the work sheet provided a starting point for the study, and for mobilizing learner knowledge.

6.3.2 Questionnaires

The questionnaires served as a quick means of finding out what community members knew about the plants that were identified by learners. The questionnaires were not discussed with learners because of time factor. I had been warned by some of the learners that planting might be late and the full length of time for the research might not be realized (see chapter 1). Such a problem could be addressed in future by sending out questionnaires earlier in the year prior to the research. This would allow for enough time for planning. Only a few questionnaires were used, because the study itself was very small. In future, depending on the type and level of study a bigger questionnaire size could be applied.

6.3.3 Interviews

I used the semi-structured interview schedule because of its many advantages. It allows for flexibility, it is not restrictive and it does not prescribe what answers respondent interviewees might give. It also allows for in-depth investigation or questioning of the respondent interviewee (Cohen & Manion, 1994, Patton, 1990, Lewin, 1990, and Kincheloe, 1991). Besides, semi-structured interviews create relaxed environments for both interviewer and interviewee. The researcher however has to be careful not to forget the use of any instruments/tools that he/she might need during the interview process. I would use same methods of interviewing in the future. I also found that I initially was asking 'leading questions', and after transcribing the first interview, I realized that I should not 'lead' the interviews. This points to the need for researchers to be patient, to listen more, and to let the respondents speak (rather than leading the interview).

6.3.4 Activities in the garden

The activities in the garden informed the core of the research. It was the activities that I used to establish that when *imifino* are carefully looked after they could become useful and supplementary sources of food. The garden activities involved the learners whose

knowing I mobilized in the learning programme development, Mr. R the gardener, a community member and myself as participant observer. The garden activities greatly informed my understanding of the *caring for* and *looking after* processes. The use of English by my learners to record their observations was difficult. Their writings were scanty and spelling was poor. In future it may be more convenient to ask learners to record their observations in the vernacular and have it translated into the English language. A key lesson learned in this research, is that practical activities of this nature should be started in good time in accordance with seasonal factors.

6.3.5 Photographs

I took photographs within different contexts. These photographs have been used to narrate the stories of the many activities that have taken place during the research. Photographs are able to give a vivid description of what is happening though they are 'silent'. I used the photographs to reveal the physical nature of the plants being studied, to show what community members know and do and also to provide evidence of work that was undertaken in the study. I also believe that the photographs narrated a story to enable the reader to understand the story of '*imifino to umfuno*'. The camera that was used for this study was not very appropriate. The pictures were not as impressive as they should be. If I have to do this work again, I may look for a more appropriate camera. I realize that I took too many pictures to be able to use them all effectively. Maybe next time, I will be more selective when I take the pictures. This will save on costs associated with the research.

6.4 RECOMMENDATIONS

6.4.1 Timing of the research

The academic year for the Rhodes University M.Ed. (EE) course (2nd year) started on the 4/02/2003. I attended lectures from the 4 –8 /02/2003. I set in motion the processes for the development of the research soon after the lectures ended. Planting was done on the

20/02/2003 (my learners recorded 19/02/2003, Appendix G). Six visits each were made on different dates by different learner observation groups to the garden (learner groups 1-3) to observe the growth patterns of the *imifino* plants in the period of three months. I had personally made many observations on the plants under study in the garden and gave many instructions to Mr. R about the local vegetable food plants. I have found that in my area (place) of the research, *imifino* are early spring to late summer (early autumn?) growing plants. At the time that I started the research (11/02) it was the middle of summer. Useful time for the research was lost. I do not attribute the loss of time to anyone because I did not know what to look for before the research had started. I have found that if *imifino* are to be taught in the Grade 10 agricultural science syllabus, it may be necessary to start at the beginning of the year (January) when schools open. It has not been possible to know the exact growth period of the three plants for two reasons: Firstly the starting time for growing the plants was not correct and secondly, planting material was not appropriate. The seeds were probably not very ready for planting as the seeds that were planted did not germinate. The plants that were studied during the research sprouted on their own in the garden. This study therefore recommends that careful attention is paid to the most appropriate time for planting *imifino*.

6.4.2 Responding to the myth problem

The concept of teachers' developing school-based curricula of contextual relevance has much deeper socio-cultural and political implications than has been advocated in learning outcome 3 of the National Curriculum Statement (2003) of FET in Agricultural Science. One of the findings of this study is that many *isiXhosa* males do not eat *imifino*. It also emerged that the young males are beginning to eat *imifino* mixed with *umfuno*. African societies live on beliefs. Some of these beliefs are shrouded in myths (see Mrs. L and Mrs. D, section 5.3.1). Policy makers, curriculum development specialists and practicing educators will need to find ways of engaging sensitively with these socio-cultural factors when undertaking indigenous knowledge work. In this study, such a process would for example, involve seeking ways to tactfully help to make males change their attitude to

associated with Indigenous Agricultural Knowledge (IAK) in the Agricultural Science subject.

6.4.3 Breaking the myth around males not eating *imifino*

As I stated in section 6.4.2 above, it emerged from the study that some young males are beginning to eat *imifino* (see Mr. and Mrs. M.M in section 5.5 and Mrs D). Fox and Norwood Young (1982) also reported that the attitude of *amaXhosa* and *amaPondo* men not eating *imifino* is also changing. Mrs. D said the young men in her working place eat *imifino* when it is prepared (pers. com. 22/04/2003). There is enough evidence from this small study to show that men are beginning to eat *imifino*. More can be done to increase the numbers of males eating *imifino*. Educators can tell their learners about how healthy it is to eat *imifino*, television and newspapers can write about the nutritional benefits of eating *imifino*, talks can be given in community halls and health officials like nurses could recommend to their patients the nutritional benefits derived in eating *imifino*. This study recommends that educators encourage learners to understand the potential nutritional benefits of *imifino*.

6.4.4 Arousing interest amongst all South Africans

The recommended approaches above are some of the ways to break the myth surrounding the eating of *imifino*. Such approaches will lead to the awareness among many South Africans about the benefits that abound in at least knowing about such plants. In cases of extreme danger from death due to hunger or disaster, knowing about such plants could be most beneficial to people (Fox and Norwood Young, 1982:61-63). This study recommends that incorporating learning programme units such as the one described in section 5.7 may help to arouse and sustain the interest of all South Africans in indigenous agricultural knowledge and *imifino*.

6.4.5 Indigenous knowledge research into *imifino*

Even though there is evidence of lack of interest in collecting and preparing *imifino*, during this study, some learners have shown an interest in learning about the indigenous food plants. The enthusiasm with which my learners took part in the observation processes is further evidence of positive interest in the plants. Educators are faced with the challenge of blending/compromising what they know through western education with what is indigenous. O'Donoghue and Neluvhalani (2002) have warned against placing indigenous knowing in opposition to western ways of knowing and advised that such forms of knowledge are best used as supplements to each other. This study recommends that opportunities for engaging with indigenous ways of knowing are created in the Agricultural Science curriculum (such as the learning unit on *imifino* to *umfuno*) and that these are valued in the same way that 'western' ways of knowing in the Agricultural Science curriculum are valued.

6.4.6 Learning outcome 3

The research was based mainly on learning outcome 3. This learning outcome is about indigenous agricultural knowledge, historical developments and practice. Learning outcome 3 also influenced my choice of the methodology because I needed to trace the past activities of my learners and community with regard to their perceptions on *imifino*. I also needed to listen deeply and attentively to everyone who made contributions to this research to be able to make reasonable interpretations of what they tell me. From the methodology, I was able to choose the appropriate research methods for the research. From the findings of this research, I have understood that it is possible to use the present to go back into the past and even to forecast the future. I was able to find out that change comes but only gradually. This is evident in the changing attitudes of a few young men towards eating *imifino*. This study recommends the inclusion of IAK as this fosters a better understanding of history and context.

I have also learned through this study, that incorporating indigenous agricultural knowledge in Agricultural Science, as expected in learning outcome 3, is not simply a technical / practical process. Interviews with community members and learners brought forth interesting socio-cultural perspectives on the agricultural process of 'looking after and caring for'. This study recommends that educators working with learning outcome 3 take full cognizance of the socio-cultural dimensions of Agricultural Science, and integrate these with the technical / practical processes characteristic of Agricultural Science.

6.4.7 School-based curriculum development

The challenges that teachers face as indigenous knowledge school-based curriculum developers are enormous and many. Firstly teachers will be faced with developing learning programme units that are contextually relevant to the learners' situations and also of acceptable standards within the National Qualifications Framework under the Department of Education. According to du Toit and Sguazzin (1999:13) the new role of the teacher will include the teacher being able to develop learning programme units based on critical and specific outcomes (such as learning outcome 3 of the Agricultural Science subject in FET). Secondly the teacher will have the 'freedom to chose the content and methodology appropriate to develop citizens who display these outcomes' (*ibid*). As can be seen from this study, this requires meaningful engagement with the learning outcomes, determination and commitment from teachers. In addition teachers will have to continuously bear in mind the importance of their communities in curriculum development processes as well as the role that their learners can play in making their work as teachers a success. Teachers will no longer be 'curriculum implementers but responsible for local school-based curriculum development' (du Toit & Sguazzin, 1999:13). Accordingly:

the teacher will understand and interpret provided learning programmes, design original learning programmes, identify the requirements for a specific context of learning and select and prepare suitable textual and visual sources of learning. The teacher will also select, sequence and

space the learning in a manner sensitive to the differing needs of learners (du Toit & Sguazzin, 1999:13).

Based on my experience of doing this study, I would recommend in-depth engagement with the learning outcomes in the Agricultural Science subject in FET, for these to be meaningfully interpreted in ways that are contextually relevant, and responsive to community and learner needs.

6.5 CONCLUSION

There is a lot of evidence from the literature to show that there are hundreds, may be, thousands of wild edible indigenous food plants in the fields. My study is about only three vegetable food plants but it has, to me, elicited very interesting findings. I therefore believe that there is a lot that can be done in the area of indigenous agricultural knowledge research in the future. In this study I deliberately avoided investigating the nutrient values of these plants though I had mentioned some nutrient value work done on some indigenous vegetable food plants (Mbangata *et al.* 1969; Fox & Norwood Young, 1982; Shava, 2000). I did so because of the problems involved in handling large amounts of data.

What I achieved in this study is that I have been able to mobilize knowledge amongst my learners and the immediate community to develop an OBE learning programme unit for Grade 10 Agricultural Science work. I have therefore been able to use qualitative research methods with an interpretive methodology orientation to mobilize indigenous knowledge amongst rural learners and their community. I believe that if the call by the Department of Education to rediscover lost indigenous knowledge as reflected in learning outcome 3 of Agricultural Science is to be realized it must first start with the processes of mobilization of knowledge. There are many factors that may run against the successful development of learning programmes on indigenous knowledge in all subject areas. Some of the factors are beliefs, myths and taboos, which may first have to be overcome among learners and rural communities. If the policy document, National Curriculum Statement

(NCS) of the Department of Education (DoE, 2003) is not to remain rhetorical then there will be a need to engage with many of these factors.

Similarly there will be a need to consider the new roles of teachers carefully, as a change to developing learning programmes (as shown in this study) requires time, commitment, and an in-depth engagement with the learning outcomes in the curriculum statements.

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AN ENVIRONMENTAL SURVEY OF INDIGENOUS VEGETABLE FOOD PLANTS ON KHANYA SENIOR SECONDARY SCHOOL COMPOUND WITH SPECIFIC FOCUS ON VEGETABLE FOOD PLANTS IN THE SCHOOL GARDEN.

STUDENTS WORKSHEET. (Grade 10B)

Instructions to learners.

Do not write your name on this paper.

Try and answer all the questions.

1. Write the names of any local food plant that you know around the junior block buildings.
(a)..... (b)..... (c).....
(d)(e).....(f).....
2. Write the names of any local food plant that you know around the senior block buildings.
(a).....(b)..... (c).....
(d).....(e).....(f).....
3. Are there any plants around the junior block that are not around the senior block? State YES or NO.
4. Name any vegetable food plants in the school garden.
(a).....(b).....(c).....
(d)..... (e).....(f).....
5. Have you seen any food plants on the school compound that are also on your compound at home?
State YES /NO.....
6. If Yes, name those plants you have seen.
(a).....(b).....
(c).....
7. Have you seen any of these plants any where in your community? State YES or NO.....
8. Name the plants you have seen in the community. (a).....(b).....
.....(c).....(d).....
9. What time of the year do you often find these plants? Give the season.....

10. Where do you normally find them growing? Here are possible answers. (a) In the shade, (b) Just anywhere, (c) Near the kraal, (d) Among the grasses and trees.
11. Have you ever eaten any of these plants you have identified? YES/NO.
12. If your answer is Yes, who prepared it for you? Possible answers: Mum, Sister, Self, other.
13. If your answer is No, would you like to eat any of these plants if it is prepared?
14. Would you be interested in learning about these plants in class? YES/ NO

THANK YOU FOR ANSWERING THE QUESTIONS.

APPENDIX B 1 (XHOSA TRANSLATION)

IMIBUZO YABAHLALI

ULWAZI NGEMIFINO YEMVELI/YENDALO

QAPHELA.

AKUNGELIBHALI IGAMA LAKHO.
UNGABHALA UBUDALA BAKHO.
ULWAZI OLUQOKELELWE KULEMIBUZO YENZELWE UKUPHANDA NZULU
NGOKUTYA KWEMVELI.
YONKE INTO EBHALWE APHA YIYO EZA KUSETYENZISWA.
AKUKHO NGUQULELO IYAKWENZIWA KULWAZI OLUFUNYANISIWEYO.
UNGAPHENDULA NGESIXHOSA UKUBA AKUNAKHO UKUBHALA NGESI
NGESI.

1. Xela imifino ibe mihlanu kuphela

.....
.....

2. Zikhula kwindawo ezi njani ezi zityalo?

Nazi impendulo ezi ngazizo:

(a) Esitiyeni (Garden), (b) Naphina, (c)Kufutshane nobuhlanti, (d) Kuzo zonke ezi ndawo zixeliweyo.

3. Leliphi elona xesha lonyaka zithi zikhule ngalo kakhulu?

4. Wakhe wakutya oluhlobo lokutya, imifino ngaphambili? Ewe okanye Hayi (Beka u-X).

5. Xela imifino ibe mithathu oyithandayo, oyitya kakhulu nongayithandi kakhulu.

1=Oyityayo nje, 3= Oyithanda kakhulu/Gqitha.

6. Ingaba abantwana bayazi ngezi zityalo? Ewe/ Hayi (Beka u-X).

7. Bangathanda abatwana bakho ukutya ezi zityalo xa zinokuphekwa kakuhle, ngendlela eyiyo?

8. Ungathanda ukuncedisa esikolweni, ukhuthaze ukufundisa ngemifino nezinye iintlobo zokutya? Nazi impendulo ezingazizo (a) Ewe, (b) Hayi, (c) Andiqinisekanga, (d) Ewe kunye noHayi.

9. Ungatsho ukuba ngabantu abahluphekileyo abatya imifino? (a) Yinyaniso leyo, (b) Ndiyavuma, (c) Andivumi, (d) Andivumi konke konke.

10. Chaza nje ngamazwi ambalwa ngale mifino ukuba kungakhuthazwa na ukufundiswa okanye ukungafundiswa ngayo abantwana abakumbanga aphakamileyo ezikolweni.

.....
.....
.....

ENKOSI KAKHULU NGONCEDO LWAKHO.

NCEDA UXELE IMINYAKA YAKHO.

APPENDIX B 2: COMMUNITY QUESTIONNAIRE (IN ENGLISH).

KNOWLEDGE ON INDIGENOUS VEGETABLE FOOD PLANTS.

PLEASE NOTE

YOU MAY NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE.
YOU MAY HOWEVER WRITE YOUR AGE.
THE INFORMATION GATHERED FROM THIS QUESTIONNAIRE IS PURELY FOR RESEARCH PURPOSES.
WHATEVER IS WRITTEN IN THE QUESTIONNAIRE IS WHAT WILL BE USED.
NO ALTERATIONS WILL BE MADE ON ANY INFORMATION GIVEN.
YOU MAY ANSWER IN XHOSA IF YOU CANNOT WRITE IN ENGLISH.

1. Please name any five vegetable food plants
.....
.....
.....
.....
2. Where do these food plants usually grow? Here are possible answers (a) In the garden, (b) anywhere, (c) near the kraal, (d) In all the places named.
3. What time of the year do these plants grow in large numbers?.....
4. Have you ever eaten any of these vegetable food plants? YES/NO (Make a X).
5. Name any three of the vegetable food plants you eat in order of preference 1-3. 1 is least and 3 is highest
.....
.....
.....
6. Do the children in the household know about these plants? YES/NO (Make a X)
7. Will your children like to eat any of these plants if they are properly prepared? YES/NO.
8. Would you support a programme at school that will encourage the teaching and learning about these vegetables and other food plants? Here are possible answers. (a) Yes, (b) No, (c) Not sure, (d) Yes and No.
9. Would you agree with the statement that it is poor people who eat local vegetables? (a) I seriously agree, (b) I agree (c) I do not agree, (d) I seriously do not agree.
10. Say in a few words why knowing about these food plants **should be/ should not be** encouraged among high school learners.
.....
.....

THANKS VERY MUCH FOR YOUR RESPONSE.

PLEASE STATE YOUR AGE:.....

APPENDIX C

KHANYA S. S. SCHOOL
P. O. BOX 165
WHITTLESEA
5360
20 NOVEMBER 2002

Dear sir / madam

YOUR PARTICIPATION IN LOCAL RESEARCH IN INDIGENOUS KNOWLEDGE ON SOME LOCAL VEGETABLE FOOD PLANTS

I am writing to kindly request you to find some time in daily schedules for me to have an interview with you.

I am a Rhodes University student. I am studying for a Master of Education degree in Environmental Education. My interest as a teacher is to investigate the possibility of incorporating indigenous knowledge on some local food plants into the formal school curriculum. This is because of the changing contexts within the current education system.

The findings of this research will be made known to you before presentation as a thesis. Further, any information given by you will not be twisted to give any different to the work.

Please note that because I do not speak *isiXhosa* fluently, the interview will be conducted in English.

Yours sincerely

Asafo-Adjei, R.T.

APPENDIX D

The Principal

Khanya S. S. School

Khanya S. S. School

P. O. Box 165

Whittlesea

Whittlesea

20th October 2002

Dear Principal

PERMISSION TO CONDUCT A CASE STUDY RESEARCH IN THE SCHOOL

As you are aware, I am studying at Rhodes University. Next year, 2003, I will be conducting a small research as part of the requirements for the award of the Master of Education degree.

This letter is to kindly request your good offices and your position as the gate keeper of the school to allow me to use the school garden and premises for my research.

I am also asking that you allow me to work with the present Grade 9 learners who will be in Grade 10 in the year 2003.

I count on your usual kindness.

Yours sincerely

Asafo-A djei, R. T.

APPENDIX E

INTERVIEW SCHEDULE: SEMI-STRUCTURED QUESTIONS

(FOR COMMUNITY MEMBERS)

1. Please mention/ name about 4 or 5 local vegetable food plants you know in this environment.
2. How did you come to know about these local food plants?
3. Have you ever tried cooking or preparing any of these local plants as part of the meal at home?
 - 3b. If yes, how have the children reacted to eating these plants? What about the adults?
 - 3c. If no, is there any reason for not cooking them? Why have you not tried cooking them as part of the regular diet?
4. Do you feel high school learners should be taught about these local food plants at school? Please explain your answer whether it is Yes or No.
5. What possible uses can a learner put his/her knowledge on local plants to, after leaving school?
6. Can you tell me something about the food plants *utyuthu*, *ihlaba* and *imbikicane*?
7. Apart from their use as food, do you know any other use to which they are put?

APPENDIX F FOCUS GROUP INTERVIEW IN isiXHOSA.

- TITSHALA: Yiyha! Molweni bafundi.
 ABAFUNDI: Molo Titshala
 TITSHALA: Ninjani?
 ABAFUNDI: Siyaphila akukhonto, unjani wena?
 TITSHALA: Siyaphila nathi, akukhonto.
 Yiyha! Namhlanje njengokuba sisazi ikakhulu siza kudilishana nee- plants ezi plants ezo zinga – cultivatwayo, zizikhulela nje kodwa ezi ama Xhewukazi ethu azithandayo. Ikakhulu sifuna ukuqonda apha kuni ukuba zeziphi ezi plants, sifunukwazi ezo plants. Aph'ecaleni ndino Nyumbeka Unathi, I scribe sethu, nguye oza kusibhalela nayo yonke into esiza kuyithetha apha. Okay. Ndinalo mbuzo ke Penxa. Ndifuna ukuqonda sesiphi isityalo osaziyo kakhulu kulemifino ezityiwayo ngamaXhegwazana osaziyo. Khandinike ke esinye sazo.
- UMFUNDI: Ngutyuthu
 TITSHALA: Utyuthu, eh....
 Mazokwana
 UMFUNDI: Igama lam ngu Nomathamsanqa.
 TITSHALA: Eh! Iya!
 UMFUNDI: Imbikicane.
 TITSHALA: Yha! Mh! Unathi Lungisa sesiphi esinye osaziyo?
 UMFUNDI: Ihlaba.
 TITSHALA: Ihlaba, Okay.
 Njengokuba sisazi ezi zityalo ke, yintoni ebibangela ukuba ikakhulu aba Bantu aph'ekuhlaleni bazijonge ezi ezithandwayo, ezityiwayo kakhulu? Yintoni ebangela ukuba abantu bazithande, bazitye? Masize apha kuwe Gwazela.
- UMFUNDI: Kuba kwakude kudala ababantu bakuthi bakudala yayizizo izityalo ababezitya (Titshala : Mh), so zikhula ngeliphi ixesha ikakhulu ezi zityalo? Uyazijonga ukuba zikhula ngeliphi ixesha ikakhulu ezi zityalo ?
- UMFUNDI: Bezi ... bezikhula (Titshala Mh) apha ehlotyeni (Titshala Mh), xana kusina imvula (Titshala Mh) ngamandla (Titshala Mh) ziye ziqale zikhule (Titshala Okay) but xa jufika ubusika zife. (Titshala: mh)
- TITSHALA: Sizazi njani ke ezi zityalo ukuba zizityalo ezityiwayo? Umzekelo wena Pamella uzazi njani wena (Umfundi: uyakhohlela) ukuba zizityalo ezityiwayo, uzazi njani?
- UMFUNDI: Bendizibona xa zityiwa ngu Makhulu wam(Titshala : Eh), asiphakele sityeni sonke.
 TITSHALA: Okay , eh nawe uzi enjoye, uyazitya nawe?
 UMFUNDI: Ewe ndiyazitya.
 TITSHALA: Yintoni ebengela ukuba uzithende kangaka Lungisa? Nawe ndakhe ndeva ukuba uwutya gqitha utyuthu pha kuni, eeh, yintoni oyifumanayo oyigcinayo ikakhulu pha kuzo?
 UMFUNDI: Sisondlo.
 TITSHALA: Sisondlo, Eh ... njengokuba ke mfondini Peyi ndifuna ukuqonda maan, eyi.... le mifino lena kukho imbali yokuthi njengokuba besitshilo ngaphambili oku kutya kubakho into yokuba xa kutyiwa ngabantu abancinci, abatsha ikakhulu, amadodana ngabantu abazakuthi banyabe ngamanye amaxesha bangaziva, ingaba awuyiboni iyinto enjalo lo nto? Njengokuba uLungisa esithi zoyatyiswa ngabantu abatsha uyathanda? Wena awuyiboni ukuba yinto enokuzisa iintloni apha elalini ukuba utye ne mifino umncinci kangaka?
- UMFUNDI: Ewe mfundisi, ingazisa iintloni (Titshala: Mh) kuba abantu bebambe laa nto yakudala (Titshala: Mh) ukuba utye umfino uyanyaba (Titshala:Mh), so yilanto izakubangela izise iintloni ke ngoku leya yabantu bangazifuni kodwa zibe zinesondlo (Titshala: Mh). So uyayi enjoya wena lomto leyo, uyazitya awuyiboni njengengxaki lento yokuba izise iintloni ekuhlaleni?
- UMFUNDI: Ewe ndiyazitya.
 TITSHALA: Uyazitya uyazi enjoya?
 UMFUNDI: And ndiyazonwabela

- TITSHALA: Uyazonwabela, uzihlalele kakuhle?
 UMFUNDI: Ndizihlalela phantsi.
 TITSHALA: Uyakwazi ukuzipheka mfondini?
 UMFUNDI: Mh, hayi ndiyakwazi Mfundisi ukuzipheka (Titshala: eh,) ndinomnqweno wokwazi mani (Umfundi uthinta isikhohlela) Pamela Rom ziphekwa njani? (Umfundi: Mh)
 TITSHALA: Mhlawumbi imbikicane iphekwa njani?
 UMFUNDI: Imbikicane –e-e siyayipheka (Titshala: eh) siyidibanise nomilimili.
 TITSHALA: Mh... eh, njani? Eeh.
 UMFUNDI: Singayibilisa kodwa asidli ngokuyenza lonto sidla ndokuyidibanisa no tyuthu, sidla ngokuzichola – chola sizidibanise notyuthu asiyipheki kodwa iyodwa, sidibanisa imbikicane, ihlaba notyuthuze sigalele umilimili ke ngoku ukwenza mnandi.
 TITSHALA: Mmh... Nimix(e) nantoni besides umilimili, u right nje umilimili wodwa?
 UMFUNDI: Ewe singafaka milimili, sifake ne beef stock (Titshala: Mh), kuba ke sezikhona ngalamaxesha (Titshala : Mh) nangona zazingafakwa .
 TITSHALA: Kudala (Titshala: Mh) ibeef stock ayiyitshintshi imo yoku nambitheka kwayo kungabi yi la nature kwakuyiyo ngaphambili (umfundi: uthinta isikhohlela) oku kutya ke siku mix(a) sigalele ibeef stock , ndifuna ukuqonda loo nto leyo? Okey Gwazela.
 UMFUNDI: Ngela xesha lakudala Mfundisi (Titshala: mh) kwa I beef stock ezi zazingekho (Titshala: Mh) but even if zazikhona (Titshala: mh) ndiqinisekile ukuhi aba Bantu bakudala (Titshala: mh) ngebabezifaka ibeef stock eiya (Umfundi uyafinya) since ke ngoku I new generation isithi so ikhula nje kwabe yonke into ingendlela eright (Titshala: mh) so kwavela ibeef stock , yeyona yenza ukutya kube mnandi (Titshala: okay) even if singapheka umfino wodwa singagaleli ibeef stock, sipheke umfino swiwugalele ibeef stock (Titshala: mh) ikhona I difference (Titshala: mh) phakathi kwayo so saphela sisiya kwli cala kufumaniseka ukuba ngaba kugalelwa amafutha ne beef stock (Titshala: Okay)
 TITSHALA: Mmh... Ndifuna siyijonge ngoluhlobo le nto, ukutya mos (Umfundi uthinta isikhohlela) ukutya nolwimi, ulwimi ke that is intetho (Umfundi uthinta isikhohlela) idibana yonke lento kwisiko okanye kwisithethe somntu, kwi culture yomntu, ibalulekile lo nto leyo thatr is ukutya esikutyo ku linka ne culture yethu siyayi understanda mos sonke loo nto leyo. (Abafundi: mh). So ndifuna ukuyiqonda ngolu hlobo, ke ingaba apha kuthi siyijonga njani ukuthi oku kutya sikutyayo kwakudala, ingaba ku- u kubalulekile ukuba okwakutya sisoloko sikuqonda, sikwazi okanye sikusebenzise na, uku continewisha ne culture yethu singabantu abangamaXhosa okanye singabantu abamnyama, ingaba ukusebenzisa ezi food stuffs okanye oku kutya kungalinywayo, imifino lena, ingaba ibalulekile na, singayitshintsha na sisoloko sisebenzisa oku kutya kwethu? Umfundi uthinta isikhohlela)
 MLULEKI: Like Titshala kweli xesha langoku ayibalulekanga (Titshala: mh) kuba ne culture yethu asiyihoyanga, (Titshala: mh) ngokwexesha lethu langoku kodwa kuqala ibihoyiwe ibibalulekile (Titshala: mh).
 TITSHALA: Mmh... Sithini thina kulo nto leyo, siyibona iyinto elungileyo lonto leyo ukuba izinto zethu zesithethe sethu umzekelo, ukutya sikulahle pha kude sijonge ikakhulu oku based ku laa e West njalo njalo. Mh! Pamela?
 UMFUNDI: Ayilunganga (Titshala: eh)
 TITSHALA: Ngoba
 UMFUNDI: Ayilunganga ngoba kukutya kwethu okuya (Titshala: mh) ngamanye amaxesha abantu bathi xa befuna ukukugxeka okukutya kumnyama umzekelo amakhapetshu nezinto ezicultivatwayo bathi, I (Titshala: mh) ezi zinga cultivetwayo soos ezi zinto sithetha ngazo ngoku (Titshala: mh) azinasongo ukogqitha amakhapetshu nentoni (Titshala: mh) so yilento ufumaniseka ukuba uyazitya ezi zinto ingathi ngoku utya (Titshala: mh) into ephantsi (Titshala: mh) like ukuba mos azithengwa ezanto uyazikhelela phaya eestratweni since ungatyi nto ethengiweyo evenkileni (Titshala: mh), ufumanise ukuba uzakujongeleka phantsi ke ngoku ekubeni iyenye yezithethe zethu. (Titshala: mh) Ngoku mna andiyixhasi kakhulu into yokuba (Titshala eeezi: Okay) makuhooywe ukutya kwabantu abamhlophe ukogqitha oku kwethu.
 UMFUNDI: Ngakumbi titshala kweli xesha siphila kulo ngoku mna ndicinga ukuba ayizi kusinceda into yokuba sithi masihoye oku kutya kungacultivatwayo (Titshala: mh) because sesiphila

kwlixesha siphila kulo (Titshala: mh) ngoku and okuya kutya akunaso nyhani isondlo (Titshala: mh) ngoba if aba Bantu bakudala kwakukhona oku ku cultivetiweyo, I think nabobabesakutya kona (Titshala: mh) but oku because bona (Titshala: mh) babengena choice then baphela besitya oku kwase Lwandle (Titshala: mh), so ukuba ngabana nathi sino- o I think thina masivele sitye oku kukhoyo ngoku (Titshala: mh).

TITSHALA: So uthetha uthini omnye, Mazolwana, ingaba (Umfundi uthinta isikhohlela) sikulahle ecaleni njengokuba besitsho o Rom, sikuyeke (Umfundi Uthinta isikhohlela) kwa ukukuyeka oku kutya? (umfundi: esebeza, asikwazi).

UMFUNDI: A-a, mna titshala andiboni njalo (Titshala: mh), ukuba masikulahlele ecaleni because (Titshala: mh) isithethe sethu esiya.

TITSHALA: Okay uthini omnye, uthini Gwazela?

UMFUNDI: Nam mfundisi andiboni ukuba masikulahlele ecaleni (Titshala: mh) cause if sikulahlela ecaleni ngamanye amaqela okulahlela izithethe ezi zethu (Titshala: mh) cause ekugqibeleni sizakupahela siyeka namasiko la ethu (Titshala: mh) kuba sibona ukuba I-useless into yamasiko (Titshala: mh) cause I-invisible, cuase sithi sibuyisa ubantu abangasekhoyo uyabona (Titshala: mh), so yonke lanto sakuphela sesiyilahla yonke, ngamaqela lento ukuba silahle ukutya kwethu so ke bendifuna ukuba masithini? Sibuyeke back sitye oku kwethu. But nako oku kwe Whites (Titshala: mh) ukutya nako singakwazi ukuba masikutye but not more than oku kwethu ukutya (Titshala: mh) cause sidalelwe ukuba sitye ukutya oku kwethu thina (Titshala: mh, mh, okay). Enye into abantu aba Mhlophe ukuba niyabaqaphela bona kutheni bangatshintshi oku kwabo batye oku kwethu? (Titshala: mh) Caba kufuneka thina soloko sitshintshile ezi zethu izinto sihoye (umfundi uthinta isikhohlela) ezi zabo (umfundi uthinta isikhohlela) bezause bezibona bebheterere and that bayasibona ukuba (umfundi uthinta isikhohlela) siyabayekela, (Titshala: mh, mh, ya-a) kuchitwa yonke into enxulumene nezithethe namasiko (Titshala: mh, mh, yha)

UMFUNDI: Enye into titshala ingxaki ngoku oku kutya kungacultivatwanga kunqabile (Titshala: mh), so anditsho titshala ukuba masakubekela ecaleni (Titshala: mh) bu kudala kwakukade kufumaneka but ngoku kwezondawo kwakukade kufumaneka kuzo uyafumanisa ukuba kokhiwe izindlu (Titshala: mh) so okwa kutya akusafumaneki ngala nldela kwakufumaneka ngayo kuqala (Titshala: mh) .

TITSHALA: So uthi wena you are not saying ukuba oku kutya makulahlwe ecaleni, (Umfundi: Ewe titshala) abantu abasakufumanayo mabakusebenzise but kubalulekile according to ukuba ebesitsho u Pamela I- culture, isiko lethu silijonge sinikane ne basic ebezisetyenziswa kwapha kubo kuqala (umfundi uthinta isikhohlela) so ibalulekile ukuba siyijonge olo hlobo. Ndifuna ukuqonda ke as umfundi, wena ingaba uyibona njani le le nto ukufakwa kwayo kwesi sifundo sokuba ukugcinwa kokutya kwethu kulelaa hlobo kwakulilo okanye ukusebenzisa imifino esikolweni, ingaba uyibona iyi lesson eright lo nto ifakwe as part of I-learning ukusetyenziswa ukutya oku, imifino?

ABAFUNDI: Yes.

TITSHALA: Ngoba? Ibaluleke ngantoni?

UMFUNDI: Nakule Generation izayo ingabi salahlekelwa ngumkhondo (Titshala: mh) wohlobo ekuqhutywa ngalo (Titshala: mh) (Umfundi: Ewe) (Titshala: mh, ibengathi uyaphakamisa, eh, okay).

TITSHALA: Uthini wena Lungisa?

UMFUNDI: Kubalulekile ukuba sazi mfundisi ukutya ekwakutyiwa ngookhokho bethu (umfundi uthinta isikhohlela) (Titshala: yha).

TITSHALA: Yintoni ebalulekileyo kuko?

UMFUNDI: Kokuya kutya.

TITSHALA: Sendi sitsho ulwazi lwezinto ezazisetyenziswa ngookhokho bethu yintoni ebalulekileyo esinokiyifumana apho kolo lwazi babenalo ngaphambili, luzakusinceda njani? (Umfundi: ukuba si---)

UMFUNDI: Izakusinceda ekubeni nathi silugcine olu lwazi (Titshala: mh) because silufumana apha esikolweni sisebancinci, sikhule nalo (Titshala: mh) Uyabona ukwenzela nabakhulayo emva kwethu silufake kubo (Titshala: Okay). E e sizokuyazi imvelaphi yethu (Titshala: Okay).

- TITSHALA: Mos xa sifunda njengabafundi imfuno le siyifumanyo apha esikolweni kubalulekile ukuba siyithini siyisebenzise na outside nangaphandle (umfundi uyakhohlela) because akho use ukuba size esikolweni (umfundi uthinta isikhohlela) daily singa a information esizakuyifumana apha esikolweni ingazokuba useful outside (Abafundi: Yes) siyayibona mos loo nto leyo (Abafundi: Yes) Le mfundo siyifumanayo ayiphelele kwezi four holes ze classroom (Abafundi: Yes) ziyasebenza nala informal education (Abafundi: Yes) siyifumana ngaphandle so le knowledge siyifuman apha siyifumana inside apha esikolweni sithini? Siyokuncedise ooGogo phaya ngaphandle, umzekelo ukukhulisa even I culture yethu, even I-nation tethu ne community yethu asi ibalulekile mos loo nto mos anditsho? (Abafundi: Yes) so kufuneka wena ube luncedo, that's why ndi-ndi ndisithi kuwe ingaba olu lwefundo yokujonga imifino yethu le isethyenziswa ngabantu banga outside ibalulekile na ukuba sithini? Siqhubekeke nayo apha esikolweni, that's why ndisitsho siyavana mos? (Abafundi: Yes) Yhaa because kukho use yokuba uhlale e-e classroomini kanti loo information uyifumanayo awuzukuyisebenzisa outside kubalulekile ukuba sithathe I information esiyifumanayo apha sincedisane ukuthini? Ukukhulisa abahlali icommunity yethu. Siyaunderstanda mos? (Abafundi: Yes) Yhaa ndifuna ukuqonda ke wena, umzekelo uphumile apha esikolweni uphume outside lets say umpasile ustndard ten (umfundi uthinta isikhohlela grade twelve, siya understanda? (Abafundi: yes) Loluphi ulwazi ongaya nalo outside pha pha kwaba Bantu bangaphandle malunga nezi plants zizikhulelayo apha endalweni ezi zinga cultivatwayo, umzekelo le mifino. Loluphi ulwazi ongalufumana apha esikolweni wena onakho ukulufumana apha ku Sir Bob uphume (umfundi uthinta isikhohlela) nalo apho ngaphandle (Abafundi bathi cwaka) Masithetheni, yha .
- UMFUNDI: Ndingathi mna as long as zinga cultivatwa mazisele sijikwa zifaniswe nezinye, zilinywe nazo ibe zizinto eziyimfuno, ixesha eli lonke zikwazi ukuba zifane namakhaphetshu neetapile (Titshala: mh) kungacaci ukuba kuzakulindwa kude kube se Ntwasahlobo kuyo kuphela ihlobo (Titshala: mh, yha).
- TITSHALA: So ingaba zikhonz mhlawumbi umzekelo ichemicals mhlawumbi utitshala anokuzifumana okanye nina bafundi ninokuzi mixer nizame ukuthi iiplants njengokuba ziye ziphela, ziba extinct ziye ziphela ninokuthatha ezo chemicals ni mixe nazo ukuze ezaa plants zihlale zihleli zibe lolaa hlobo zilulo. Ingaba lukhona uncedo olunjalo eninokulikhupha? Okay.
- UMFUNDI: No, ingafuna iingcali ze science (Titshala: ingafuna iingcali ze science) Abafundi: Ewe) (Titshala: e-eh).
- TITSHALA: Yha , ingafuna iingcali ze science , but nani lukhona ulwazana eninokulungeza apha njengabafundi njengokuba I-information niyifumana mos anditsho? (Abafundi: Yes). Okay ya-a ezinye zezi plants mos, njengokuba nisazi ukuba zikhona ezinye zi-zi zimele ukuba zingatyiwa (Abafundi: mh), uya understanda kwaphaya kula mifino (Abafundi: mh, yes) siya understanda mos (Abafundi: yes) so ze-zenzelwe ntoni ke ezo? Umzekelo Okay.
- UMFUNDI: Like umzekelo umfino, mfundisi, ubanalo ella khuni liphaya (cwaka) alikhiwa lona lenzelwe ukuba (uyakhohlela) lime lona lizokukhula laa mifino, lamagqabi aphuma emacaleni (uyakhohlela) (Titshala: Okay) Lona lwenzelwe ukuba la mifino iphuma apha kulo (Titshala: yha) le kuthiwa nge English si stem (Titshala: Okay) kufuneka ihleli, ihleli nook akunakude kususwe nestem because izakutshabalala iplant ingaphinde ihule (Umfundi: Yes) Yha, Okay
- UMFUNDI: Nehlaba njengokuba utyuthu uyakwazi ukuityaniswa nazo zonke kodwa uyakwazi ukuba uphekwe ube lilaxa (Titshala: mh) ihlaba since lona likrakra (Titshala: mh) alikwazi ukuba liphekwe lodwa kufuneka lidityaniswe nazo zonke ngoba ali-tasteki kamnandi (Titshala: Okay, uthini omnye)
- UMFUNDI: Um-mh, imbikicane (Titshala: mh) ayiphekwa yodwa yona (Titshala: mh) because inento eyenzayo esuswini (Titshala: mh) so kunyanzelekile ukuba idityaniswe mhlawumbi notyuthu okanye nehlabha
- TITSHALA: Uthini omnye, uthini no Mbela? Asikakuvi wena uthetha (Umfundi: e-eh)
- TITSHALA: Ndifuna ukuqonda ingaba xa sele ucinga ithatha ixesha elingakanani ezi plants ukuze zikhule lamagqabi azo ezi flowers zazo, ithath'i xesha elingakanani (Umfundi uthinta

isikhohlela) ngokolwazi lwakho? (ingxolo ngasemva). Papiyana, kulungile ndifuna ukuqonda loo nto. Nombela, Yha.

- UMFUNDI: Mna titshala I think ukuba zithatha iinyanga ukuba kukhule lama blom (Titshala: mh)
- TITSHALA: Ingaba lamablom kulungile ukuba siwasebenzise nawo as ukuba, into etyiwayo, eza flower xa kuphu-phum'eza flower, ingaba si- singayisebenzisa for ukutyiwa? (Umfundi: akulunganga) Ngoba ?
- UMFUNDI: Cause xa sele ephumile ama flower lana(Titshala: eh) seziyipoison (Titshala: mh) cause wona lamaflower ephuma nje sele esenza another seeds like utyuthu (Titshala: Okay) So sesiqala esitsha la mablom a-ane-colours (Titshala: Okay) ezithile (Titshala: yha) wo--- and then ezi ntyatyambo ke zimibala –bala zithi zona zitshe ezithile ke zifumaneka elangeni (Titshala: mh) ezi sithi thina ukuba sinokuzitya zisenze 'idi' some diseases uyabona (Titshala:mh) ezibangela ukuba igazi lethu libe mdaka (Titshala: mh) uyabona (Titshala: mh) so akulunganga ukuba ngaba sitye lama blom (Titshala: mh) kufuneka sitye engeka blomi nokubloma sitye lamagqabi (Titshala: mh) even if seyiblomile kufuneka sele itshentwa ilahlwe outside (Titshala: mh) se yiyenye into nje e-bad (Titshala: Okay). Kwesi sihlandlo sokiyilahlela ngaphandle sisenoluyipetela ngaphantsi (Titshala: okay) yenze ifertelizer (Titshala: okay). Yha so I think next year iphinde ukuba ngaba ikhule first time Titshala: okay, okay).
- TITSHALA: Yha, kulungile. Zeziphi Nombela? Sithe utyuthu, imbikicane. Yintoni eyesithathu? (Abafundi: Ihlaba). Ihlaba. Yeyiphi eyona yona imnandi kwezi zinto zontathu? E-eh (Abafundi: utyuthu). Yintoni emnandi anambithekayo apho because zange ndimtye utyuthu mna ndaphoswa zezonto (isandi-tsh) (Abafundi bayahleka) Itheyista njani? Mhlawumbi (Titshala: mh) awunakuyichaza itaste kodwa nje, eeh yintoni enambithekayo?
- UMFUNDI: Yona aikrakri, iyakwazi ukuphekeka yodwa, yenye yezinto ezibangela ukuba abe mnandi (Titshala: mh) kunezinye (Titshala: okay), so wona awunakuwi mixer ukuba uyathanda. (Umfundi: Ewe) nomolimili ungampheka nje eyedwa (Abafundi: Yes)
- TITSHALA: Yeyiphi enye into o-mixer nayo beside umilimili lo tyuthu, yo-o-o-le mifino?
- UMFUNDI: Mhlawumbi xa uwupheka yeadw utyuthu (Titshala: mh) ungam mixer mhlawumbi neetapile (Titshala: mh).
- TITSHALA: Yima ke ndifuna ukuqonda njengokuba mosi, niyava mosi zikhona izinto ezithi ' Proudly South African' nikhe nizibone mos (Abafundi: Yes) izinto ezinziwa aph'eMzantsi Afrika, kubalulekile (Abafundi: Yes) kubalulekile ukuba sizithini? Sizinyuse ezi products zalapha, umzekelo o- location culture, kunxitywa o- location culture mos neh? (Abafundi: Yes). Yha. Ziproducts eziphumna phi? Inside aph'eSouth Africa yha not I-products eziphuma ngaphandle, koooma USA, Dickies njalo njalo nenzizinto sizinxibzyo zivela phesheya, niya understanda mos (Abafundi : Yes).
- TITSHALA: Yha masithethe kule – le micimbi yemifino. Awuyiboni wena inagaba iyinto e-valuable, let's say wena mhlawumbi Nyumbeka uyaphuma udibana ne Department ethi of Cultures ne-Department o Tourism, let's say uyo –uyozama ukwazisa nge zinto, nge food stuff basic food stuff ezikhoyo aph'eSouth Africa. (Umfundi: Yes) Lets say uphume wabheka outside noba kuse London noba kuse New York udibane ne ambassadors ezithile, uya understanda? Kwenziwe ilink ethile niyokwenza mhlawumbi ikitchen of some sort pha kula-a ndawo. Mhlawumbj ba- bazakunika indawo yokuhlala uya understanda (Umfundi: mh) unikwe ne equipment
- TITSHALA: Uyibona wena ingabayinto e right wena ukuzama ukuthi, ukunika igalelo kulento yokuba ifood stuffs zethu mazihlale zihleli olaa hlobo, noba azizokujika, zizakujika uhlobo olululo. Uya understanda? (Abafundi: mh) Awuyiboni iyinto (Umfundi uthinta isikhohlela) ebalulejileyo ukugcina iculture yakho iqhubela phambili lonto leyo?
- UMFUNDI: Ndiyibona ibalulekile titshala (Titshala: e-eh) ukuwenzela naphaya phesheya bazazi ezi zizathu ezi zethu kweli cala (Titshala: mh, yha, okay)
- UMFUNDI: E-eh, mfundisi like, mna ngoko lwam ulwazi sese sisiqhubekela ngale ngezi zifuno zethu(Titshala: mh) cause, some of the countries zalapha w South Africa azinayo (Titshala: mh) ezi zinto. (Titshala: yha) then singakwazi ukuthi bangakwazi ukuthi mhlawumbi abanye abasuka mhlawumbi e Ghana (Titshala: mh) sibaphekele imifino (Titshala: yha) bayithande (Titshala: e-eh) and then the second time sikwazi ukuba sense

I foreign exchange.(Titshala: mh) uyabona (Titshala: mh) sibanike lamifino basinike ezinye izinto ezi zeza apha (Titshala: yha) ethe but aba Bantu bakudala babezisebenzisa (Titshala: mh) qha zayekwa since kwathi kwatshintsha (Titshala: mh mh) uyabona iyakwazi ukubangaba sizokukwazi ukuyazi I- information yaphaya (Titshala: mh) yase outside mhawumbi ezinye I country siyazi ukuba nathi abantu bakudala apha e South Africa babephila ngokutya oku so naso (Titshala: mh, mh) then abanye aba bangayithanda (Titshala: mh, mh) ba outside amanye amazwe (Titshala: yha) and then ingasinika I –gain thina apaha eMzantsi Afrika (Titshala: mh, mh).

TITSHALA: So umzekelo even inga booster I-economy yalapha eMzantsi Afrika (Abafundi: Yes) sinako ukuyionga ngolo hlobo (Abafundi: Yes, mh, yes, mh) u-umzekelo siyayazi each and every nation ine basic food stuffs eyisebenzisayo, (Abafundi: Yes) siya understanda? But thina due to kwi culture changes neemeko ebephila kuyo yangaphambili yocalu calulo, siya understanda? So siye sazihlelela ezizinto outside, niyabona mos lonto leyo (Abafundi: mh) so aniyiboni nina iyinto ebalulekileyo, umzekelo like kunokubakho (kuyakholelwa) some sort of I- I usenoku writer some sort of ingredients, irecipey book yakho (Umfundi: mh) uya understanda? Ukhuphe ezi zinto because kubalulekile because thina into esiyichanileyo if ukuba ninokujonga kwi culture because bekungekho Bantu babhalayo, they don't write it down I- information (Abafundi: Yes) but thina since singabantu (umfundi uthinta isikhohlela) abafundileyo asiyijongi as into ebalulekileyo lonto leyo, I information, into esiyifumanayo sithini? Sikhuphe irecord. Umzekelo la maxhegwazana sihalala nawo phaya ku- apha kufutshane (Abafundi: Yes) ba-bazihistorians ezipha kufutshane siya understanda? So kufuneka sithi turn in kwi information esiyifumana pha kubo, uya understanda? So kubalulekile ube nayo idocument let's say noba lipheshana elithle sibe nayo ukuthi yi receipt (kushukuma isitulo) yoku kutya kwenziwa njani na, uya understanda? (Abafundi: Yes). Kuthi noba kuye kwatshintshwa apha eminyakeni kwa mixer nezinye izinto, uya Undestanda? (Abafundi: Yes) So ke kubalulekile ukuba sibe nayo la method yenziwa ngayo okwakutya phaya eza ingredients. Awuyiboni as into ebalulekileyo Rom leyo?

UMFUNDI: Ibalulekile kakhulu titshala loo nto leyo, ukwenzela into yokuba nangenye imini sizokuyazi ukuba kwizinto ezazisetyenziswa kudala sinokukwazi ukuphinda sizisebenzise nangoku (Titshala: mh).

TITSHALA: Mh, uthini uPenxa?

UMFUNDI: Hayi mfundisi kubalulekile noba njena, kwa iculture le yethu ingasese ilibaleke isese iqhubekeke kuba abantu bazangayihoyi kodwa ithi yakuvela kwenye indawo bakwazi (Titshala: mh, yha), ukuba iyaziwa kwindawo zonke, iyaziwa ukuba le culture (Tisthala: Uthini, uthini Gwazela?)

UMFUNDI: Bendisithi mna umfundisi kubalulekile okokuba siyazi nyhani lento because as ba iminyaka inyuka (Titshala: mh) and then ne poverty iyenyuka (Titshala: mh) uyabona and then, njengokuba iminyaka inyuka nje aba beza emveni kwethu abazokuyazi ukuthi imifino yinto etyiwayo (Titshala: mh) and then ufumanise ukuthi bayabethakala bazi nje ezi zicultivatwayo izinto (Titshala: mh) abazazi ezi zinto, ibe zizinto ezityiwayo bebe nokukwazi ukuba bayitye. Yiloo nto mfundisi ndithi mayifundiswe. Enye into mfundisi kwa abazali bethu (Titshala: mh) zange bakwazi ukuba basixelele ngento yemifino (Titshala: mh), sikhula phantsi kwemeko ezi poor (Titshala: mh, mh, mh), so that's why thina singekho deep ulwazi (Titshala: mh) lwethu ngemifino (Titshala: mh) but as ukuba sikhula nje abaz.... oograndmother bayasixelelela (Titshala: mh) bona indlela ababephila ngayo (Titshala: mh), so bendiyibona mna mfundisi ukuthi imifino masiqhubekeke ngayo siyazi (Titshala: mh) cause I- new generation ezayo iyazi nayo nokuba ngaba sekunzima bayazi ukuba ngaba kukhona ukutya okutheni, okukokwethu thina sizi Africans (Titshala: mh)

TITSHALA: Xa sesicinga yintoni ey-ey- eyabangela ukuba abantu ba- basebenzise le mifino? Yintoni eyabangela loo nto? (cwaka) (Titshala: eh, okay, ndiyeza ngoku)

UMFUNDI: Aba bantu mfundisi babehlala kwindawo mosi like ezingathi ngamathafa, so (Titshala: mh) yabona apho lemi - like indawo ezinemithombo (Titshala: mh, mh, mh) soloko ziphuma amanzi (ingxolo yabafundi) (Titshala: mh, mh, mh) indawo ezinemeihlaba

etyebileyo (Titshala: mh), into ebeihleli ikhula kwindawo ezinjalo (Titshala: mh) siyabona, like ibingabantu ebebengenalo ixesha lokusoloko besiya evenkileni (Titshala: mh) ngabantu ebebeziphandlela ngokwabo bazibonele into abanokuyitya (Titshala: mh), uyabona mfundisi so babemixer izinto like I-plants uyabona (Titshala: yha) so bade bafikelela kwezi zinto ke ngoku (Titshala: mh) then bazithiya bona ngokwabo ukuba bayifumene njalo mfundisi (Titshala: mh) then bazithiya bona ngokwabo ukuba yimifino ntoni, ntoni (Titshala: okay) so (kuyakhohlelwa). I think ukuba bayifumene njalo mfundisi (Titshala: Iz- iz, yha, massive kuwe).

UMFUNDI:

Lwalungeka bikho olu tshintsho aba bantu baMhlophe babengeka suki kwela cala labo bazokuza apha (Titshala: mh) so into eyabangela ukuba bathsintshebafika bona as ukuba ebesanda kutsho u Mziyanda, bezenzela ezanto zabo, bengekho abantu abaMhlophe (Tiyshala: mh) so bona bafika bazimela ke nkqi izinto zabo and then (isandi- nkqi) bakube bezimele (isandi- nkqi) bafuna abantu abaMnyama (isandi: nkqi) kodwa ke (isandi- nkqi) phofu masingathi bafuna abambalwa (isandi – nkqi) kodwa ke (isandi – nkqi) benza ekugqibeleni (isandi-nkqi) abantu abamnyama balibala ngezabo, bamka nezi zifikayo.

TITSHALA:

Mh, Steve, eh, uthini wena Gwazela

UMFUNDI:

Bendisisthi mna mfundisi (cwaka). Laa nto ibangel'abantu abaMhlophe bakwazi ukutya ezi zinto cause kwakude kudala abantu abaMnyama ukutya kwabo yayizi roots (Titshala: mh) and then apho lo mithombo yayithand; ukukhula khona lemifino le (Titshala: mh) yayiveleile iingcambu (Titshala: mh) kuba beyibona as if ingakukutya ngokukubo (Titshala: mh) batsho batya iingcambu (Titshala: mh) ekugqibeleni kula nto ukuba ngaba uthi ngela xesha lakudala ukutya kwakungaphekwa kwakungelelula ukuba kuphekwe (Titshala: mh) babona abantu bakudala ke ngoku abaphambili kuthi ukuba ngaba hayi masikupheke ukutya (Titshala: mh) since abantu bakudala kwakude kudala baesitya iingcambu zabo, zilungele (Titshala: yha), babona ukuba ngaba batya iingcambu zabo, lilungelo labo okokuba nabo mabakutye okwakutya (Titshala: mh), imifino iphekwe kuqala (Titshala: mh) abanakukwazi ukuyitya ikrwada(Kuyakhohlelwa)

TITSHALA:

So u- may e ke khange sive kodwa ke emaphepheni ekuhambeni kwexesha elidluliliyo two years or one year back, bekukhe kwakho into ethi ukhona u- professor othile wapahaya eRhodes ebeke wenza uphando wadibana nabantu bokuhalala befama ethile pha kufutshane eRhini, wafumanisa pha ubusi bu- bu bunokwenziwa ngayo intoni? Utywala, kwenziwe iqhilika, nakhe nayiva na loo nto leyo? Abafundi batsholo phantsi: Ewe), apho ke baza ku mixer eza chemicals, so lanto ziphuma pha koba busi , benze ntoni? Benze iqhilika, so kuphele kuthengwa I wayini phi? Kulamazwew akude, uya understanda? (Abafundi: mh). So oba busi busoloko bugcinwa kwindlela eright ukuba kube kwi condition e suitable for ukuba buthini? Kuthengiswe le qhilika uya understanda? (Abafundi: yes) because lento isenza ukuba sithini, silibale. Ndiyijonga ngoluhlobo ke mna ke ngokoluvo lwam, ukuba sisalibala ngokweSintu sethu ngokuba I-culture yethui- inferior kwezinye iiculture zabanye abantu uyaunderstanda? (Abafundi: yes). But ngokuba thina sitshintshile singabantu abaMnyama siphantsi komnye uRhulumente, kuRhulumente wethu kubalulekile ukuba le ukuba sithini? Sibe proud ngobuntu bethu , uya understanda? Zonke izinto ebesizisebenzisa ngaphambili, uya understanda? Kubalulekile ukuba sizithini? Sizisebenzise again. .Sikhangele nezinye izinto ezi useful ukuzama ukugcina ntoni? Isiko lethu liqhubekeka libheka phambili, uya understanda? (Abafundi: yes) Tha`ts why ke if unokujonga, umzekelo ujonge amaChina yayingabantu I-culture yabo I-popular uya understanda? Nabantu base America I- culture yabo I-popular, because kutheni? Ba proud ngobuntu babo, so that`s why wena uyiAfrican kufuneka ube proud ngobuntu obu bakho uya understanda? (Abafundi: yes). So ngalo lonke ixesha ke ukuba aba bantu le wisdom siyifumana kubo aba bantu basecaleni, ungayijongi ukuba wena ufundile, uya understanda? (Abafundi: yes). Une knowledge e-better kunabo, kubalulekile ukuba uyifumane la informal education because ngabo abakuthumele esikolweni kuqala (Abafundi: yes), uya understanda? (Abafundi: yes) and ngabantu aba wise, zihistorians

TITSHALA: Ngalo lonke ixesha kufuneka uzame ukuthini? Ukuba ne-link kunye nabo ngalo lonke ixesha. So that's why ndisithi le lesson ibalulekile ukuba ibalulekile siyijonge kuba yi lesson etheni? E-vital for thina for I-culture yethu ukuba iqhubele phambili.

TITSHALA: Ndifuna ukuqonda ke, sizoyeka, uye wajonga koku kutya uzame ukujonga iseed zazo, uye wayiqwalasela I- seed zezi plants, uzijonge ukuba zinjani na? Zinjani umzekelo, iseed zazo? (cwaka), (okay).

UMFUNDI: Azikho brown, like zifane nezeetapile? (Ayikavakali intetho. Titshala: yha)

TITSHALA: Uthini omnye?

UMFUNDI: Kunjalo titshala.

TITSHALA: Zibe ke zingumahluko total kwezinye ilantuka kwezinye I-plants (Abafundi: kwezinyei-plants) yha, yha, because ezi zitheni? Ziyazikhulela mos, azifani nezi zifakwa emhlabeni zilinywayo (Abafundi: yes), siya understanda? (Abafundi: yes). Yha. So ndifuna ukuthi ke bafundi xa niphuma nibheka ngaphandle kubalulekile ukuba sidibane nabantu bethu, siya understanda? (Abafundi: yes). Olu lwazi silufumeneyo apha kubalulekile ukuba siludibanise nolwazi oluphi? (Abafundi: olungaphandle) Olungaphandle, so kubalulekile ngalo lonke ixesha sithini? Sisoloko sisondele kwaba bantu ngoba bazi ntoni? Bazi historians, singabajongeli phantsi, uya understanda? (Abafundi: yes) kuze thina singabantu sithini? Sibheke phambili singabantu abaNyama for na lo Mzantsi Afrika umtsha. Enkosi. (Abafundi: Enkosi).

OBSERVER: Thank you very much Mr Ngoloti and my learners, I'm very grateful. When I'm writing this thesis do you want me to put your names? Mr Ngoloti do you want me to mention your name as one of the contributors, or you want me to hide your identity? (Quiet)

MR NGOLOTI: Okay you may write it.

OBSERVER: All right. What about you my Learners?

L-mention our names. (O- I must mention your names. (L- Yes)

OBSERVER: I am very grateful to you. I'll mention your names he? (L- Yes)

OBSERVER: Whatever comes out of this interview I'll let you know. Okay? (L- Yes)

Thank you very much. Bye- bye. Mr Ngoloti- Thanks vey much.

APPENDIX G: LEARNER OBSERVATION REPORTS

APPENDIX H: INTERVIEW WITH A COMMUNITY MEMBER

- UMFUNDI: No, ingafuna iingcali ze science (Titshala: ingafuna iingcali ze science) Abafundi: Ewe) (Titshala: e-eh).
- TITSHALA: Yha , ingafuna iingcali ze science , but nani lukhona ulwazana eninokulongeza apha njengabafundi njengokuba I-information niyifumana mos anditsho? (Abafundi: Yes). Okay ya-a ezinye zezi plants mos. njengokuba nisazi ukuba zikhona ezinye zi-zi zimele ukuba zingatyiwa (Abafundi: mh), uya understanda kwaphaya kula mifino (Abafundi: mh, yes) siya understanda mos (Abafundi: yes) so ze-zenzelwe ntoni ke ezo? Umzekelo Okay.
- UMFUNDI: Like umzekelo umfino, mfundisi, ubanalo ella khuni liphaya (cwaka) alikhiwa lona lenzelwe ukuba (uyakhohlela) lime lona lizokukhula laa mifino, lamagqabi aphuma emacaleni (uyakhohlela) (Titshala: Okay) Lona lwenzelwe ukuba la mifino iphuma apha kulo (Titshala: yha) le kuthiwa nge English si stem (Titshala: Okay) kufuneka ihleli, ihleli nook akunakude kususwe nestem because izakutshabalala iplant ingaphinde ihule (Umfundi: Yes) Yha, Okay
- UMFUNDI: Nehlaba njengokuba utyuthu uyakwazi ukuityaniswa nazo zonke kodwa uyakwazi ukuba uphekwe ube lilaxa (Titshala: mh) ihlaba since lona likrakra (Titshala: mh) alikwazi ukuba liphekwe lodwa kufuneka lidityaniswe nazo zonke ngoba ali-tasteki kamnandi (Titshala: Okay, uthini omnye)
- UMFUNDI: Um-mh, imbikicane (Titshala: mh) ayiphekwa yodwa yona (Titshala: mh) because inento eyenzayo esuswini (Titshala: mh) so kunyanzelekile ukuba idityaniswe mhlawumbi notyuthu okanye nehlabha
- TITSHALA: Uthini omnye, uthini no Mbela? Asikakubi wena uthetha (Umfundi: e-eh)
- TITSHALA: Ndifuna ukuqonda ingaba xa sele ucinga ithatha ixesha elingakanani ezi plants ukuze zikhule lamagqabi azo ezi flowers zazo, ithath'i xesha elingakanani (Umfundi uthinta isikhohlela) ngokolwazi lwakho? (ingxolo ngasemva). Papiyana, kulungile ndifuna ukuqonda loo nto. Nombela, Yha.
- UMFUNDI: Mna titshala I think ukuba zithatha iinyanga ukuba kukhule lama blom (Titshala: mh)
- TITSHALA: Ingaba lamablom kulungile ukuba siwasebenzise nawo as ukuba, into etyiwayo, eza flower xa kuphu-phum'enza flower, ingaba si- singayisebenzisa for ukutyiwa? (Umfundi: akulunganga) Ngoba ?
- UMFUNDI: Cause xa sele ephumile ama flower lana(Titshala: eh) seziyipison (Titshala: mh) cause wona lamaflower ephuma nje sele esenza another seeds like utyuthu (Titshala: Okay) So sesiqala esitsha la mablom a-ane-colours (Titshala: Okay) ezithile (Titshala: yha) wo--- and then ezi ntyatyambo ke zimibala –bala zithi zona zitshe ezithile ke zifumaneka elangeni (Titshala: mh) ezi sithi thina ukuba sinokuzitya zisenze 'idi' some diseases uyabona (Titshala:mh) ezibangela ukuba igazi lethu libe mdaka (Titshala: mh) uyabona (Titshala: mh) so akulunganga ukuba ngaba siteyama lama blom (Titshala: mh) kufuneka siteyama engekama blomi nokubloma siteyama lamagqabi (Titshala: mh) even if seyiblomile kufuneka sele itshentwa ilahlwe outside (Titshala: mh) se yiye into nje e-bad (Titshala: Okay). Kwesi sihlandlo sokiyilahlela ngaphandle sisenoluyipetela ngaphantsi (Titshala: okay) yenze ifertilizer (Titshala: okay). Yha so I think next year iphinde ukuba ngaba ikhule first time Titshala: okay, okay).
- TITSHALA: Yha, kulungile. Zeziphi Nombela? Sithe utyuthu, imbikicane. Yintoni eyesithathu? (Abafundi: Ihlaba). Ihlaba. Yeyiphi eyona yona imnandi kwezi zinto zontathu? E-eh (Abafundi: utyuthu). Yintoni emnandi anambithekayo apho because zange ndimtye utyuthu mna ndaphoswa zezonto (isandi-tsh) (Abafundi bayahleka) Itheyista njani? Mhlawumbi (Titshala: mh) awunakuyichaza itaste kodwa nje, eeh yintoni enambithekayo?
- UMFUNDI: Yona aikrakri, iyakwazi ukuphekeka yodwa, yenye yezinto ezibangela ukuba abe mnandi (Titshala: mh) kunezinye (Titshala: okay), so wona awunakuwi mixer ukuba uyathanda. (Umfundi: Ewe) nomolimili ungampheka nje eyedwa (Abafundi: Yes)
- TITSHALA: Yeyiphi enye into o-mixer nayo beside umilimili lo tyuthu, yo-o-o-le mifino?
- UMFUNDI: Mhlawumbi xa uwupheka yeadw utyuthu (Titshala: mh) ungam mixer mhlawumbi neetapile (Titshala: mh).
- TITSHALA: Yima ke ndifuna ukuqonda njengokuba mosi, niyava mosi zikhona izinto ezithi ' Proudly South African' nikhe nizibone mos (Abafundi: Yes) izinto ezinziwa aph'eMzantsi Afrika, kubalulekile (Abafundi: Yes) kubalulekile ukuba sizithini? Sizinyuse ezi products zalapha, umzekelo o- location culture, kunxitywa o- location culture mos neh? (Abafundi: Yes). Yha. Ziproducts eziphumna phi? Inside aph'eSouth Africa yha not I-products eziphuma ngaphandle, koooma USA, Dickies njalo njalo nenzizinto sizinxibzayo zivela phesheya, niya understanda mos (Abafundi : Yes).
- TITSHALA: Yha masithethe kule – le micimbi yemifino. Awuyiboni wena inagaba iyinto e-valuable, let's say wena mhlawumbi Nyumbeka uyaphuma udibana ne Department ethi of Cultures ne-Department o Tourism, let's say uyo –uyozama ukwazisa nge zinto, nge food stuff' basic food stuff ezikhoyo aph'eSouth Africa. (Umfundi: Yes) Lets say uphume wabheka outside noba kuse London noba kuse New York udibane ne ambassadors ezithile, uya understanda? Kwenziwe ilink ethile niyokwenza mhlawumbi ikitchen of some sort pha kula-a ndawo. Mhlawumbi ba- bazakunika indawo yokuhlala uya understanda (Umfundi: mh) unikwe ne equipment
- TITSHALA: Uyibona wena ingabayinto e right wena ukuzama ukuthi, ukunika igalelo kulento yokuba ifood stuffs zethu mazihlale zihleli olaa hlobo, noba azizokujika, zizakujika uhlobo olululo. Uya

- understanda? (Abafundi: mh) Awuyiboni iyinto (Umfundi uthinta isikhohlela) ebalulejileyo ukugcina iculture yakho iqhubela phambili lonto leyo?
- UMFUNDI: Ndiyibona ibalulekile titshala (Titshala: e-eh) ukuwenzela naphaya phesheya bazazi ezi zizathu ezi zethu kweli cala (Titshala: mh, yha, okay)
- UMFUNDI: E-eh, mfundisi like, mna ngoko lwam ulwazi sese sisiqhubekela ngale ngezi zifuno zethu (Titshala: mh) cause, some of the countries zalapha w South Africa azinayo (Titshala: mh) ezi zinto. (Titshala: yha) then singakwazi ukuthi bangakwazi ukuthi mhlawumbi abanye abasuka mhlawumbi e Ghana (Titshala: mh) sibaphekele imifino (Titshala: yha) bayithande (Titshala: e-eh) and then the second time sikwazi ukuba sense I foreign exchange.(Titshala: mh) uyabona (Titshala: mh) sibanike lamifino basinike ezinye izinto ezi zeza apha (Titshala: yha) ethe but aba Bantu bakudala babezisebenzisa (Titshala: mh) qha zayekwa since kwathi kwatshintsha (Titshala: mh mh) uyabona iyakwazi ukubangaba sizokukwazi ukuyazi I- information yaphaya (Titshala: mh) yase outside mhawumbi ezinye I country siyazi ukuba nathi abantu bakudala apha e South Africa babephila ngokutya oku so naso (Titshala: mh, mh) then abanye aba bangayithanda (Titshala: mh, mh) ba outside amanye amazwe (Titshala: yha) and then ingasinika I –gain thina apaha eMzantsi Afrika (Titshala: mh, mh).
- TITSHALA: So umzekelo even inga booster I-economy yalapha eMzantsi Afrika (Abafundi: Yes) sinako ukuyionga ngolo hlobo (Abafundi: Yes, mh, yes, mh) u-umzekelo siyayazi each and every nation ine basic food stuffs eyisebenzisayo, (Abafundi: Yes) siya understanda? But thina due to kwi culture changes neemeko ebesiphila kuyo yangaphambili yocalu calulo, siya understanda? So siye sazilahlela ezizinto outside, niyabona mos lonto leyo (Abafundi: mh) so aniyiboni nina iyinto ebalulekileyo, umzekelo like kunokubakho (kuyakholelwa) some sort of I- I usenoku writer some sort of ingredients, irecipty book yakho (Umfundi: mh) uya understanda? Ukhuphe ezi zinto because kubalulekile because thina into esiyichanileyo if ukuba ninokujonga kwi culture because bekungekho Bantu babhalayo, they don't write it down I- information (Abafundi: Yes) but thina since singabantu (umfundi uthinta isikhohlela) abafundileyo asiyijongi as into ebalulekileyo lonto leyo, I information, into esiyifumanayo sithini? Sikhuphe irecord. Umzekelo la maxhegwazana sihalala nawo phaya ku- apha kufutshane (Abafundi: Yes) ba-bazihistorians ezipha kufutshane siya understanda? So kufuneka sithi turn in kwi information esiyifumana pha kubo, uya understanda? So kubalulekile ube nayo idocument let's say noba liphethshana elithle sibe nayo ukuthi yi receipt (kushukuma isitulo) yoku kutya kwenziwa njani na, uya understanda? (Abafundi: Yes). Kuthi noba kuye kwatshintshwa apha eminyakeni kwa mixer nezinye izinto, uya Undestanda? (Abafundi: Yes) So ke kubalulekile ukuba sibe nayo la method yenziwa ngayo okwakutya phaya eza ingredients. Awuyiboni as into ebalulekileyo Rom leyo?
- UMFUNDI: Ibalulekile kakhulu titshala loo nto leyo, ukwenzela into yokuba nangenye imini sizokuyazi ukuba kwizinto ezazisetyenziswa kudala sinokukwazi ukuphinda sizisebenzise nangoku (Titshala: mh).
- TITSHALA: Mh, uthini uPenxa?
- UMFUNDI: Hayi mfundisi kubalulekile noba njena, kwa iculture le yethu ingasese ilibaleke isese iqhubekela kuba abantu bazangayihoyi kodwa ithi yakubela kwenye indawo bakwazi (Titshala: mh, yha), ukuba iyaziwa kwindawo zonke, iyaziwa ukuba le culture (Titshala: Uthini, uthini Gwazela?)
- UMFUNDI: Bendisithi mna umfundisi kubalulekile okokuba siyazi nyhani lento because as ba iminyaka inyuka (Titshala: mh) and then ne poverty iyenyuka (Titshala: mh) uyabona and then, njengokuba iminyaka inyuka nje aba beza emveni kwethu abazokuyazi ukuthi imifino yinto etyiwayo (Titshala: mh) and then ufumanise ukuthi bayabethakala bazi nje ezi zicultivatwayo izinto (Titshala: mh) abazazi ezi zinto, ibe zizinto ezityiwayo bebe nokukwazi ukuba bayitye. Yiloo nto mfundisi ndithi mayifundiswe. Enye into mfundisi kwa abazali bethu (Titshala: mh) zange bakwazi ukuba basixelele ngento yemifino (Titshala: mh), sikhula phantsi kwemeko ezi poor (Titshala: mh, mh, mh), so that's why thina singekho deep ulwazi (Titshala: mh) lwethu ngemifino (Titshala: mh) but as ukuba sikhula nje abaz... oograndmother bayasixelela (Titshala: mh) bona indlela ababephila ngayo (Titshala: mh), so bendiyibona mna mfundisi ukuthi imifino masiqhubekela ngayo siyazi (Titshala: mh) cause I- new generation ezayo iyazi nayo nokuba ngaba sekunzima bayazi ukuba ngaba kukhona ukutya okutheni, okukokwethu thina sizi Africans (Titshala: mh)
- TITSHALA: Xa sesicinga yintoni ey-ey- eyabangela ukuba abantu ba- basebenzise le mifino? Yintoni eyabangela loo nto? (cwaka) (Titshala: eh, okay, ndiyeza ngoku)
- UMFUNDI: Aba bantu mfundisi babehlala kwindawo mosi like ezingathi ngamathafa, so (Titshala: mh) yabona apho lemi - like indawo ezinemithombo (Titshala: mh, mh, mh) soloko ziphuma amanzi (ingxolo yabafundi) (Titshala: mh, mh, mh) indawo ezinemeihlaba etyebileyo (Titshala: mh), into ebeihleli ikhula kwindawo ezinjalo (Titshala: mh) siyabona, like ibingabantu ebebengenalo ixesha lokusoloko besiya evenkileni (Titshala: mh) ngabantu ebebeziphandlela ngokwabo bazibonele into abanokuyitya (Titshala: mh), uyabona mfundisi so babemixer izinto like I-plants uyabona (Titshala: yha) so bade bafikelela kwezi zinto ke ngoku (Titshala: mh) then bazithiya bona ngokwabo ukuba

- bayifumene njalo mfundisi (Titshala: mh) then bazithiya bona ngokwabo ukuba yimifino ntoni, ntoni (Titshala: okay) so (kuyakhohlelwa). I think ukuba bayifumene njalo mfundisi (Titshala: Iz-iz, yha, massive kuwe).
- UMFUNDI: Lwalungeka bikho olu tshintsho aba bantu baMhlophe babengeka suki kwela cala labo bazokuza apha (Titshala: mh) so into eyabangela ukuba bathsintsheba fika bona as ukuba ebesanda kutsho u Mziyanda, bezenzela ezanto zabo, bengekho abantu abaMhlophe (Titshala: mh) so bona bafika bazimela ke nkqi izinto zabo and then (isandi- nkqi) bakube bezimele (isandi- nkqi) bafuna abantu abaMnyama (isandi: nkqi) kodwa ke (isandi- nkqi) phofu masingathi bafuna abambalwa (isandi – nkqi) kodwa ke (isandi – nkqi) benza ekugqibeleni (isandi-nkqi) abantu abamnyama balibala ngezabo, bamka nezi zifikayo.
- TITSHALA: Mh, Steve, eh, uthini wena Gwazela
- UMFUNDI: Bendisithi mna mfundisi (cwaka). Laa nto ibangel'abantu abaMhlophe bakwazi ukutya ezi zinto cause kwakude kudala abantu abaMnyama ukutya kwabo yayizi roots (Titshala: mh) and then apho lo mithombo yayithand; ukukhula khona lemifino le (Titshala: mh) yayivelele iingcambu (Titshala: mh) kuba beyibona as if ingakukutya ngokukubo (Titshala: mh) batsho batya iingcambu (Titshala: mh) ekugqibeleni kula nto ukuba ngaba uthi ngela xesha lakudala ukutya kwakungaphekwa kwakungelelula ukuba kupheke (Titshala: mh) babona abantu bakudala ke ngoku abaphambili kuthi ukuba ngaba hayi masikupheke ukutya (Titshala: mh) since abantu bakudala kwakude kudala baesitya iingcambu zabo, zilungele (Titshala: yha), babona ukuba ngaba batya iingcambu zabo, lilungelo labo okokuba nabo mabakutye okwakutya (Titshala: mh), imifino iphekwe kuqala (Titshala: mh) abanakukwazi ukuyitya ikrwada(Kuyakhohlelwa)
- TITSHALA: So u- may e ke khangé sive kodwa ke emaphepheni ekuhambeni kwexesha elidluliliyo two years or one year back, bekukhe kwakho into ethi ukhona u- professor othile wapahaya eRhodes ebeke wenza uphando wadibana nabantu bokuhalala befama ethile pha kufutshane eRhini, wafumanisa pha ubusi bu- bu bunokwenziwa ngayo intoni? Utywala, kwenziwe iqhilika, nakhe nayiva na loo nto leyo? Abafundi batsholo phantsi: Ewe), apho ke baza ku mixer eza chemicals, so lanto ziphuma pha koba busi , benze ntoni? Benze iqhilika, so kuphele kuthengwa I wayini phi? Kulamazwe akude, uya understanda? (Abafundi: mh). So oba busi busoloko bugcinwa kwindlela eright ukuba kube kwi condition e suitable for ukuba buthini? Kuthengiswe le qhilika uya understanda? (Abafundi: yes) because lento isenza ukuba sithini, silibale. Ndiyijonga ngoluhlobo ke mna ke ngokoluvo lwam, ukuba sisalibala ngokweSintu sethu ngokuba I- culture yethui- inferior kwezinye iiculture zabanye abantu uya understanda? (Abafundi: yes). But ngokuba thina sitshintshile singabantu abaMnyama siphantsi komnye uRhulumente, kuRhulumente wethu kubalulekile ukuba le ukuba sithini? Sibe proud ngobuntu bethu , uya understanda? Zonke izinto ebesizisebenzisa ngaphambili, uya understanda? Kubalulekile ukuba sizithini? Sizisebenzise again. .Sikhangele nezinye izinto ezi useful ukuzama ukugcina ntoni? Isiko lethu liqhubekeka libheka phambili, uya understanda? (Abafundi: yes) Tha'ts why ke if unokujonga, umzekelo ujonge amaChina yayingabantu I-culture yabo I-popular uya understanda? Nabantu base America I- culture yabo I-popular, because kutheni? Ba proud ngobuntu babo, so that's why wena uyiAfrican kufuneka ube proud ngobuntu obu bakho uya understanda? (Abafundi: yes). So ngalo lonke ixesha ke ukuba aba bantu le wisdom siyifumana kubo aba bantu basecaleni, ungayijongi ukuba wena ufundile, uya understanda? (Abafundi: yes). Une knowledge e-better kunabo, kubalulekile ukuba uyifumane la informal education because ngabo abakuthumele esikolweni kuqala (Abafundi: yes), uya understanda? (Abafundi: yes) and ngabantu aba wise, zihistorians
- TITSHALA: Ngalo lonke ixesha kufuneka uzame ukuthini? Ukuba ne-link kunye nabo ngalo lonke ixesha. So that's why ndisithi le lesson ibalulekile ukuba ibalulekile siyijonge kuba yi lesson etheni ? E-vital for thina for I-culture yethu ukuba iqhubele phambili.
- TITSHALA: Ndifuna ukuqonda ke, sizoyeka, uye wajonga koku kutya uzame ukujonga iseeds zazo, uye wayiqwalasela I- seed zezi plants, uzijonge ukuba zinjani na? Zinjani umzekelo, iseeds zazo? (cwaka), (okay).
- UMFUNDI: Azikho brown, like zifane nezeetapile? (Ayikavakali intetho. Titshala: yha)
- TITSHALA: Uthini omnye?
- UMFUNDI: Kunjalo titshala.
- TITSHALA: Zibe ke zingumahluko total kwezinye ilantuka kwezinye I-plants (Abafundi: kwezinye-i-plants) yha, yha, because ezi zitheni? Ziyazikhulela mos, azifani nezi zifakwa emhlabeni zilinywayo (Abafundi: yes), siya understanda? (Abafundi: yes). Yha. So ndifuna ukuthi ke bafundi xa niphuma nibheka ngaphandle kubalulekile ukuba sidibane nabantu bethu, siya understanda? (Abafundi: yes). Olu lwazi silufumeneyo apha kubalulekile ukuba siludibanise nolwazi oluphi? (Abafundi: olungaphandle) Olungaphandle, so kubalulekile ngalo lonke ixesha sithini? Sisoloko sisondela kwaba bantu ngoba bazi ntoni? Bazi historians, singabajongeli phantsi, uya understanda? (Abafundi: yes) kuze thina singabantu sithini? Sibheke phambili singabantu abaMnyama for na lo Mzantsi Afrika umtsha. Enkosi.(Abafundi: Enkosi).

OBSERVER: Thank you very much Mr Ngoloti and my learners, I'm very grateful. When I'm writing this thesis do you want me to put your names? Mr Ngoloti do you want me to mention your name as one of the contributors, or you want me to hide your identity? (Quiet)

MR NGOLOTI: Okay you may write it.

OBSERVER: All right. What about you my Learners?

L-mention our names. (O- I must mention your names. (L- Yes)

OBSERVER: I am very grateful to you. I'll mention your names he? (L- Yes)

OBSERVER: Whatever comes out of this interview I'll let you know. Okay? (L- Yes)
Thank you very much. Bye- bye. Mr Ngoloti- Thanks very much.

APPENDIX G: LEARNER OBSERVATION REPORTS

OBSERVATION5/03/2003APPENDIX GNames

Pamela Madoho
Unathi Nyumbeka
Mziyanda PEZI

Three of us we went to check to the garden if the seeds were coming, but we didn't see anything. Mr Ruka was always putting water. We also saw the cabbages were growing because they were planted.

Temperature was very high. 35°C . The plants were very weak because temperature was very high for them.

OBSERVATION

19/03/2003

NAMES

Pamelle Madolo

Mziyanda Peyi

Enathi Nyumbeka

so weakly
Six ~~months~~ later we started seeing small seedlings
of Iklaba.

We planted manure so maybe that's one of the
reasons it started to grow.

We tasted some leaves and they were bitter.
There was a white water inside the leaves.

It takes about 6 weeks to come out.
Iklaba spread on the ground when it grows.
The leaves of it are green very beautiful leaves.
It also has soft leaves.

OBSERVATION

02-04-2003

Names

Unathi Nyumbeka

Mziyanda Pesi

Pamella Madolo

The flowers were yellow and they looked beautiful. Stem is soft and the leaves spread on the ground when it grows. It continues to taste bitter and Mr Ruka always watering the garden until it grows. It doesn't stop tasting bitter until it dies. Even when it is ready to be eaten it's still bitter.

We went to the garden with Mr Asafo Asiel to observe Ihlaba. Mr Asafo tasted it he said it is bitter. Mr Ruka is not watering Ihlaba he look after the Ihlaba plants. Ihlaba is growing well near the toilet and under the trees. Ihlaba is very healthy.

Flames

Pamella Madolo

Unathi Nyumleka

Mziyanda Peki

Ahlaba is growing bigger and bigger and the leaves are spreading more and more. The more they grow the taller they become. The stem is still very soft the leaves have white water inside, and they taste bitter as usually. The more they grow the ^{more} they become beautiful. They are very attractive.

Yellow flowers are forming white seeds. The white flowers look like seed cotton they are light. The wind was blowing them away.

OBSERVATION

APPENDIX G

14/05/03

NAME

PAMIELHA MASOLO

MziYANSA PEti

UNATITI N-UMBIKA

The wind blowed the flowers away. Because of the weather and the exchange of the seasons caused the plants to be dead.

They were no longer beautiful & they also less attraction. They began to be real ugly.

The coldness of the weather is not good ^{for} the plants. The old ones die & there are still fresh plants which are growing.

This is the season for them to stop growing.

APPENDIX H: INTERVIEW WITH A COMMUNITY MEMBER

was also used

R: Ihlaba

I: Ihlaba is also eh

R: Ihlaba, we don't use it as a food to ^{be eaten} we use it as a medicine.

I: Alright

R: we use it for a medicine

I: Yes

R: what in the mountains

I: Okay

R: Do you have a picture of it?

I: Yes, I was with a - - one community member, Mrs Mkosang.

R: Okay

I: And she, you know she is a bit elderly

R: Mhm:

I: ~~And~~ ^{So} she, ^{she} showed me the Ihlaba plant

R: Mhm

I: Eh, eh, it is a shrub, (R: Yeah), with a short broad leaves, the stem is very soft and when it flowers, it shows yellow flowers. He . . . so I know it.

R: Then also there is another small one. ^(I: Yes) In my area, we call it Nhlatyana. A diminutive form of Ihlaba. ^(I: Yes) So it is Nhlatyana. Is green, ^(Yes) with small leaves ^(Yes) and even an example next to me.

I: Yes! In your house

R: Yeah. Next to me

I: I'll find time and come and look at it.

R: Mhm. It's green. It is used medicinally for mm

(I: Yes) (R: Mhm)
these with stomach ache. Then when you ^{are} have
iflu (Yes) you try a little bit of it into your
nose.

I: Okay, and it cures

R: ~~Yes~~ ^{Ah}, and it cures.

I: How did you come to know about all
these things, Mum?

R: Because I grew from a rural area.

By using these things. There are no doctors
Our parents had no money so when you
are ill, my grandmother would just go
there in the veld and bring some green
leaves, you drink this, you do this and this

We are still using them now. There is
Ntlongana. We use it for our choir mem-
bers (~~Mhm~~)

I: Mmm, when you are going to sing.

R: Yes when you are going to sing. You use
it in opening the chest. Mmm, if somewhere,
some body is planted it in his garden there
in your area.

I: Mmm

R: We call it Ntlongana. Is medicinal

I: Okay.

R: It is Ntlongana, is it? And if your nose are
blocked, you have a congestion ^{of nose} you just take
a small leaf of it. You hold it and then

I: (Coughs)

R: And then you put it in between the nose

I: Mhm, and then

R: In fact, that smell, ~~is~~ ^{like} if it was iVicks.
Which is working and it does work.

I: So, so, so, ^{for} these that you eat, your parents prepared for you when you were young, eh

R: But even now we are still using Nthonyana as I am saying now

I: So you eat it?

R: For music or for choir

I: Eh, oh yeah, Yeah, Choir, yeah

R: For my children, when they are coughing, if I have been giving them these, eh medicines for the doctors sometimes, I use this Nthonyana, ne, . ?? . that Nthonyana.

I: I ~~see~~ see. So what eh, (cough) currently have you tried, you said you give to your chr. as medicine. ^(R: Yeah) But have you tried cooking some of them for them to eat (cough). ~~Excuse me!~~

R: We do cook them like Imbikicane,

I: (cough) excuse me! Mmm

R: Imifino ^(I: mmm), aha! I: You cook them.

I: And the children eat, ~~they don't~~ eh.

R: Not our children, these days. ^{they don't} Because the chr do not have the idea. We are no more cooking them in the, now that we are living in the townships. ~~And~~

I: Mmm.

R: And can you see how dry it is here

I: Mmm mmm

R: The moment it is dry that area, there is nothing that you can get.

I: Yes!

R: Until you go ^{maybe} somewhere, there ^{in the bush} where it is greenish. You can get one ...

I: So, so that your argument is that ^{because} now we are living in rural areas in

R: Rural areas

I: Yeah.

R: And we haven't got time, ^{and} for going there in the veld and look for these things.

because you don't just get it in the same place. (I: Mmm), R: You have to go ^{round, you get} one here, (I: mmm) ~~a little far~~ (I: mmm), R: You go

again, again, again (I: mmm).

R: That should be done by people who are not working

I: Mmm

R: And when you come back you have to wash it. There is a lot of work.

I: Yeah.

R: So you don't have time.

I: So you prefer to get ~~to~~ ^{to} the cabbages

R: ~~Mmm~~ Yeah. And we are no more interested. May be ke, that's why we end up not interested in those plants. Our chn. don't like them ^(I: mmm) because they are not used to it.

I: One time when I was going with you to Otom you gave me a ~~pot~~ ^{pot}, eh . . .

R: ~~Ma nka ka nili mbuya~~ Maxwa ka nili mbuya.

I: Mmm

R: ~~#~~ Some body who builds a house here, after 2 yrs he is gone to L. Frere, after a year he is ~~#~~ left for Umтата (I: Mmm). Before

Mbuya grows in his kraal, ^{she,} he or she is already gone with the family

I: What, what is the significance of this proverb
That . . .

you are not stable

R: Yeah, (I: Hmm), you don't stay in the same place

I: ^{mm} You are just moving

R: You are teaching at fundu, after six months you are teaching at Khanyi, at that time ^{you are} Maxwa ka miki mbuya, you are not stable. And an unstable person is unreliable.

I: So that Mbuya, according to you grows so fast - that one should be able to wait at least for mbuya to grow

R: And Mbuya grows mostly where there is a kraal, (I: mm), R: Because of that name from the cows

I: Okay: where there is a ^{alright} kraal, because the manure provides nutrients, ^(R: mm) (okay)

R: And ^{then} now you have a garden ^(I: mm) during the ploughing time (I: Yes), R: You get the manure from the kraal ^(I: yes) to pour it into your garden, and then you get a lot of mbuya.

I: Mum, what, what

R: There is another plant ^{mm}, I don't know it.

~~It~~ ^{was} still tracing the name here ^{we?} we call it ^(I: yes) (~~what~~ ^{chatsha} ^{in our area}), it is thorny ^(I: yes). If you happen to pass next to it ^(I: yes) you'll get irash. ^(I: mm) ^{or} you start scratching yourself. ^(I: Ah) R - You have to be careful. And we were being taught that if you manage/happen to get ^{next} to it unaware, ^{we?}, you must take immediately a cow dung and you rub it here (pointing to her arms). You are curing yourself.

I: Really?

R: mm.

I: And you use to practice it.

R: Is still there. We are still practicing now. If we are in the rural area, once we are busy working when there is something, eh, this traditional occasion (I: ~~Yeah~~^{Yes}) and it happens that while you are ^{trying to} fetching wood there in the grass ~~to~~^(I: ~~Yes~~^{Yes}), you are not aware that that plant is there nr? and you touch it ~~with~~^{catche} your ~~hand~~^{or} your leg it has got a, it is itching. You cannot tolerate it. You have to ~~smeare~~^{rub} it with a cow dung and then you smear the cow dung there.

I: Fortunately every home ~~so~~ has some animals so (R: Mhm) it is not difficult

R: So that's not, it's not something eh, scarce in ~~these~~^{the rural} areas ^{there is}

I: Mum, you see that, ^{there is} from what you are telling me now, our children of this age and your generation, you are not old, you are middle aged or just getting to middle age. What is your view about trying to foreground ~~or~~ bring ~~about~~ into the curriculum, especially the agric curriculum, the, especially the OBE curriculum, this idea of 'Indigenous Knowledge teaching' this to our Cur. So that we don't lose contact with, with what you know? What is your view about it? Would you encourage it?

R: Yes, I do encourage it, because with the OBE they do ask these things. For instance there are questions when we say, you give one word for the given phrase, (I: Yes) what

we ^{thought} taught was the type of traditional medicine is used for ^{a, a,} young baby two or three months, 3 weeks borne (I: Yes), we call it - Isi. . . . kati, ne, (I: Yes), those are the small things you put them in the bottle with water to make the child to drink, so that, eh-eh she won't have that rash. ^(I: Mhm) We call it (I: Yes) (I: Yes) there is no rash (I: Yes) The whites use calamine (I: Yes)

I: The equivalent, R: Yeah, ^{Anna} I: Alright.
 R: we don't use calamine with us, we use mtombothi, ^{is} another medicine, mtombothi, to smear it here in the body. (I: Alright).

R: because we do ask them. In the Co-12 paper, out of 10 or 20 marks is for the, this (I: Indigenous) ~~the~~ indigenous things. (I: I see). R: we do ask them.

I: Yes, but in a situation where the curriculum is mainly ^{eh, eh} designed, you know from ~~the~~ say Curriculum Development Department, I mean, Unit, ~~to~~ (R: Mhm, Mhm), how would you think that local teachers like us will ~~be~~ able to bring these things into the curriculum? Because, may be when we teach them, they will not be able to what is required for examination ~~the~~ (R: Mhm).

I: May be, let me put my question again: Eh? Indigenous knowledge is encouraged in the curriculum (R: Mhm) and local teachers are encouraged to develop their own learning materials, learning... eh, eh, programme, so that the learners ~~can~~ (R: Mhm) can get used to it and

then they will get to know what, what, we
we are teaching. (R: Mm).

I: ^{Now!} The question I am asking is how do you
think we local people can go about eh,
doing this? Do you think we can come in
clusters as trs, groups of trs. like our current
subject association, so that we, we go looking
for these things, may be identifying them, eh,
drying them, keeping them in the teachers
resource centre, you know, what is your view
about it?

R: We should form clusters (I: Mm) as
we are doing in other subjects (I: Mm), other
subjects, ^{other subject.} associations (I: Mm). We should
form clusters, and do organize these things
because it is not so difficult. (Mm, yes.)

We use mtobo. ~~there's~~ there's one in Q town.

or These chemists, are selling those things

I: Even now

R: Even now, they are ~~selling~~ ^{there.} I have got
one in my house

I: Which we could have got from the moun-
tains.

R: We could have got from the mountains.

I: If we have our own associations

R: If we had our own associations. ~~And~~
And we would be having our own resource
centre (Mm) where we have these things,
because the problem with these learners
they don't have the picture of what we
are talking about (Mm), they just memo-
rize this is . . . this . . . (Mm) . . .

have the ~~picture~~ okuba, what is it, (I: Yes)
 Exactly. Like ^{the} this old woman here in this
 corner, Makhulu. . . . She had been our
 neighbour even when we were at ^{which} Oxford, ne?
 (I: Yes)

R: She likes this, eh eh,

I: Traditional . . . food. She likes the . . .

R: Food. She knows them. But the problem is
 we just say, Oh, Makhulu, when you have
 finished cooking, you call us (I: Mm). We
 just don't watch what type of . . .

I: Material she collects.

~~I: So if~~ R: Mm, we just eat and that's all.

I: Okay, so your your information as I pick
 is that these things grow around the kraals.

R: Some of them. I: Some of them (almost simultaneously)

R: Some of them grows in the mountain, some
 of them grows in the veld. And sometimes, it
 depends of what type of area is that one. Like
 this area is a dry area. (I: mmm): R: One
 will tell that this type only is that you can
 get here in this area, dry area.

I: Mm. R

R: Next to the . . . , what do you call this
 type of tree?

I: This one?

R: ~~Mgaba~~, we call this mgabe, thorny one

I: Oh, ~~the thorny one~~ down there

R: Ehe

I: Okay

R: This thorny one in the mountain we call
 it (I: Yes), R: we call it . . .

I have forgotten the specific name.

I: Yes!

R: The English term.

I: Mmm, what

R: It depends in which area you are

I: Mhm

R: You are. Like since I arrived here, I have never saw ^{an} mbuya. There is a lot in the rural area because there are kraals.

I: Mm.

R: There is a lot in, I use to see it in Joëburg in the street. They are selling it in the location

I: Really?

R: I don't know where they get it. They sell it at a small thing for R3.00. I said the thing from the kraal, from the gardens at home.

^{(I: (Lay...))} They are selling. But you go to Trans-kei and ^{to #} fetch it. ^(I: Okays) You take the bus for R300.00 ^(I: Yes). and go and fetch mbuya and go and sell it for R3.00 ^(I: Yes).

(R: Interviewer can not pick what Resp. says)

R: And people from this area, they buy it because they grow from the areas and is the cheapest as compared to spinach, because you have to pay R300 for spinach, instead of sending a child to go to the field and to pick up the mbuya. But these ones can not do that because ~~at~~ they do not even want to fetch the woods.

I: Do not you think is the influence of Technology, because now they watch television, they listen to radio... So

to the rural areas these days. ~~But~~

I: Mm.

R: When they are going for the holiday, they want Joe'burg, they want Cape Town.

I: Mm, one of the chn. I interviewed one of the classes said if you eat mbuya, the community thinks you are poor. Is this true?

R: The community what?

I: The chn. they think the community members think, ah, eh, Bob and his wife and chn they are poor, so ~~they~~^{chn} don't want to eat mbuya.

R: Mm, that's the believe we are having these days. That if you eat Mbuya, and is because mostly even now, it is these Makulus, who have nothing to ^{27 (I: mm)} hand who always go up into the mountains looking for these things.

I: Oh, I see. Other wise when you go to rural Transkei, that feeling is not there.

R: Is not there. If I go home my mother is still doing that. (silence)

I: And you - yourself?

R: And I sure: by sure that I am gonna work mbuya today, will you visit us? ^(I: OH) But I can't do that I am lazy to do it. I don't have time for it. But ^{when} it is ready I do enjoy it. ~~It~~

I: Okay

R: So these who were born long ago, our mothers and grandmothers, they still feel that there is a believe that after you

I: Just as you cut

R: Just as you cut cabbage.

I: Yes.

R: You make it very fine

I: Yes

R: And then you pour it in the eh eh, pot. ~~You~~
~~pour some water~~ I: Yes!

R: You pour some water

I: Yes.

R But the water that they pour is more than the one we are using when we are cooking spinach. We pour very little for spinach and cabbage. There is a lot of water that is being poured there. Then when it boils, you take 'mealie meal'. They use mealie meal these days. But those days we take ordinary, mmm

I: Sorghum

R: ~~Mealie~~ ^{Guinea} corn, ne? and you grind it

I With a grinding stone?!

R: Yeah, ~~there is a grinding stone~~ ^{at home} and you grind it I do use it.

I: Even now. R: Even now (together)

R Even now, because the period of circumcision, there are those big occasions we go and help in that house, we go and help there ne? We do this chip chip chip chip. (demonstrating with her hand how they ^{you grind} roll the mealie on the stones). And there are two types. We say uya kaga when you ~~are~~ just crack eh, becomes rough. ^(I: mm) Then when you want it to be fine, ^{siti} you say: uya guba, ne? You want

it to be like mealie meal, nr? uguba

I: All this on the grinding stone?

R: ~~At~~ On the grinding stone and then you take
eh, eh, ~~small holes~~ what do you call it ^(sieve) small holes

I: Mm, ^{yes} we call it a sieve

R: Ehe, you sieve it nr? Then you take
the ~~part~~ finest ones then your water is
boiling and you have poured umfinao water
nr?

I: Mm.

R: And then you pour that mealie meal and
then salt, you wait for some minutes and
there after, you take your spoon.

I: Yes, and stir

R: We don't call it a spoon. We call it ipin
It is made of wood, nr? It's a wooden spoon
but is not like a spoon. Something that is
straight

I: I think we ^{we} also have it in my culture.
I have one in my house which I use in
preparing soft porridge.

R: Yeah, I: Yeah.

R: Then ke ngoku, you stir and stir + stir.
You leave it to steamer. You stir again.
You taste it. You can feel when you taste
that okay the mealie meal ^{now} is alright. Then
you take it out. We don't use the plates
for the one we buy at shops, nr? We use
something, a mat. A 4 corner mat. You
pour it on that mat

I: On the mat?!

R: Yebo! And it is in our culture that eh,

You eat imifino you don't have your own plate and eat alone and yours alone. We enjoy it. We appreciate ~~eating~~^{it} in that form. We come and stay about 4. You call your neighbour, come! We've got imifino. Come and sit around. Mrs Ralane still enjoys that. She use to cook ~~it~~ icabbage with that meal and call ~~the~~ other staff members to come and eat.

I: And do you eat with your hands or you ~~use~~ eat it with spoons?

R: With spoons and hands? (did I hear hands?)

I: So that you have the natural

R: Yeah, the natural and you ~~eat~~ enjoy it. But as things change ke, we are told that the ~~best~~ health, nton, nton, by these educated people we are using spoons. But originally we used fingers. You wash your hand, you come and do this (demonstrating how to sit on the floor) there after you drink ~~it~~, we call it ingqudo (Amarikwa).

I: Yes I know amarikwa?

R: Yeah.

I: Okay. Mum, I am very grateful, because I think I have got the information I wanted.

But I want to ask one question. I want when I am writing my thesis, I want to acknowledge that I got this interview from Mrs. Jonas. Do you have an objection to my bringing your name in and acknowledging that I took some of the information from you?

R: No, I have no objection ~~that~~ ^(I: alright) R: No problem.

I: ~~At that~~ ^{See} I am very very grateful to you

It looks like you have given me an insight into the imifino and how it is collected, how it is prepared, how it is even eaten - the sharing attitude, because in the interviews I ^{collected} conducted ^{eh} I didn't have anything about how people eat and how they shared, the kind of mat that they use. So I'm very very grateful.

R: There never any one who cooks imifino without calling ~~any~~ ^{some} body after she's finished.

I: Oh, whenever you cook, you call some body

R: ~~Yeah~~ They are still doing it now. Ma khulu, ^(pointing at a house across the road) she ~~is~~ used to call me and Mrs Mabaza!?? Not clear

I: At the corner?

R: Yes, that one

I: Oh so, you are eating imifino here?

R: I have no problem with now. Even then next to me ne? One time I was given i — another thing which looks like a pumpkin but is green outside (I: ~~Ma~~) Yeah, yeah). ~~E~~

I: ~~Yeah~~ ^{Ah}, yeah

R: They call it njaja

I: Yeah, yeah. It looks like melon, also

R: Yeah. It looks like a melon

I: ~~Yeah~~

R: ^{Mhm} ~~Somebody~~. Somebody gave me in Kwi. I visited my sister who teaches in the rural areas, ne? ~~I brought it but~~

I: Yes.

R: I brought it ~~that~~ ^{but} I ~~didn't~~ have time for cooking ^{that}. I gave it to my neighbour. They cooked it. They all called us there in the afternoon.

I: Is an indigenous food plant also, or you don't.

R: Answer not clear

I: Yeah, alright. Is it the ^{so called} 'white' plant, imported plant or it used to be a local plant in S.A.

R: It used to be a local ~~plant~~.

I: Mmm, plant.

R: It used to be a local plant

I: Okay. So it is an indigenous food plant

R: Mmm

I: Okay, because it is not common on the markets. It's only blacks

R: No ^{its only this} what do we call this in ~~English~~ ^{iwatata}. They call it the ~~water~~ iwatata in English. Is it the watermelon?

I: Eh, watermelon, yes

R: Yellow

I: Watermelon yes, watermelon, watermelon, yes

R: Something like that

I: I have seen it around my school also.

R: Yeah. It just grows

I: In the home of an elderly woman and I thought it was a type of watermelon. But when I asked her, she said no! It was not

R: No it's not. It just looks like. Even if you taste it. You can't enjoy eating it alone as you do with the watermelon.

I: I see.

R: That one needs to be cut down and peeled.

I: I am thinking that ~~it~~ even this sharing attitude is eh, is the kind of ubuntu.

R: It's the kind of ubuntu that if one

doesn't have something, she must not feel that. They were teaching ^{the little ones} us that in future you are going to meet with people. You must learn to share. If one doesn't have this, and you have it, you must share with it. ~~You~~ They were teaching each other about sharing. They were teaching us etiquette, one of caring ~~another~~ . . .

I: Caring for one another.

R: Yeah. If we are ^{going, we have} prepared that food, we belong to the different ages. I can't eat in the same mat with my grandmother ^{and my child}. ~~It's never~~

I: Okay, okay. ^{I:} ~~It's never allowed.~~ ^{R: It's never allowed.} It is stratified.

R: Yeah. If we have cooked with a big pot, may be the one that traditional occasion we, then after that there are relatives who are ^{still} ~~staying~~ here here?

I: Yes,

R: I know that I must prepare may be 3 mats. This one is for the old ladies, grandmothers. This one is for mothers, the middle one, and this one is for ours or makhoti and this one is for these young girls

I: Mhm.

R: Yeah. We are still doing that in my area. It is still traditional

I: Mhm, I ~~just~~ want to ask one thing that has just come into my mind. What about the men? Do they eat these things?

R: In my culture, the Hlubi, . . .

I: Mhm

R: Men do not eat imifino.

I: Why?

there was a belief that you are going to be a coward. There are always the traditional beliefs. We call it

... That if you do this, this will happen. If you do this, this will happen. If you tell a fable during the day, you gonna have (demonstrating developing a horn)

I: Horn, laughter!

R: it horn, yeah. Those are the beliefs, ne?

I: Yes, and if you go to fetch water in the night

R: In the night

I: You will see a snake

R: Yeah. If you go to fetch water at 3am. you must take a stone, b/c you get to the river and through it.

I: Laughter

R: So the evil things will go away. That was the belief, ne?

I: Alright.

R: And if you fetch water in the evening, ne?

(interrupted by a visitor)

I: So mum you are saying that in your tribe, too in yr. culture, the men do not eat imifino, because you will be a coward.

R: They believe that you gonna be a coward.

And they gonna believe that if eh. some people are beating you, # they use big sticks

ne?

I: Yes!

R: The imifino will come out of your back here
(using his hands to point to the back of the shoulder)

So men have been afraid of that ~~or~~ that they can't eat imifino. Like my husband ~~never~~ ^{doesn't} eat imifino

I: Never

R: Never. But funny enough, they eat cabbage, they eat spinach. They say it's not imifino, it is not the traditional imifino that they are taught about that they will have this and that and that. This one was brought by the Europeans ^(I: Laughter) so they can eat it. But they can never, never accept it that you pour meat as we do it and ~~make~~ make imifino out of it

I: Yes:

R: But strange enough they do take stiff ~~porridge~~ porridge together with spinach, separately. It must be separately cooked. Although it seems to be the same

I: The same

R: It's just that belief that if you mix it when he grew up he was told by the old men that you must never ever take imifino.

I: So what is the attitude of the young boys, the young men to eating imifino?

R: The young men have no problem. They take imifino. Like here in the staff room, when Mrs. Rabane is cooking imifino, Mr. Mzileni and so many others, they become so much crazy

I: I see.

R: But those of my culture, Ama Hlubi, they

don't ever take ~~interest~~ ^{trust} ~~mean~~ ^{by doing} that

I: So may be there are cultural differences also.

R: I am sure

I: ~~The~~ And also the ^{the} development. Because now we are becoming Rural (Urban).

R: De changes

I The changes

R: Like my little ones, although they have a little picture of imifino, because they don't usually go there, they don't like that I mix ispirach ^{together} with mealie meal, but they do take mealie meal separately from ispirach.

I: ~~I see~~ See. So that, actually if you give your little one the traditional, the indig-
nous imifino, they wouldn't mind, they would eat it. If they don't - -

R: Mmm, I think so

I But you are not sure.

R: But I am not sure. Because so many things that we are eating ~~but~~ ^{that} they don't like they. They don't like chicken yase from home -

I: Ooo! They want it from the shop

R: They want this one, four checkers not that one. They will start looking at it and say ah, mama why is it looking like this. ~~then~~ ^{sure} it seems as if it is smelling to them.

I am sure in fact, its that different smell from that chicken and this one.

I: Mmm.

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I: What do you think we should do to try to minimize, we cannot prevent this attitude but to minimize it in our children? So that they can grow up at least picking some of the things that you know. Because what I am saying is if it happens that you are no more now, or your husband is no more then there will be a knowledge gap, because now you know about umbikani; I don't think any of your children

R: They don't know them. They will even struggle to pronounce the word umbikane.

I: So that it is actually a problem.

R: A problem.

I: And that is why I, I feel that there is need for us to begin to bring it into our curriculum so that learners will begin to, because I don't think that it is even wrong for learners to climb this mountain and begin to go and look for some of these these things.

R: No. It's never, it's never wrong, it's never wrong.

I: I see.

R: It's never. The only thing is that, eh, eh, we should ^{eh} organize ourselves as it's just and collect these things.

I: In a resource centre.

R: Mhm, and have ~~it~~ a resource centre of some kind.

I: Yes.

R: And we should encourage the chn. to sometimes during some holidays, they shd. go to the rural areas and ask for these things; but where is

is this, where is this?

I: Mmm, I was talking to my focus groups, and they were able to mention some of these ~~things~~ things, but the impression I had was, even when you say you drink water from the well, from their facial expression, you ~~see~~ find that, know

R: It's so funny. It's unhealthy to them.

I: Yeah, you see, a child says she is from Long drive, and she drinks water from the well. You know which I think is even cleaner and purer because it is underground water.

But the attitude of my learners is that if you are drinking from the well, you are not drinking good water, you know

R: (Inaudible)

I: I think there is actually need for us as to begin to realize the need for us to go back to our

R: Our own things

I: Yes. Not so much to condemn white things to use ours to supplement the white things. Thank you so much, now. I am very grateful because you have told me about the plants, about how to prepare them, cultural differences. I think that is enough for me to put it in my thesis.

R: Okay, I am very grateful to you.

I: Thank you so much.

R: Alright