Re-Learning our Roots: Youth Participatory Research, Indigenous Knowledge,

and Sustainability through Agriculture

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By

Jean Kayira

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ABSTRACT

There has been an increasing realization of the significance of Indigenous knowledge (IK) in achieving sustainability. Education is also considered a primary agent in moving toward sustainability. However, research that explores education focused on sustainability in Malawi is sparse, especially where the roles of IK and youth perspectives have been considered. This research draws on the concepts of *uMunthu, Sankofa,* and postcolonial theory to enable a "third space" (Bhabha, 1994) centred on culturally appropriate Malawian ways of knowing working in tandem with non-Indigenous knowledge and practice. Three main questions guide the study: (1) How do participants understand place and environmental sustainability in relation to knowledge and practice (both Indigenous and non-Indigenous)?; (2) Within the context of Chinduzi village, the Junior Farmer Field and Life Skills School (JFFLS) program, and its engagement with issues of environmental sustainability, what forms of knowledge and practice are evident (both Indigenous and non-Indigenous)?; and (3) What are participants' views on how environmental sustainability should be further engaged in the JFFLS program in relation to knowledge and practice (both Indigenous and non-Indigenous)? Data collection methods included focus groups, place mapping, individual conversations, observations, and archival documents review. The data were coded using inductive analysis and the research employed aspects of participatory research and Indigenous research methodologies. The research findings reveal that while there is general consensus among the participants supporting youth learning IK in school, others are not supportive because they consider IK to be inferior. In considering place and environmental sustainability, the findings revealed that participating Elders describe their sense of place in terms of historical agriculture-related knowledge and practice. On the other hand, participating youth express their sense of place in drawings of their favourite places. The drawings revealed

that youth are largely rooted in their social-cultural interactions within their community, but also influenced by global culture. The study results show that the JFFLS curriculum includes both Indigenous and non-Indigenous knowledge and practice in both agriculture-related and life skills lessons. To achieve environmental sustainability in the community, participants recommend all youth in the community learn local Indigenous knowledge and practices for protecting the environment.

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DEDICATION

To my late grandparents: my grandmother agogo-batose Margaret nyachipeta and

my grandfather asekulu Mr. N.H.S. Chimbirima Gondwe for the evening folktales and stories

around the fire place that have finally ignited the passion to explore the knowledge and practice

of our ancestors

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CHAPTER ONE: INTRODUCTION TO THE STUDY

Introduction

There is growing recognition of the importance of Indigenous [1]knowledge (IK) in protecting and maintaining the ecological integrity of the environment (e.g., Breidlid, 2009; Corsiglia & Snively, 1997; Elabor-Idemudia, 2002; Mebratu, 1998; Odora Hoppers, 2002; Senanayake, 2011; Settee, 2007; Shiva, 2000, 2005; UNCED, 1992). Unfortunately, Westernized versions of education which tend to be formalized and closely linked with the term schooling,[2] have not addressed local IK and languages in adequate ways. This can be attributed to colonialism. Although most African countries gained independence from their colonial masters in the 1960s, the impacts of colonialism continue to be present through modern-day globalization as a form of neocolonialism. Formal education systems in many countries in southern Africa continue to be grounded in Western[3] viewpoints, marginalising local Indigenous ways of knowing and being. For instance, although Malawi has been free from colonial rule since 1964, the formal education system is still predominantly Eurocentric. Traditional cultural foundations, including IK and traditional languages are low priority for Malawian policy makers, parents, educators, and consequently, students. As such, there is no space for children to learn IK. The loss of IK comes with a loss of relationships to place and ways of engaging with the earth in more sustainable ways.

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[1] I capitalize the word "Indigenous" because it is a proper noun referring to particular peoples, their knowleges, ways of living, and so forth.
[2] Schooling is understood as learning in institutions and is regarded as a colonial project (Garland, 2012; Valentin, 2011)
[3] By Western, I refer to Euro/American.

This study draws on understandings of the sub-Saharan African notions of *Ubuntu* (or *uMunthu* in the Chewa language of Malawi) and *Sankofa*, as well as postcolonial theories. Using these as a framework, the research investigates how environmental sustainability is taken up in the forms of knowledge and practice (both Indigenous and non-Indigenous) in the context of postcolonial, environment-related education in Malawi. *uMunthu* entails humaneness, care, understanding, and empathy. It is grounded in the interconnectedness of beings, values the contributions of others, and emphasizes reciprocity and responsibility (Musopole, 1994; Sindima, 1990, 1995; Tutu, 1999). *Sankofa* is a west African concept which means "it is not wrong to go back and fetch what you forgot," in other words, we should gather the best of our past, including the knowledge and practices, as we move forward.

Postcolonial theory provides a framework that decentres dominant Western discourses to allow for multiple perspectives (Crossley & Tikly, 2004). From a postcolonial theoretical lens, I was enabled to engage cultural pluralism as part of efforts to "move the centre" (wa Thiong'o, 1993) in Malawi from a singular, Eurocentric model to one that is multicentred and reflects the Malawian culture and local contexts. In this research, I borrow Bhabha's (1994) terms of "third space" and "hybridity." I describe this multicentred centre as a "third space" where neither Western nor IK is privileged, and instead a "hybrid" approach to education is developed (Bhabha, 1994). In considering this frame in relation to the study site of a Junior Farmer Field and Life Skills School (JFFLS) at Chinduzi, Malawi (see Figure 2), this "new" third space is a liminal space where both the Indigenous and non-Indigenous epistemologies co-exist in a way that does not priviledge one over the other. In this space, non-Indigenous epistemologies and

practices (which tend to be dominant) are not uncritically accepted; instead they may be resisted, appropriated, translated, and read anew (Bhabha, 1994).

At this research site of the Chinduzi JFFLS in the Machinga district of Malawi, I worked with youth, Elders[4], and facilitators to explore how environmental sustainability is taken up in the forms of knowledge and practice (Indigenous and non-Indigenous) embedded in the local culture of Chinduzi village. The term "youth" is used in this study to refer to the JFFLS students, whose ages ranged from 9 to 17 years old. My methodology encompassed elements of participatory research (PR) and Indigenous research methodologies (IRM). Data collection methods included archival document review, place mapping (with 26 youth), conversations with Elders (with 5 Elders, 14 youth joined in conversations), focus group discussions (with 3 JFFLS facilitators and 26 youth), and observations.

The study resulted in a number of interesting findings in relation to participants' perspectives on knowledge and practice, place, and environmental sustainability. The study revealed that, while there is a general consensus among the participants to support youth learning IK in school, others are of the view that such a move would be a waste because they consider IK to be inferior to Western knowledge, backward, and not capable of developing students' abilities to "get ahead." In considering place and environmental sustainability in relation to the knowledge and practice of Chinduzi village, the findings revealed that participating Elders describe their sense of place in terms of historical agriculture-related knowledge and practice. On the other hand, participating youth expressed their sense of place in the drawings of their favourite

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[4] I capitalize the term "Elder" to respect the knowledge keepers. Such practice is also consistent with the conventional protocol among Aboriginal writers who write in English (Battiste, 2008a).

places. The drawings revealed that, although Chinduzi JFFLS youth are largely rooted in their social-cultural interactions within their community, they are also influenced by global culture. The study results also show that the Chinduzi JFFLS curriculum includes both Indigenous and non-Indigenous knowledge and practice in both agriculture-related and life skills lessons and that all lessons are taught by facilitators.

Participants in the study also acknowledged that their community is facing many problems. They are not treating the situation in a self-pitying or pathologizing manner, rather, they are using their situation to find solutions to their predicament. To achieve environmental sustainability in the community, participants recommended that all youth in the community (in JFFLS and general education) learn local IK and practices to protect the environment, in addition to the community as a whole engaging in both collective and individual actions. Furthermore, Elders recommended the diversification of teaching methods to include experts in the community as well as historical places.

General Background to the Country of Study: Malawi

    Geographical location.

Malawi is a landlocked country located in Southeast Africa. It is bordered by Zambia to the northwest, Tanzania to the northeast, and Mozambique on the east, south and west (see Figure 1). Malawi was first settled by various Bantu tribes during the 10th century. Bantu means people (Ki-Zerbo, 1989). Lwango-Lunyiigo and Vansina (1992) posit that Bantu cover almost a third of sub-Saharan Africa and speak over 400 languages. In the early 1600s, the Bantu tribes who settled in Malawi traded with Portuguese merchants on the coast of the Indian Ocean (Davidson, 1968). During the same time, the area was mostly united under one native ruler; however, by 1700 the

empire had broken up into areas controlled by many individual tribes (Davidson, 1968).

The Scottish explorer, David Livingstone reached Lake Malawi (then Lake Nyasa) in

1859 (Turner, 2009). Consequently, Nyasaland became a British Protectorate in 1891

(Turner, 2009; Wesseling, 1996). Nyasaland remained under British rule until July 6,

1964, when it became independent and adopted the name of Malawi.

Figure 1. Location of Malawi.

Source: National Research Council of the National Academies (2002).
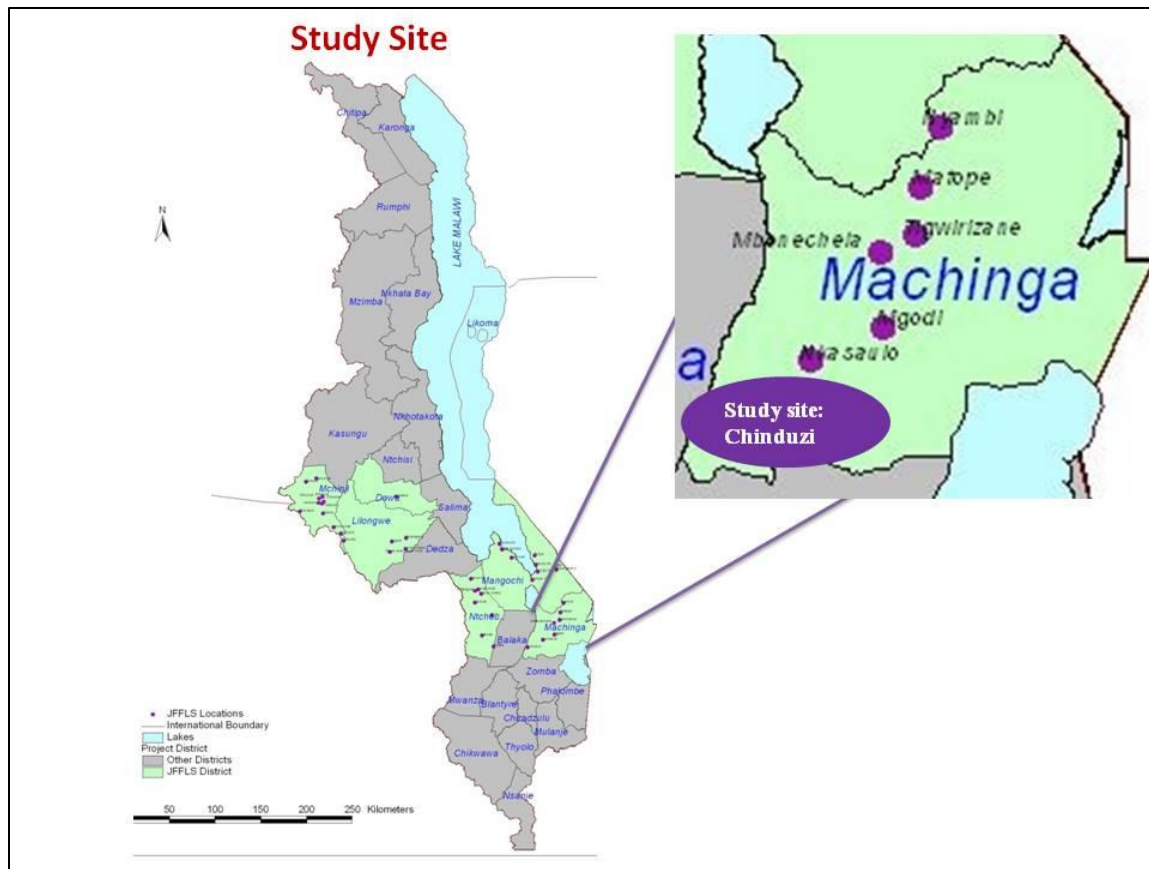
Figure 2. Study site: Chinduzi JFFLS, Machinga.

Source: Kachale (2009).

Socioeconomic status.

Malawi is one of the poorest countries in the world ranked at 170 on the Human Development Index out of 196 countries (UNDP, 2012). Its annual per capita gross domestic product (GDP) is estimated at US$344 (IMF, 2012). Agricultural production is the backbone of Malawi's economy and accounts for more than one-third of GDP and 85% of export revenues (NSO & ICF Macro, 2011). The GDP growth rate varies widely from year to year depending on crop conditions and world prices for its major exports of tobacco and tea. The economy substantially relies on economic assistance from the International Monetary Fund, the World Bank, and individual donor nations.

According to the National Statistical Office (NSO, 2010), Malawi's current population is just over 13 million, with 6.4 million males and 6.7 million females. The statistical report indicates that the population is characterized by high fertility rates (5.2 children per woman), low life expectancy rates (52 years), high population density (139 persons per square kilometre), low print literacy rates (64%) and high mortality rates (10 deaths per thousand people). Population is exerting a great deal of pressure on the natural setting. Around 80% of the population lives in rural areas, with increased rural poverty closely related to environmental degradation (NSO, 2010). Smallholder farmers in Malawi cultivate an average of one hectare of land, while 30 percent cultivate less than half a hectare (Government of Malawi and The World Bank, 2006). This population suffers from chronic food insecurity, which has prompted the use of unsustainable land management practices, such as deforestation for agricultural expansion and fuel wood (Bandyopadhyay, Shyamsundar, & Baccini, 2011).

HIV prevalence is high in Malawi. Nearly 11% of the population in the 15-49 age group are infected with HIV (NSO & ICF Macro, 2011). The prevalence varies by age, gender, and other socio economic characteristics. For example, NSO and ICF Macro (2011) report that in the 15-49 age group, prevalence is higher among women (13%) than in men (8%), higher in urban (17%) than in rural areas (9%), and highest among those with more than a secondary education and those with no education (14 and 13%, respectively). According to NSO and ICF Macro (2011), the prevalence increases with age for both women and men. For instance, it is highest among women in the 35-39 category (24%), compared to women in the15-19 category (4%). For men, the prevalence increases from 1% in the age group 15-19 to 21% in the age group 40-44.

Children have been significantly impacted by HIV/AIDS, not only by being infected, but also losing parents to HIV/AIDS. It is estimated that 13% of children under age 18 are orphans[5] (NSO & ICF Macro, 2011). In addition, NSO and ICF Macro (2011) assert that the percentage of orphan children rises with age, from 3% among children under age 5 to 26% among children age 15-17. Overall, 17% of children under age 18 are considered to be orphaned or vulnerable.[6] The percentage of these children increases with age, from 7% among children under age 5 to 31% among children age 15-17 (NSO & ICF Macro, 2011). As many parents are dying at a young age, orphaned children are growing up without the necessary knowledge and skills for their future livelihood.

Without a doubt, the socioeconomic status of Malawi presents a bleak picture. However, there is a lot of hope and resilience in Malawian communities. This study emphasizes the strengths, talents, resources, and skills of people and rejects the notion of a problem-based, pathological focus on people.

Junior Farmer Field and Life Skills Schools

In response to the growing number of orphaned and vulnerable children, the Junior Farmer Field and Life Skills School (JFFLS) program was developed in 2006 by the government of Malawi through the Ministries of Agriculture and Education, and partners such as the United Nations Children's Fund (UNICEF), the Food and Agricultural Organization (FAO), and the World Food Programme (WFP) (Kachale 2007a, 2008a). In what follows, I describe the JFFLS approach, covering the background, origins and the guiding principles.

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[5] NSO and ICF Macro (2011) define an orphan as a child under age 18 who has lost one or both parents.
[6] A vulnerable child is defined as a child under age 18 who has a chronically ill parent or who lives in a household where an adult is chronically ill (NSO & ICF Macro, 2011).

Background information on the Junior Farmer Field and Life Skills School approach.

The JFFLS is an initiative that was initially developed in 2003 by the Food and Agricultural Organization of the United Nations (FAO) and the World Food Programme (WFP) to help address a growing number of orphan and vulnerable children (FAO, 2008). The approach was initially implemented in Africa and has since expanded to other parts of the world, such as the West Bank and Gaza Strip and Nepal (Dalla Valle, 2009; FAO, 2010). Malawi piloted the JFFLS program in 2006 with eight sites in two districts. The program has expanded to 41 sites in six districts (Kachale, 2009). The goal of a JFFLS is to empower orphans and vulnerable children and youth[7] aged 12 to 18 years, by offering them livelihood options and gender-sensitive skills needed for long-term food security, while minimizing their vulnerability to destitution and risk-coping behaviours (FAO, 2008; FAO & WFP, 2007). The program ensures that an equal number of boys and girls participate.

Children and youth in a JFFLS learn agricultural and life skills. The agriculture component covers both traditional and modern agricultural practices for field preparation, sowing and transplanting, weeding, irrigation, pest control, use and conservation of available resources, use and processing of food crops, harvesting, storage and marketing skills. It is argued that such schools can also help recover or sustain traditional knowledge about Indigenous crops, medicinal plants, biodiversity, and so forth, and can be useful in finding innovative solutions to current agricultural labour constraints, such as low-input agricultural production activities and labour-saving technologies and practices

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[7] Youth are defined as those aged 15-24 years (Curtain, 2002, cited in United Nations, 2004)

(FAO & WFP, 2007). Issues addressed in the life skills component include HIV/AIDS awareness and prevention, gender sensitivity, child protection, psycho-social support, nutrition education and business skills (FAO & WFP, 2007)). The emphasis is on teaching skills that have not been passed down because of the premature death of parents.

A JFFLS is run by a small group of local facilitators, often including an agricultural field assistant, , a teacher, and/or a community organizer. JFFLSs use a learning approach that is based on facilitation and learning by doing rather than on conventional instruction-based learning. According to FAO and WFP (2007), experience from JFFLSs has shown that these types of schools provide a safe social space for both girls and boys, where peer support and community care allow youth to develop their self-esteem and confidence.

Dalla Valle (FAO, 2009) ascertains that the JFFLS program directly contributes to Millennium Development Goals (MDG). For example, the program addresses the need to eradicate extreme poverty and hunger (MDG 1), promote gender equality and empower women (MDG 3), as well as develop a global partnership for development and cooperate with developing countries to develop and implement strategies for decent and productive work for the youth (MDG 8). Indirectly, the approach also contributes to achieving universal education and reduced child mortality (MDG 2 and 4). There is also potential for the program to address human-nature relationships and interconnectedness, as well as ways of engaging with the environment in more sustainable ways, which would directly contribute to the goal of ensuring environmental sustainability (MDG 7).

The origins of the Junior Farmer Field and Life Skills School.

The JFFLS approach is an adaptation of two participatory training programs for adult farmers: the farmer field school (FFS) and farmer life skills (FLS) (FAO & WFP, 2007). The concept of the FFS is based on the Integrated Pest Management Programme in Asia, which pioneered the concept in the early 1980s following losses in rice yield due to brown planthopper (Pontius, Dilts & Bartlett, 2002). The underlying principle behind the field school is that farmers can become experts in their own field. A group of farmers meet regularly to study particular topics, ranging from integrated pest management and animal and soil husbandry, to income-generating activities. The training follows the natural cycle of the topic covered, for example, throughout an entire cropping season. Farmers learn by doing and experimenting with the problems encountered in the field.

FLS are based on the same learning approaches as FFS. In FLS, adult farmers discuss the problems that threaten their livelihoods, identify the root causes of these problems and then make informed decisions about what actions they should take to overcome them. Issues addressed in FLS include poverty, landlessness, family planning, alcoholism, domestic violence, their children's school attendance, and specific health problems such as HIV/AIDS and Malaria (FAO & WFP, 2007).

JFFLS guiding principles.

The guiding principles governing the operations of a JFFLS are drawn primarily from the Convention on the Rights of the Child (1990), here-in after referred to as the Convention. The principles include child protection and security, gender-equality, participation, addressing vulnerability, removing stigmatization, and right to food. In what follows, I briefly describe these principles.

Child protection and security.

The Convention is guided by four fundamental principles: non-discrimination; the best interests of the child; survival, development, and protection; and participation. Because they are often vulnerable, children need special care and protection regardless of gender, origin, religion, or abilities. Authorities are required to protect children and to help ensure their full physical, spiritual, moral, and social development according to these principles. Successful protection increases a child's chances of growing up physically and mentally healthy and of achieving confidence and self-respect. It also makes a child less likely to abuse or exploit others, including her or his own children (FAO & WFP, 2007). One of the objectives of a JFFLS is to support and protect children by providing a protective environment for learning, social support, and relief from the children's daily cares and stress. Thus, children and youth participating in the JFFLS program have to feel safe and protected so that they can acquire the necessary knowledge and skills to reach their potential.

Gender-equal attitudes.

Gender equality means that women and men enjoy the same status. According to FAO and WFP (2007), in a JFFLS, gender equality means that girls and boys have equal chances to achieve their human rights, fulfil their potential, contribute to economic, socio-cultural, and political development, and benefit from the results. It is argued that, only when a society gives the characteristics, roles, and responsibilities of both boys and girls equal value, can gender equality come to be (FAO & WFP, 2007).

Participation.

Participation is a process of communication among development agents and local men, women, girls and boys in which local people take the leading role in analysing the current situation, as well as planning, implementing, and evaluating development activities (FAO & WFP, 2007). Under the Convention, children have a right to help make the decisions that affect them, and to have their opinions taken into account. In a JFFLS, children and youth are active participants.

Addressing vulnerability.

A JFFLS recognizes children's rights and freedoms under the Convention. According to FAO and WFP (2007), such rights take into account children's vulnerability and their need for protection from economic or sexual exploitation, cruelty, abuse, violence, and abduction or recruitment into armed forces. This means addressing the vulnerability of girls and boys to HIV infection, as well as the specific needs of communities already affected by HIV/AIDS and other vulnerabilities. There is no common definition of "vulnerability" in JFFLSs. Communities implementing a JFFLS program are encouraged to provide their own definition of vulnerability based on their specific conditions (FAO & WFP, 2007).

Removing stigma and discrimination.

Stigma is based on lack of information and fear, which turn into judgement and blame.It leads to discrimination against whole groups; thus, those who are discriminated against are denied their human rights (FAO & WFP, 2007). One of the guiding principles under the Convention is non-discrimination. This principle demands that children should neither benefit nor suffer because of their race; colour; gender; language; religion;

national, social or ethnic origin; political or other opinions; caste, property, birth or "other status"; or disabilities (FAO & WFP, 2007). All children have the right to full access to education, health and social services as well as full inclusion in community life.

The JFFLS aims to provide a safe environment for vulnerable children, thus reducing stigmatisation. However, the terminology used to describe the children can in itself be stigmatising. The label of "orphan and vulnerable children" (OVC) and the isolation of activities specifically targeting OVC in a school setting can be stigmatizing (Kachale, 2008b) and create a sense of "othering" (Said, 1978). Children are not in support of the "qualifiers" used in describing them, as is evident in the UNAIDS/UNICEF/USAID (2004) study in which they report that when children are asked what they prefer to be called, they say: "Just call us children" (p.6).

Right to food.

The right to food is a basic human right according to aricle 25 of the Universal Declaration of Human Rights (1948). This takes into account the principles of equality and non-discrimination, participation and inclusion, accountability, and the rule of law that all human rights are universal, indivisible, interrelated, and interdependent. In addition to receiving direct food support, youth in a JFFLS are taught nutrition education, and they are encouraged to replicate what they learn in the school garden in their homes so that they can have nutritious food (FAO & WFP, 2007).

I present details on the Chinduzi JFFLS in the methodology chapter (chapter three). While it would have been appropriate to provide details about Chinduzi village, I wish to acknowledge the dearth of literature on this community.

Locating Myself in the Study

In this section, I offer my personal history so as to provide an understanding of how my interest in the subject has developed.

My interest in researching how environmental sustainability is taken up in the forms of knowledge and practice (both Indigenous and non-Indigenous) in the context of postcolonial environment-related education comes from my experience growing up in the rural village of Chozoli in Rumphi district in northern Malawi. I grew up with grandparents who were peasant farmers. They owned 5 acres of land on which they grew maize, millet, beans, groundnuts, cassava, potatoes, and pigeon pea. They also owned a small herd of cattle and a few chicken. Evening folktales were a daily event, and it was through these tales, proverbs, and idioms (usually narrated by my grandmother and grandfather) that I learned to respect the environment and everything in it including humans. My grandfather was very much interested in education but his interest was rooted in a strong moral core and the *uMunthu* concept. His argument for placing social values at the heart of all forms of education (including formal education) created intense debate during evening folktales around the fire place. Many of us kids wanted to be like the frequent characters in the stories portrayed as "smart" and "intelligent," though lacking social values. Throughout my early academic journey, my grandfather used to read my school papers and talked with me about them; he often questioned the relevance of my education to community life.

Our community of primarily farmers depended on the environment for its livelihood. My family, as well as others in the community, relied on the IK passed on from great grandparents to manage the farming system. For example, we learned to read

signs (e.g., bird songs, spider webs) to know when it was time to plant or harvest. It was an offence to cut a tree that bore fruits or was used for medicine or ceremonies. As children, we learned a lot through observation, listening, and practicing. Elders were not just teachers; they were also mobile libraries and encyclopaedias, to be referred to by all (Franck, 1960; Ocitti, 1973). Unfortunately, much of the knowledge is not documented anywhere and could soon become extinct with the passing of the older generation. In addition, learning from our Elders is not part of the school curriculum.

uMunthu was inherent in all operations. The sense of community and reciprocity was a crucial aspect of my culture and upbringing. For example, community members relied on farm labour reciprocity to help each other during planting or harvesting season. Such acts of reciprocity were infused in all aspects of our life, including food sharing and helping the elderly and physically handicapped individuals. However, this way of life has slowly been giving way to modernized farming practices and individualism as advocated by Western culture and the influences of globalization.

Although Malawi is a (post)colonial state, our formal education system is still heavily influenced by colonial legacies. Traditional cultures and languages have a lower priority for policy makers, educators, parents, and consequently students. For example, curriculum is developed by the Ministry of Education, Science and Technology (MOEST) and is distributed to all the schools for adoption regardless of linguistic and cultural diversity. Teachers adopt the curriculum as prescribed and implement it to specifications. Teachers are practicing a banking model of education, with children and youth frequently considered repositories for Western information (Freire, 1970). Consequently, the local knowledge, wisdom, cultural values, skills, and beliefs that have

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the potential of enriching the curriculum remain largely untapped. Learners fail to see the connection between school knowledge and their local realities.

My formal education (through schooling) did not make connections to local knowledge, practice, and experience. I vividly remember the lack of congruency between the knowledge of school and home. For example, local knowledge of weather patterns, harvesting, or planting times were never discussed to complement the Western knowledge in geography or agriculture at school. What I learned from my grandparents at home through observations and folktales was considered primitive "home knowledge." I was not allowed to share this knowledge with my classmates or instructors lest it contaminate the "pure knowledge" taught in school. Furthermore, I learned more about countries beyond Africa before I learned about Malawi. For example, I knew of the Great Lakes of North America and the Mississippi river before I knew of the lakes and rivers in Malawi. The purpose of learning was to memorize the information and reproduce it during an examination so we could move on to the next grade. As students, we were not encouraged to ask critical questions, but to be quiet and listen attentively to the teachers: failure to do so resulted in punishment (often corporal). Although many things did not make sense, such as learning about the lumber industry in British Columbia and transporting logs on ice (when we had not even seen ice!), at the time, I did not see anything wrong with my formal education. In retrospect, however, perhaps it would have been better if we were exposed to local knowledge and context first, before learning about other places and cultures.

As I moved through the formal education system—through high school and university—the more I discounted the knowledge of my ancestors. For example, as I

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learned more Western knowledge, I used scientific arguments to discount the knowledge that nurtured my upbringing. In university, I took the Bachelor of Education Science Program. I remember how our professors who taught us about teaching methods kept emphasizing the need to use learner-centred approaches in our teaching. However, these approaches were rarely demonstrated during our training. When I started teaching, I found it difficult to use learner-centred approaches because I had not seen them being demonstrated, plus I had to finish the syllabus in time for students to sit for national examinations! So, I followed my teachers' footsteps: lecturing was the approach. I did not see anything wrong with either my teaching style or the education system. That was how things were supposed to be. In a way, I had become accustomed to the global "common sense" (McKenzie, 2012).

My views and perceptions started changing once I left Malawi. I moved to the United States for studies in the early 2000s. Being away from my home country and being a minority has made me reflect more on what it means to be a Malawian and an African. For example, I came to understand that some people see the colour of one's skin as a stronger identifier than anything else. This was made clear to me when I was attending a fitness class (body sculpting) with my colleagues in Washington DC. The class was primarily composed of ladies and I was the only lady of African "ascent" (Dei, 2011). The instructor used to address me as "African woman." While this did not bother me, I was initially startled; I had never thought of identifying myself as an African, but a woman who simply wanted to sculpt her body just like the rest of the class. That incident made me cautious about my identity as African and Malawian. That experience helped me see that for other people, I was different regardless of how I felt myself.

I wondered why skin colour would be considered an identifier for one's identity and made me pay more attention to other things in society that are usually considered common sense or normal but may have underlying oppressive aspects imbedded within. For example I started paying more attention to other forms of discrimination such as sexual orientation and homophobia including environmental injustices. It took some form of experiencing discrimination (albeit not on a large scale) to start paying attention to other forms of discrimination. While my experiences of racism have not been major, my children's high school experiences in Saskatoon have not been very positive. This has been another motivation for me to be involved in anti-oppressive forms of education addressing both social and ecological injustices.

The "awakening" to injustices in our society continued as I began my doctoral studies. Through the courses, coupled with deep critical reflections from the readings, I started looking back to where I was coming from. In other words, my decolonization journey had begun. Of particular interest was my formal education in Malawi. For example, I reflected on the fact that I did not learn local Indigenous knowledge or languages in my schooling. That I had even viewed them as inferior forms of knowledge and practice became very apparent, although I had never thought of it before. I realized that the Malawi formal education system was (and still is) privileging Western epistemologies while undermining local Malawian ways of knowing. I began to question why my earlier schooling did not give me the opportunity to learn the knowledge and practice of my grandparents in school - what would have been wrong if my agriculture and geography lessons included the local knowledge of foretelling weather, harvesting, and controlling pests for example? What is most troubling for me is the issue of

environmental sustainability, especially for communities depending on agriculture for livelihoods (which are most Malawian communities). My concern is that we can not sustain our environment with Western knowledge alone, and that the IK of the people can and will play a significant role in finding solutions for environmental sustainability. Reflecting on this has led me to explore how Indigenous knowledge and practice can complement the Western knowledge that youth learn in school in Malawi—particularly at Chinduzi JFFLS. I acknowledge that I am not from Chinduzi village thus do not claim insider status. My decision to conduct the study at a JFFLS was its community-based, being locally relevant, and giving voice to learners to actively decide on their learning content. As explained earlier, JFFLS is a new initiative in Malawi and has not spread to all parts of the country. At the time of my study, there was no JFFLS in the northern region where I come from and grew up. I acknowledge this limitation.

These concerns and experiences have shaped my epistemological position, as well as increased my respect for IK and interest in the perspectives of youth on environmental sustainability.

Research Questions

The effects of colonialism continue to be ever-present in Africa, with predominant influences resulting from globalization as a form of neocolonialism (Abdi, 2006; Curtin, 2005; Lunga, 2008; Osai, 2010; Pashby, 2012). Particularly pertinent to this study is the way the Malawian formal education system continues to be grounded in Western viewpoints, marginalising local Indigenous ways of knowing and being. This is happening irrespective of the growing recognition of the importance of IK in environmental sustainability (Breidlid, 2009; Corsiglia & Snively, 1997; Elabor-

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Idemudia, 2002; Mebratu, 1998; Odora Hoppers, 2002; Senanayake, 2011; Settee, 2007; Shiva, 2000, 2005; UNCED, 1992).

This study acknowledges the complexity that comes to bear in trying to separate Indigenous from non-Indigenous, or the local from the global (e.g., Glasson, Mhango, Phiri, & Lanier, 2010; Massey, 1994; McKenzie, 2012). It follows scholars who suggest a hybrid of the local and global in what is called "glocal" or "vernacular cosmopolitan," which entails responding to the global from the perspectives and priorities of the local (Diouf, 2000; Escobar, 2001). Thus the research draws on the concepts of *uMunthu, Sankofa,* and postcolonial theory to enable a "third space" (Bhabha, 1994) centred on culturally appropriate Malawian ways of knowing, while at the same time, working in tandem with non-Indigenous knowledge and practice. In broad terms, the study seeks to broaden the space that meaningfully acknowledges both Indigenous and non-Indigenous knowledge and practice. Specifically, the purpose of the study is to explore how environmental sustainability is taken up in the forms of knowledge and practice embedded in the local culture of Chinduzi village.

To achieve the purpose as stated above, three main questions guide the study:

1. How do participants understand place and environmental sustainability in relation to knowledge and practice (both Indigenous and non-Indigenous)?

2. Within the context of Chinduzi village, the JFFLS program, and its engagement with issues of environmental sustainability, what forms of knowledge and practice (both Indigenous and non-Indigenous) are evident in the JFFLS program?

3. What are participants' views on how environmental sustainability should be further engaged in the JFFLS program in relation to knowledge and practice (both Indigenous and non-Indigenous)?

Significance of Research

There has been an increasing realization of the significance of IK in achieving sustainability. Sustainability and the associated concept of sustainable development have been defined with varying language. Although there is no consensus on a single definition, most sources agree that the terms address three fundamental issues: environmental degradation, economic development, and social inequality. Sustainability was a key theme of the Stockholm conference (the United Nations Conference on the Human Environment (UNCED)) in 1972. Mainstream sustainable development thinking developed progressively through the World Conservation Strategy (IUCN, 1980), the Brundtland Report of the World Commission on Environment and Development (WCED, 1987), and the Earth Summit (UNCED, 1992). The definition of sustainability evolved over these three decades. The most popular definition of sustainability is in fact not about sustainability at all, but about sustainable development. This definition is given in the Brundtland Report, which defines sustainable development as "development that meets the needs of current generations without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 43).

Education is held to be central to sustainability and sustainable development. From the time sustainable development was first endorsed in 1987 (WCED, 1987), the United Nations General Assembly explored the parallel concept of education to support sustainable development (UNESCO, 2005a). Thus, education for sustainable

development (ESD) has its roots in the history of two distinct areas of interest of the United Nations – education and sustainable development. ESD carries with it the inherent idea of implementing programs that are locally relevant and culturally appropriate. Indeed ESD is based on ideals and principles that underlie sustainability, such as intergenerational equity, gender equity, social tolerance, poverty alleviation, environmental preservation and restoration, natural resource conservation, and just and peaceable societies (UNESCO, 2005a). Chapter 36 of Agenda 21 discusses the role of education in sustainability, "Promoting Education, Public Awareness, and Training." In addition, each of the 40 chapters of Agenda 21 includes education as an implementation strategy. Through the lens of ESD, education is seen as a means for cultural renewal in facing global problems. Education is understood to be a cross-cutting area and "not only provides necessary scientific and technical skills, but also the motivation, justification and social support to pursue and apply them" (Rest, 2002, p.79).

The decade 2005-2014 has been designated as the UN Decade of Education for Sustainable Development (DESD) in order to support both education and sustainable development. According to the DESD declaration, "Sustainability is not just about conserving the environment, but about learning to live in respectful relationships with each other and with our world" (UNESCO, 2005b, p.10). Thus, the Decade seeks to integrate the values inherent in sustainable development into all aspects of learning to encourage behaviour changes that allow for a more sustainable and just society for all. While sustainability and sustainable development may be considered to mean the same thing, in this study I use the term sustainability because my focus is not on the

"development" aspect. Additionally, the focus of the study is not on all forms of sustainability, rather, environmental sustainability.

As can be seen, education is considered a primary agent in moving toward sustainability or indeed sustainable development. However, research that explores education focused on sustainability in Malawi is sparse, especially where the roles of IK and youth perspectives have been considered. Most studies that have addressed IK in the school curriculum have focused on the primary school science curriculum (Glasson et al, 2010; 2006; Phiri, 2008) and early childhood (Phiri, M, 2004). There has been one study on examining Indigenous environmental knowledge of farming systems in Malawi; though this was not focused on youth education but rather on development/conservation purposes in general (Manchur, 1997). Additionally, environmental education (EE) in Malawi is reportedly taught across the school curriculum; however, a closer analysis reveals that it is primarily situated within the geography unit of the social studies curriculum (Glasson et al., 2006). EE can also be found in places within the science curriculum, but narrowly focuses on scientific explanations for ecological degradation, neglecting analysis of societal determinants (Glasson et al., 2006).

Achieving environmental sustainability requires an integrated approach addressing social, environmental, and economic issues. If EE or any environment-related education is indeed going to contribute to environmental sustainability in Malawi, it needs to be undertaken in more systemic ways that consider the relationships between humans and the earth, reflect on our ways of understanding nature, and engage with critical theories that enable closer analysis of the often taken for granted assumptions

about education systems, as well as the linkages between and influences of Western and Indigenous knowledge.

This research could be considered a pioneering study of the application of postcolonial theory and the sub-Saharan African concepts of *uMunthu* and *Sankofa* in investigating how environmental sustainability is taken up in the forms of knowledge and practice (both Indigenous and non-Indigenous) in the Malawian education system.

By applying a postcolonial theoretical lens including the sub-Saharan African notions of *uMunthu* and *Sankofa*, this research joins scholars who are addressing culture and place in EE and ESD (e.g., Breidlid, 2013, 2009; Cloete, 2011; Glasson et al., 2010; Gruenewald, 2003; Le Grange, 2012; Masuku Van Damme & Neluvhalani, 2004; McKenzie, Hart, Bai, & Jickling, 2009; O'Donoghue & Neluvhalani, 2002; Shava, 2008). The research makes a significant, novel contribution to existing literature in general, as well as contributes to the future of environment-related educational practice in Malawi.

Research Assumptions

I considered four major assumptions prior to implementing the study. One, I strongly believe that Indigenous knowledge is central to achieving environmental sustainability; therefore, I believe it should be meaningfully represented in the education (formalized and non-formalized) of Malawian youth. Two, I assume that colonialism is still present in Malawi which explains why the Malawi formal education system is still Euro-centric despite Malawi being independent for nearly 50 years (e.g., Musopole, 1994; Phiri, 2008). Three, I assume that many well-meaning programs aimed at assisting the less privileged may have underlying ideologies rooted predominantly in Western

culture and the colonial mentality (e.g., Breidlid, 2009, 2013; McKenzie, Kayira, & Wals, 2009). Finally, because of the ever-present effects of colonialism I believe that scholars in formerly colonized nations should engage with counter-hegemonic approaches as frameworks for analysis, which is the reason why this study is situated within a postcolonial theoretical framework.

In addition to the above assumptions, this dissertation acknowledges the ambivalence in the complexity of the realities of youth participants. While their learning is important, they have other challenging and more pressing needs, such as basic necessities, to deal with.

Structure of the Dissertation

Chapter one introduces the research topic and discusses the significance of the study. The next chapter reviews the literature informing the study. The topic areas include sustainability, Indigenous knowledge systems, and postcolonial education. Chapter three contains a discussion of the research methodology and procedures used in the study. Specifically, the chapter addresses the research methodology (participatory research and Indigenous research methodologies); the study design including location, participants, and data collection methods (focus groups, place mapping, individual conversations, observations, and archival documents review); the process of data analysis; the ethical considerations; and limitations of the study. The findings of the study are provided in chapter four. In this chapter the reader is presented with: participants' views on knowledge and practice, place and environmental sustainability; the current status of environmental sustainability and knowledge and practice in the JFFLS program; the participants' vision for engaging environmental sustainability in

both the JFFLS program and the Chinduzi community; and inconsistencies observed in policy, practice and communication. The final chapter discusses interpretations from the findings as well as implications for policy, practice, and future research. Also included in the last chapter are my personal reflections on the process of conducting the study.

CHAPTER TWO: LITERATURE REVIEW

This research is situated within the larger literature of sustainability, Indigenous knowledge systems (IKS), and postcolonial education. In what follows I overview the literature in these areas.

Sustainability

There has been a wide range of interpretations of what sustainability involves. According to Sumner (2005), these interpretations include, for example, sustainability as: a goal to be identified and achieved; a condition or state that people are in or aspire to (this may include a vision such as a "clean environment" or "economic growth"); an ethic concerned with issues such as intergenerational equity, human survival, and morality; a management practice without moral and ethical ramifications; a principle that can unify people or as a form of mediation that can help bridge the gap between opposing groups; a "metabelief" that can open up new ways of thinking, feeling, and acting in the world; a catalyst for creative thinking; and an ongoing process without end. These diverse and potentially diverging interpretations of sustainability can cause tension when it comes to understandings as well as actions.

Sustainable development has equally sparked debate among scholars. Some environmentalists have claimed that it is an oxymoron, and can be used merely to cover or "greenwash" the continued destruction and exploitation of the earth's limited resources in the name of development (O'Riordan, 1988, cited in Dresner, 2008). Similarly, Davidson (2011) argues that sustainable development is oxymoronic because it assumes development based on continual growth (in particular, economic growth) can be sustained. On the other hand, some economists have argued that the concept is too

cautious about the future, resulting in sacrifices of economic growth for the sake of unnecessary concerns about depletion of natural resources (Dresner, 2008). These opposing viewpoints have been the basis of an ideological and linguistic power struggle as both environmentalists and economists employ a particular line of argument to shape their understanding of the concept. The concept of sustainable development is potentially a meeting point for the two groups. Environmentalists use it to emphasize the "sustainable" part while economists use it to emphasize the "development" part (O'Riordan, 1988, as cited in Dresner, 2008). Some have argued that the strength of sustainable development is in its ambiguity because the malleability of the concept allows it to remain open, dynamic and evolving, enabling it to be adapted to different situations and contexts across time and space (Kates, Parris, & Leiserowitz, 2005). While the ambiguity might be viewed as positive, it can also "muddy the water" in terms of *actually* achieving a life or world that is sustainable.

Similar debates are bound in the education context—particularly over the terminology of education for sustainable development (ESD) or education for sustainability. For instance Jickling (1992) expresses concerns that education *for* anything is "inconsistent with [the] criterion" that "education is concerned with enabling people to think for themselves" (p. 8), therefore such conceptualization portrays education as indoctrination. Others perceive ESD to be in harmony with neo-liberalism (e.g., Sachs, 1993; Sauvé, 1997). Sachs warns of the risk of sustainable development becoming mere rhetoric to mask the continued enclosure and commodification of nature and a new kind of eco-technocracy which works in the interests of the rich. However there are those who view ESD as a superior version of environmental education (EE) that

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will make powerful contributions to the solution of today's problems (Fien, 2000; McKeown & Hopkins, 2007; Smyth, 1995; Tilbury, 1995).

Even though sustainability and sustainable development as concepts may seek to emphasize the interconnectedness of life and the need to maintain an ethical balance among the forces of economics, society, and ecology, there is no doubt that economic imperatives seem to dominate peoples' thinking and everyday social practices. As Sachs (1993) observes, the increase in the number of actors in the global market leads to competition among them; therefore, "governments everywhere tend to attach a higher value to competitive strength than to protection of the environment or of natural resources" (p. 140). Two UN documents highlight that sustainable development is, indeed, mainly concerned with economic growth. First, the WCED (1987) states how, while in the past there would have been concern about the "impacts of economic growth upon the environment," the concern now is "the impacts of ecological stress upon our economic prospects" (p.5). Second, the recent report of the UN Secretary General's High-Level Panel on Global Sustainability (2012) argues that sustainable development will only be achieved once it is incorporated into "mainstream national and international economic policy debate" as then it will be "much harder to ignore" (p. 12).

Using this literature and background to frame this study, I understand sustainability as: *a framework of principles that engages multiple perspectives, places, and cultures in a systematic approach toward better environmental and social well-being, while simultaneously allowing for the economic improvement that this may require. Sustainability emphasizes the importance of the local, Indigenous ways of knowing and types of practices, but relates these to a broader global perspective in*

which interrelationships are recognized; hence, it should operate in the 'glocal'

framework of development (Diouf, 2000; Escobar, 2001) responding to global issues in

culturally specific and localized ways. It is holistic because it recognizes diverse ways of

knowing, being, and acting, thus promoting 'and-both' conceptions. Sustainability

recognizes the invaluable contributions of ancient traditions such as Sankofa ("going

back and take"). uMunthu is a core philosophy of sustainability centred in the

interconnectedness of all beings. Sustainability allows Indigenous voices to be amplified

within policy frameworks both at national and international levels.

Because my understanding of sustainability is based on the recognition and

amplification of Indigenous ways of knowing, a discussion of IK is in order. In the

subsequent sections, I address the concept of IK systems and their contributions to

sustainability.

Indigenous Knowledge Systems

Meaning of Indigenous knowledge.

Dei (2000) and Maurial (1999) assert that defining IK and establishing working

boundaries for studying it has not been easy. Many terms exist to describe the

knowledge, practices, and beliefs of Indigenous peoples around the world. Variations

range from IK, IKS, Local Knowledge (LK), Traditional Ecological/Environmental

Knowledge (TEK), folk science, to Rural People's Knowledge (RPK) (Heckler, 2009;

Sillitoe, 2002). Each of these terms has created considerable debate as a result of

discrepancies within and critiques of the many interpretations. For example,

"Indigenous" is often equated with originating in a specific area, "local" with

"simplicity," "traditional" with "static" (Battiste & Henderson, 2000; Heckler, 2009;

Inglis, 1993; WIPO, 2012). As Heckler (2009) puts it: "In its very inclusiveness, the term local knowledge loses some of the distinctiveness that has made this concept useful and appealing" (p.3). Furthermore, the term "traditional knowledge" is problematic and can be misleading. Emphasizing that a system of knowledge is "traditional" may imply that it belongs to the past and thus does not have validity in contemporary contexts (Inglis, 1993). Battiste and Henderson (2000) have suggested that traditional knowledge is traditional not in a sense that it belongs to the past, but in terms of the way it is acquired. According to WIPO (2012), it is the relationship with the community that makes knowledge or expressions traditional.

Grenier (1998) defines IK as "the unique, traditional, local knowledge existing within and developed around the specific conditions of men and women indigenous to a particular geographic area" (p. 6). Others have described IK as a body of knowledge associated with the long term occupancy of a certain place and is shaped by the traditional norms and social values of a given society: it connects economic, cultural, political, spiritual, ecological, and material forces and conditions (Dei, 2000). For Odora Hoppers and Makhale-Mahlangu (1998), IK systems entail "the combination of knowledge systems encompassing technology, social, economic and philosophical learning, or educational, legal and governance systems. It is knowledge relating to the technological, social, institutional, scientific and developmental, including those used in the liberation struggles" (cited in Odora Hoppers, 2002, pp. 8–9). Battiste and Henderson (2000) suggest thinking about IK as "the expression of vibrant relationships between the people, their ecosystems, and the other living beings and spirits that share their lands" (p. 42). Many Indigenous scholars argue against providing a concise definition of IK

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because IK encompasses processes that encapsulate a set of relationships and is not a bounded concept. Instead, entire lives represent and embody versions of IK (Battiste & Henderson, 2000; Brayboy & Maughan, 2009). Hobart (1993) argues that the attempt to define TEK is an attempt to "domesticate practice by recourse yet again to a hegemonic epistemology" (p. 14). Thus, instead of dwelling on definitions, a discussion on characteristics of IK would be helpful.

Characteristics of Indigenous knowledge.

IK is based in relational epistemologies in which all things are interconnected and imbued with spiritual energy (Battiste, 2008 b & c; Cajete, 1994; Wilson, 2001). Knowledge itself is considered relational and belongs to families and communities rather than individuals (Menzies, 2001; Wilson, 2001). According to Lillejord and Soreide (2003), IK resides in the "hearts and minds of people, their oral history, rituals or in knowledgeable personages like priests, storytellers, rainmakers or kings" (p. 89).

Indeed, knowledge is not something that just exists ready to be discovered (Parpart, 2002). O'Donoghue and Neluvhalani (2002) prefer the term 'Indigenous knowing' instead of 'Indigenous knowledge' to avoid treating knowledge as an objective commodity outside the socio-historical contexts of people. They argue that a "knowing-in-context perspective" avoids locating knowledge construction and mediation processes within an oppositional logic of knowing or not-knowing. Rather it fosters "engagement with the dynamic capital of knowledge sedimented amongst peoples interacting in the socio-historical contexts of Southern Africa" (p. 122). Similarly, Masuku Van Damme and Neluvhalani (2004) argue that the "abstraction of indigenous knowledge from socio-cultural contexts to generalised institutionalised views failed to illuminate indigenous

knowledge not only as embedded in people's lives but also as a constantly shifting

meaning making process of one within his/her environment" (p. 356). Fujimoto (2009)

suggests that IK is so deeply embedded in context such that it is often not talked about.

He describes how an important plant use was not captured when farmers were asked to

list plant uses or when they were presented with a plant specimen and asked to list its

uses. Only when he observed participants did he notice that farmers were reading

different weedy species in and near agricultural fields as indicators of a variety of soil

and climatic features. The growth form, colour, and presence or absence of weedy

species were informing cultivation practices and patterns. Although most IK is

transmitted orally, Fujimoto's study revealed that orality is not the only way; rather IK is

also usually "picked up" over a lifetime of practice.

Dei (2011) describes IK as resistance. He asserts: "Indigenous knowledge is about

resistance, not in the romanticized sense, but resistance as struggle to navigate the

tensions of today's modernized, globalized world while seeking to disrupt its

universalizing, hegemonic norms" (p.168). He calls for revisioning schooling and

education to provide learners with "the means to maintain, deepen, renew and expand the

frontiers of their own knowledge rooted in history, language, culture identity and

politics." Doing so, he argues, "can be empowering in healing the words of

Eurocentricity" (p.225).

I am a follower of scholars who argue against providing a definition of IK(S)

because the definition will not aptly reveal the complexity, fluidity and diversity of IK

systems. The central issue about IK systems then, is that they are contextual in nature,

and dynamic—they are dependent on the culture, place, tradition, history, and

geographical position of a given community of peoples. They are embedded in the cumulative experiences and teachings of Indigenous peoples rather than in a library or in journals (Battiste, 2008b). Hence they are embodied, implicit, and embedded in people's practice and social habitus (Bourdieu, 1980) and, as such, they cannot be "boxed in time and space" (Dei & Asgharzadeh, 2006, p. 54) or objectified. A number of scholars speak to this point. For instance, Villegas, Neugebauer, and Venegas (2008) affirm "Knowledge is neither an object that can be possessed, controlled, or owned, nor is it something that belongs only to "traditional" past. Knowledge is living, dynamic, active, and fundamentally about our connections to each other and our world" (p. 2). In this study, IK is conceptualized as embodied, implicit, encompassing both processes and practices, and embedded in the place and social habitus of the people of Chinduzi village.

Indigenous knowledge in relation to sustainability.

It can be argued that sustainability has been an inseparable practice of Indigenous cultures. As Mebratu (1998) asserts, "traditional wisdom has much to offer in terms of living in harmony with nature and society … [and] this is one of the fundamental tenets of the concept of sustainability" (p. 498). The Brundtland Report was among the first international reports to recognize the sustainable ways of life of Indigenous and tribal communities and hence their role in sustainability (WCED, 1987). Although not explicitly stated, the Tbilisi principles for EE have embedded perspectives that call for the recognition of learners' diverse sociocultural backgrounds and historical contexts (UNESCO, 1978). Other international instruments that refer to the significance of IK include the UN Declaration of the Rights of Indigenous People (UNDRIP, 2008), the UN Permanent Forum on Indigenous peoples, Agenda 21 of the United Nations Conference

on Environment and Development (UNCED, 1992), the UN Decade of Education for Sustainable Development (UNESCO, 2008; Wals, 2009), and the Convention on Biological Diversity. They all call for the recognition and preservation of IK and its incorporation into resource management practices, development projects, and other policies.

Many scholars suggest the use of both Indigenous and Western knowledge systems to achieve sustainability. For example, Elabor-Idemudia (2002) posits:

With poverty, instability and environmental degradation on the increase in the wake of contemporary development strategies in most Third World countries, it is becoming increasingly clear that externally devised Eurocentric strategies for economic growth have failed to support sustainable development. This is because the strategies have often not taken the Indigenous knowledge of the people that has ensured their survival for thousands of years. (p. 239)

She proposes an alternative vision to look beyond the confines of industrialised societies to how other cultures conceptualize their environments and sustainability. Similarly, Wilkinson, Clark, and Burch (2007) affirm that neither local knowledge nor Western scientific knowledge alone is sufficient to achieve sustainability: rather these two should complement each other.

Indeed, researchers are calling for more research into the viability of IK as a potential tool in sustainability and sustainable development (Breidlid, 2009; Corsiglia & Snively, 1997; Elabor-Idemudia, 2002; Odora Hoppers, 2002; Settee, 2007; Shiva, 2000, 2005). Odora Hoppers (2002) asserts that "a major threat to the sustainability of natural resources is the erosion of people's Indigenous knowledge, and the basic reason for this

erosion is the low value attached to it" (p. 7). She suggests that Indigenous knowledge systems have to be repositioned not just as "sources of information" meant for extraction, but as "authorities in an epistemological domain that have been purposefully kept subjugated" (p. 20). She further warns that the IK necessary to sustainably manage the earth's natural resources is under even greater threat of being lost than the loss of natural resources themselves. This erosion of IK not only has devastating social, cultural, and linguistic losses, but also brings with it species loss and environmental degradation. Similarly, Escobar (1995) affirms that "saving nature" demands the valuation of local knowledges for sustaining nature.

While Indigenous knowledge is important and needs a legitimate platform in education and environmental education policy and practice, scholars caution against romanticising it because it has shortcomings. For example, it is argued that IK is not always correct and functional; therefore, to effectively function within the contemporary practices and social reality, it has to be modified and adapted (Mwadime, 1999). Furthermore, although IK's traditional methods of inquiry have the potential to add value to the existing research approach, these methods might not be able to produce generalizable knowledge that can advance disciplinary knowledge (Abdulla & Stringer, 1999). While lack of generazability of IK is considered a shortcoming on one hand, it is a strength on the other hand. Because IK is contextual and place-specific, this makes it a potential tool for creating culturally appropriate and environmentally viable and relevant learning opportunities. There are also concerns surrounding collecting, recording, documenting, and using IK in policy, planning, and programming (Mwadime, 1999).

Others have raised concerns related to the epistemology and practices of IK. As Dei,

Hall, and Rosenberg (2000) question:

> How do we make sense of cognitive processes/categories of local people?
>
> How do we deal with questions of access, control, and ownership of
>
> knowledge? How do we protect local knowledges from systematization
>
> and commodification, and from being swallowed up by corporate material
>
> interests? How do we preserve indigenous knowledges? ... How do we
>
> deal with the tensions regarding 'whose' culture[s], traditions, norms, and
>
> social values are to be conveyed in indigenous knowledge systems? (p. 6)

Additionally, while Indigenous knowledge is acknowledged as contributing to

environmental sustainability, the role of globalization in terms of free trade agreements

such as the New Partnership for Africa's Development (NEPAD)[8], might impact IK in

negative ways. With free trade agreements, countries are modifying their social and

cultural systems in order to "benefit" their nations. Such processes might result in IK

being lost or treated as token, and/or being appropriated. For example, although the

formal primary education system in Malawi priorities IK, this is mostly at a token level

(Phiri, 2008). I describe this point in detail in the next section (Colonization of Africa).

Furthermore, Breidlid (2009) talks of how the South African government prioritises IK

for *development economic* purposes. Breidlid continues by arguing that policy documents

link ideas such as *competitiveness* and *economic growth* to Indigenous knowledge

systems, emphasizing the "need" for creating incentive mechanisms that propel African

IK systems toward economic growth rather than environmental protection. This study

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[8] NEPAD is a strategic framework adopted by African leaders to address poverty and "underdevelopment" throughout the African continent (Mayiki, 2010)

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acknowledges this complexity. Although the focus of the research was the local Chinduzi community, the implications of such broader conditions inform the study framework. Despite these complexities, the role of IKS in moving toward sustainability is not disputed.

Postcolonial Education

Due to the on-going impacts of colonialism, particularly on the Malawian formal education system, this study draws upon literature and research done on postcolonial theory. Using postcolonial theory as a frame of analysis opens up spaces for environmental education, and education more broadly, in Malawi to be grounded in the ancient African traditions of *uMunthu* and *Sankofa*.

This section of the literature review has two parts. I begin with a brief overview of the history of colonization in Africa and its various impacts on education. This overview is followed by a discussion of postcolonial theory and how it counters hegemonic discourses.

The colonization of Africa.

In the late 1880s, a number of European countries began to colonize Africa. The creation of colonies by Belgium, Britain, France, Germany, Italy, Portugal and Spain was driven by the nations' desires to build national prestige, as well as take control of the people, land, and resources which could bring them profit (Adu Boahen et al., 1971; Hallam & Prescott, 1999; Mungazi, 1991). Although humanitarian intentions were often stated, and were possibly true for many of the missionaries and early settlers, Curtin (2005) observes that at the core of the interest was an imperialistic agenda of accessing the resources of the colonies. In 1888, these seven European countries met in Berlin,

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Germany, at what became known as the *Berlin Conference*, to discuss how to divide

Africa among themselves (Hallam & Prescott, 1999; Phiri, D, 2004). All but two

countries in Africa (Ethiopia and Liberia) were colonized by these seven countries.

According to Ngoh (1995), the partition was done with little or no consideration to the

preservation of ethnic, social, religious, cultural or political unity of the effected regions

and peoples.

Today, globalization[9] can be understood as an extension of this earlier

colonialism. It is a form of neocolonialism, as Western nations continue to impose their

economic and cultural standards on so-called "developing" countries (Abdi, 2006; Curtin,

2005; Kim, 2010; Lunga, 2008; Osai, 2010; Pashby, 2012). For instance, in his inaugural

address in 1949, President Harry Truman announced a new American vision for the

world after the war. He called on America to bring about "a major turning point in the

long history of the human race" (para. 5) and "*develop*" the third world. As he stated:

"we must embark on a bold new program for making the benefits of our scientific

advances and industrial progress available for the improvement and growth of

underdeveloped areas" (para. 45, emphasis added). While this might have been well-

meaning, it carries a connotation that America is the standard everyone has to aspire to or

be measured against; it implies that America is at the centre and what passes as

"development" is determined through that lens. People in underdeveloped areas are

construed as objects of elite benevolence, rather than seen for their own unique

worldviews, interests, cultures, and passions. Aid given to developing countries to

improve and grow has been conditional and delivered through the goals, perspectives and

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[9] The Levin Institute (2011) defines globalization as "a process of interaction and integration among the people, companies, and governments of different nations, a process driven by international trade and investment and aided by information technology."

values of the donors. For instance, funding agencies and organizations such as the World

Bank, the International Monetary Fund (IMF), and the Organization for Economic

Cooperation and Development (OECD) have introduced and demanded the

implementation of economic structural adjustment policies, such as reducing resources

allocated to education which in turn affects the quality of education (Ndoye, 1997) and

elimination of subsidies to agriculture which increases fertilizer prices making them

beyond the reach of most farmers (Cleary, 1989).

Even aid that is meant for humanitarian support has strings attached. For example,

in 2005, through President George W. Bush's Emergency Plan for AIDS Relief

(PEPFAR), the United States pledged US$15 billion over five years to fight AIDS. The

conditions attached to this aid required that two thirds of the money had to go to

programs promoting abstinence and would not be available to any organizations with

clinics that offered abortion services or even counselling. These and many other aid

policies can be considered neocolonial because they reflect old colonial practices.

Indeed, colonialism did not end with the raising of national flags: it is still

present, only in a different form. Colonialism and its modern-day derivative,

globalization, have impacted colonised nations in many different respects, including in

areas such as law, policy, governance, agriculture, and education, as well as various other

institutions and practices. In what follows, I briefly discuss the impacts of colonialism on

colonised people, particularly in southern Africa.

Colonization of the Indigenous mind.

In his book, *Orientalism*, Said (1978) examines how the knowledge that Western imperial powers[10] historically formed about their colonies helped to continually justify the subjugation of the Indigenous peoples of those colonies. According to Said, this knowledge was created based on the accepted norm(s) of a powerful group of Western countries. He suggests that colonizers viewed the colonized through a lens that created a sense of "othering." This "othering" was hierarchical and dualistic (e.g., superior/inferior, civilized/savage, ruler/the ruled, developed/developing, scientific/magical) so that colonies were viewed as needing the West's "betterment," thus justifying the act of colonization. Indigenous peoples were viewed as inadequate in the eyes of the colonizers, and their knowledge and practices were regarded as barbaric, uncivilized, and inferior (Breidlid, 2013; Mapara, 2009; Mulenga, 2001; Neluvhalani, 2007; O'Donoghue & Neluvhalani, 2002; Semali & Kincheloe, 1999). For example, in the writings of 18th and 19th century anthropologists, Africans are portrayed as "brutish, ignorant, idle, crafty, treacherous, bloody, thievish, mistrustful, and superstitious" (cited in Biakolo, 1998, p. 2). Some scholars have argued that such descriptions were used to differentiate Africans from the colonizers, whereby marking the colonized as "radically different" (Mudimbe, 1994, p. 28) helped justify their subjugation.

Such oppressive colonial views impacted Indigenous peoples through not only the conquering of their territorial space, but also of their epistemologies. As Yeoh (2003) writes, the colonial project has "systematically colonized indigenous epistemological spaces, reconstituting and replacing these using a wide corpus of colonial knowledge,

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[10] "Western imperial powers" refer to European countries that had colonies in many parts of the world.

policies and frameworks. With decolonization, ex-colonies have regained (sometimes partial) political territory, but seldom the epistemological space" (p. 370). Others have pointed out that the worst crime of colonialism was to make Africans believe that they had no Indigenous culture of their own, or that African culture was worthless and something of which to be ashamed (Mulenga, 2001; Nyerere, 1967).

As a result of decades of mistreatment and racism, many Indigenous populations across Africa and around the globe came to see themselves as subordinates. They began to believe and accept that their ways of being and knowing were inferior and that their knowledge and capabilities were of lesser value than that of the colonizers. This attitude continues today. For example, Masuku Van Damme and Neluvhalani (2004) provide an example from southern Africa whereby, as "modern" ways are installed into Indigenous communities, long-held communal knowledge is being undermined by Indigenous peoples. They posit:

> We now seem to have (paradoxically and ironically) become active
>
> participants in the subjugation of our own local ways of knowing as we
>
> participate in 'transformative' post-colonial/post-apartheid processes of
>
> educational and social reform in broader modernizing and globalizing
>
> contexts. (p. 356)

They argue that this is because Africa (and other formally colonized parts of the world) is bestriding discourses of colonialism, post-colonialism, and neocolonialism that are embedded in globalization. Similarly, in a study on the use of wild food plants by rural communities in the Eastern Cape of South Africa, Shava (2005) observed that the use of such plants in the study area declined because of the stigma attached to wild food plants

as "primitive" and "food for the poor." This, Shava argues, is due to the influence of Western education, urbanisation, modernization, and the media. Another poignant example of what can be considered "internalized colonization" is from an interview response from an Elder in rural Kenya:

> What could you learn from me, an old woman like me with no education?
> I cannot speak English . . . What do I know except to hold my hoe . . . I
> am sure you have not come all this way to learn about that. (Wane, 2000,
> p. 54)

Although traditionally most Africans believe that one gains wisdom and knowledge with age and in relation to traditional and community-based practices, it appears this Elder does not feel knowledgeable because she does not have "formal" education. These views of being inferior are problematic, as they are leading to not only a negative sense of self but a loss in culture.

Apart from subjugating their own knowledge and practices, historically colonized people have not been given the freedom to speak, but rather have been spoken for. As Spivak (2006) has indicated, the gendered subaltern cannot make her voice heard because she is never empowered to do so: her voice is always mediated and appropriated by others. Spivak also says, if the subaltern is able to speak, it is only because she is no longer subaltern. In discussing the academic engagement with the "other," bell hooks (1990) argues that according to the perceived view in Western knowledge, a true explanation can only come from the expertise of the Western academic. Thus, the subordinated subject needs to give her knowledge to the Western academic:

No need to hear your voice when I can talk about you better than you can

speak about yourself...Only tell me about your pain. I want to know your

story. And then I will tell it back to you in a new way. Tell it back to you

in a way that it has become mine, my own. Re-writing you, I write myself

anew. I am still the author, authority. I am still the coloniser, the speak

subject, and you are now the centre of my talk. (pp. 151-152)

Additionally, colonialism tried to control the memories of the colonized. As Ngugi wa

Thiong'o (2009) explains:

The colonizing presence sought to induce a historical amnesia on the

colonized by mutilating the memory of the colonized; and where that

failed, it dismembered it, and then tried to re-member it to the colonizer's

memory—to his way of defining the world, including his take on the

nature of the relations between colonizer and colonized…The ultimate

goal was to establish psychic dominance on the part of the colonizer and

psychic subservience on the part of the colonized. (p. 88)

Indeed, colonization goes beyond territorial conquest, affecting people's minds, their

worldviews and perceptions. These impacts are ongoing through the current contexts of

globalization (Abdi, 2006; Curtin, 2005; Epstein, 2009; Pashby, 2012).

Colonialism and education.

The introduction of formal Westernized education was one of the ways through

which the impacts of colonialism, as discussed above, were perpetuated in serious ways

(e.g., Abdi, 2005, 2011; wa Thiong'o, 1986, 1993, 2005, 2009). As Ngugi wa Thiong'o

(1986) asserts, historically, the process of colonial education annihilated people's beliefs

in their names, languages, environment, heritage of struggle, unity, capacities, and ultimately, themselves. He observes that the lack of congruency between colonial education and African reality created, and continues to create, people abstracted from their own reality:

> Education, far from giving people the confidence in their reality and capacities to overcome obstacles . . . tends to make them feel their inadequacies, their weakness and their capacities in the face of reality; and their inability to do anything about the conditions governing their lives. (p. 56)

Instead of empowering people to believe in their capacities, education appears to expose their shortfalls.

The review focuses on three impacts of colonial education, including: introduction of an individualistic value system, introduction of *appropriate* learning settings, and creation of a subservient society.

Colonial education undermined traditional societies by introducing an individualistic, Western value system that was alien to African communal customs (Busia, 1964 & Rwomire, 1998). In contrast to Western education, pre-colonial traditional African education was contextual and closely linked with social life (Abdi, 2005; Rodney, 1982). Children learned from Elders through observation, imitation, stories, and folktales, while Elders were respected for their wisdom, knowledge of community affairs, and closeness to the ancestors (Abdi, 2005; Franck, 1960; Lamba, 2010; Ocitti, 1973; Phiri, 2009). Rodney (1982) summarizes the advantages of Indigenous African education in this way:

The following features of indigenous African education can be considered

outstanding: its close links with social life, both in a material and spiritual

sense; its collective nature; its many-sidedness, and its progressive

development in conformity with successive stages of physical, emotional

and mental development of the child. There was no separation of education

and the productive activity. Altogether, through mainly informal means,

pre-colonial African education matched the realities of pre-colonial

African society and produced well-rounded personalities to fit into that

society. (p.239)

It can be argued that traditional African education exhibited the characteristics as

described by Rodney, because it operated within an encompassing African humanism

(Bell, 2002). The concept of African humanism is rooted in lived dependencies and

traditional values of mutual respect for one's fellow kinsmen, and it is embedded in the

sub-Saharan African worldview of *Ubuntu* (or *uMunthu* in the Chewa language of

Malawi). *uMunthu* entails humaneness, care, understanding, and empathy. It is grounded

in the interconnectedness of beings, values the contributions of others, and emphasizes

reciprocity and responsibility (Musopole, 1994; Sindima, 1990, 1995; Tutu, 1999).

Colonial education on the other hand, introduced a Western value system which was in

opposition to the *uMunthu* world view because, in the West, human identity was defined

through rationalistic and individualistic approaches. Whereas the Western view could be

captured in the Cartesian mantra, "I think, therefore I am," *uMunthu* asserts, "I am

because we are, and because we are, therefore, I am" (Mbiti, 1969, p. 108). Tutu (1999)

explains the notion of *Ubuntu* in this way:

Ubuntu is very difficult to render into a Western language. It speaks to the very essence of being human. When you want to give high praise to someone we say, '*Yu, u Nobuntu*'; he or she has *Ubuntu*. This means that they are generous, hospitable, friendly, caring and compassionate. They share what they have. It also means that my humanity is caught up, is inextricably bound up, in theirs. We belong in a bundle of life. We say, 'a person is a person through other people' (in Xhosa *Ubuntu ungamntu ngabanye abantu* and in Zulu *Umuntu ngumuntu ngabanye*). I am human because I belong, I participate, and I share. A person with *Ubuntu* is open and available to others, affirming of others, does not feel threatened that others are able and good; for he or she has a proper self-assurance that comes with knowing that he or she belongs in a greater whole and is diminished when others are humiliated or diminished, when others are tortured or oppressed, or treated as if they were less than who they are. (pp. 34-35)

This notion of *uMunthu* is a common concept to most Africans in the sub-Saharan region and is found in proverbs from many communities (Musopole, 1994; Sindima, 1990, 1995; Tutu, 1999; Sharra, 2007; Swanson, 2009). For instance, in the Chewa communities in Malawi, children learn the concept through such wise sayings as "*kali kokha nkanyama, tili awiri ntiwanthu*" (when one is on their own, they are as good as a wild animal, however; when they are two, they form a community). Although it appears that *uMunthu* enforces conformity and not individuality, Sindima (1990) offers an explanation that *uMunthu* allows development of human capacities and individuality

without encouraging individualism which promotes "competition and self-interest" (p. 200). Similarly, Sharra (2007) argues that *uMunthu* recognizes one's individuality as it relates to that of others. Hence, "individuals are free to pursue their individual interests and preferences, as long as they are mindful of the interests of others at the communal level" (p. 115).

Additionally, others may argue that the description of *uMunthu* suggests it to be anthropocentric because it focuses on human beings; however, this study follows scholars who attest that *Ubuntu/uMunthu* is part of nature (Le Grange 2011, 2012; Murove, 2009; Opuku, 1993; Ramose, 2009; Sindima, 1995). Sindima (1995) observes that because the African universe is based on the totality of life, the meaning of life cannot be seen apart from nature because "nature plays an important role in the process of human growth by providing all that is necessary, food, air, sunlight, and other things. This means that nature and persons are one, woven by creation into one texture or fabric of life" (p. 126). Le Grange's work on this topic (2011, 2012) is useful here; to appreciate the ecological leanings of the concept of *Ubuntu*, he proposes linking it to a broader concept of *ukama* which means relatedness to the cosmos. He argues that *Ubuntu* is "an ecosophy that connects Guattari's (2001) three ecologies; self, social and nature—self, the social and nature are inextricably bound up with one another" (2012, p. 334). Thus *uMunthu*'s interdependence and community involve not only human networks but the natural world as well.

As described above, an important aspect of *uMunthu* is that it emphasises community, unfortunately this notion was threatened by colonial education. According to Kanu (2007), Western schooling promotes the individualistic value of distinguishing

oneself from others and claiming one's autonomy to affirm one's basic originality. He argues that such notions "have left students with the belief that their originality and full potential can only be developed through the rejection of communal values such as interdependence, cooperation, and social responsibility" (p. 76).

Apart from introducing an individualistic value system, colonial education brought in a different concept on where learning had to occur. For example, in Malawi, colonial education was mainly influenced and dominated by the activities of the Scottish Christian missionaries (Banda, 1980; Heyneman, 1972; Lamba, 2010; Sindima, 1990) and they established school buildings and declared that learning had to be done in a classroom (Heyneman, 1972). Later, they introduced written English in African primary schools in the third year, while oral English started even earlier (Lamba, 2010). As time went by, boarding schools were also established. These were regarded as a progressive feature of African education that promoted an enabling atmosphere for learning:

> Besides, the boarding school in Africa is an attempt to provide for the
> African that general world of ideas in which the *English* child lives by the
> mere fact of being in a country where literature, the newspapers and
> ordinary conversation assume such ideas. (Murray, 1967, cited in Lamba,
> 2010, p. 21, emphasis added)

Although such settings separated students from relating to their community life and needs, many Africans cherished boarding schools because they believed children would receive better education within such a system (Lamba, 2010). Such points of view could be attributed to the effect of colonization on the Indigenous mind as discussed earlier.

Additionally, the colonial education was aimed at creating a subservient society to meet the demands of colonial power. For example, writing on the education of Africans during the colonial period in Malawi, Lamba (2010) asserts that the education model was aimed at "exploitative production as well as literacy necessary for Bible-reading just enough for the creation of a docile society amenable to the demands of colonial survival" (p. 9). Mungazi and Walker (1997) make similar observations about colonial education in Zimbabwe. They quote Ethel Tawse Jollie (1874-1950), one of very few women in the colonial legislature in Zimbabwe; during a debate in 1927, she argued that Africans needed to be educated differently:

> We do not intend to hand over this country to the Natives, or to admit them
>
> to the same political and social position as we ourselves enjoy. Let us
>
> therefore make no pretence of educating them in the same way we educate
>
> Whites. (cited in Mungazi & Walker, 1997, pp. 36-37)

By confining education for Africans to only primary levels, the Christian missionaries and the colonial government in Malawi ensured that Africans got just enough education to enable them read the Bible (Banda, 1982; Lamba, 2010). In addition, they did not build a secondary school for Africans until 1941, although Malawi had become a British protectorate in 1891. It is argued that the colonial governments in Africa feared that a good academic education for Africans would enable them to acquire the essential elements of critical thinking, thereby enabling them to question the structure of colonial society (Lamba, 2010; Mungazi, 1991).

Although all African countries have been independent for several decades, many critics argue not only that their national formal education systems retain colonial

ideologies and methods of teaching and learning, but also that their governments have not made significant progress to (re)indigenize their education systems (Abdi, 2005, 2011; Breidlid, 2009, 2013; Mkosi, 2005; Musopole, 1994; Ntuli, 2002; Shizha, 2005). Shizha describes contemporary formal education in many African countries in this way:

> Since independence, there has been little significant shift from Eurocentric definitions of official knowledge and school pedagogy . . . . The content of school curriculum, and the language of instruction . . . continues to mirror those of the metropolitan powers of the West or North. It still perpetuates psychological colonization by making Africans emulate Europeans. (p. 71)

Ntuli (2002) makes similar observations, particularly with regards to Indigenous knowledge. He asserts:

> Our education system seems to move farther and farther away from indigenous knowledge. There is no attempt at any level to examine the indigenous knowledge systems awareness of the essential interrelatedness of all phenomena—physical, biological, psychological, social and cultural. (pp. 64–65)

Although this appears to paint a bleak picture of African formal education systems, it is encouraging to note that most countries have set targets toward indigenizing their systems (e.g., Breidlid, 2009; Glasson, Mhango, Phiri, & Lanier, 2010; Glasson, Frykholm, Mhango, & Phiri, 2006; Masuku Van Damme & Neluvhalani, 2004; Mueller & Bentley, 2009; O'Donoghue & Neluvhalani, 2002; Phiri, 2008; Shava, 2005, 2008).

However, the outcome of the indigenizing process cannot be characterized as unproblematic. For example, in Malawi there are challenges of both quantity and quality of Indigenous knowledge in the curriculum. The Malawi government has taken steps toward indigenizing the primary school curriculum through the newly reformed Primary Curriculum and Assessment Reform (PCAR), in which the use of Indigenous knowledge is encouraged in learning areas (MOEST, 2008; MIE, 2008 a, b, c, d, e). However, Phiri (2008) found that the Indigenous knowledge included in the science technology curriculum primarily focuses on autochthonous technology (e.g., drums as technology for sending messages, bow and arrow as technological innovations) leaving out all other local knowledge relevant to science. Here the quantity of Indigenous knowledge could have been improved by including more relevant local knowledge to enrich the curriculum instead of focusing only on the technology-related knowledge. According to Phiri (2008), such representation of the knowledge of our ancestors "might mean that Malawian educators do not fully accept the value of all other forms of indigenous knowledge except technologies or that curriculum developers are not well informed about the value for [of] bringing indigenous knowledge in the science curriculum" (p. 138).

Furthermore, in terms of the quality of Indigenous knowledge represented in the curriculum, Phiri's study revealed that only negative aspects of taboos concerning food are included in the curriculum. Teachers in the study taught food taboos as specified in the curriculum (i.e., discouraged them because they deprive people of nutrition), and did not address the origins of the taboos and discuss the cultural issues that relate to science beyond what is presented in the curriculum. As an example, the inclusion of only negative aspects of taboos may be viewed as perpetuating the subjugation of Indigenous

knowledge. In a recent study on the same science curriculum in Malawi, Glasson et al. (2010) talk of how the Eurocentric scientific concepts taught in schools are often decontextualized from the local culture. They posit, "Presently, Eurocentric science has the power and influence in the school science curriculum but is largely irrelevant to most Malawian villagers" (p.138). This is an area where the curriculum could make use of the relevant and appropriate Indigenous knowledge found in the communities to enrich the curriculum.

In addition, an analysis of the Malawian social and environmental studies curriculum reveals that the Indigenous knowledge content is primarily focused on cultural practices, such as initiation ceremonies, marriage systems, and traditional dances (MIE, 2008 c, d, e), whereas it is conspicuously absent in topics such as environment, forestry, farming and soil erosion. This is a quantity issue: Inclusion of autochthonous knowledge on such topics would make the curriculum more relevant and relatable to students. Furthermore, that Indigenous knowledge is excluded in such topics leads some to believe that its inclusion in the curriculum is only token and not authentic. As with elsewhere, the Malawian education system has pushed local traditional ways away from the fore, so that students learn to devalue the knowledge and practice of their ancestors from a young age, while embracing a dominant Western account of meanings and worldviews (Jegede & Aikenhead, 1999).

In order to develop an explanation for the limited indigenization of curricula in Malawi as described above, it is helpful to look at the context through which the indigenization project was undertaken. According to Phiri (2008), the curriculum review (which included issues of indigenization) in Malawi was influenced by consultants from

South Africa, Kenya, and Zambia, who had revised their curricula in similar ways. It is worth noting that the South African curriculum is "modelled on a Western discourse, depending heavily on different international contexts, especially from New Zealand and Australia" (DoE, 1995 cited in Breidlid, 2009). The Malawian curriculum developers were unfamiliar with the background of some of the ideas pertaining to indigenizing the curricula in those countries, but still they adopted the consultants' recommendations without considering their historical, political, and socio-economic contexts.

The point of including Indigenous knowledge in the curriculum needs clarification. I am not suggesting including all forms of Indigenous knowledge systems that are in communities, but rather taking a critical look at IKS that may have been effective for earlier purposes and re-appropriate them in new and imaginative ways to serve today's purposes. Indeed, Indigenous knowledge systems are not static and boxed in the past; rather they are dynamic, contextual in nature, and dependent on the culture, place, tradition, history, and geographical position of a given community of peoples.

Similar to Malawi's experiences with their curriculum redevelopment, South Africa also had issues pertaining to the exclusion of Indigenous knowledge. In a study by Breidlid (2009) examining the relationship among culture, Indigenous knowledge systems, sustainable development, and education in Africa, he critically analyzes the concept of sustainability with particular reference to education and Indigenous knowledge systems. He analyzes documents from the 2002 World Summit, the United Nations Decade of Education for Sustainable Development, as well as the new South African Curriculum 2005. His analysis of the UN documents reveals that they describe education's role in sustainable development as predominantly based on Western

epistemology. For example, Breidlid speaks of the exclusion of Indigenous knowledge in UNESCO's Media as Partners in Education for Sustainable Development manual, despite scholars claiming that IK is, in fact, critical to achieving sustainability (Breidlid, 2009; Corsiglia & Snively, 1997; Elabor-Idemudia, 2002; Mebratu, 1998; Odora Hoppers, 2002; Senanayake, 2011; Settee, 2007; Shiva, 2000, 2005). All this, Breidlid argues, is logical though surprising; it "only underlines the hegemonic role of the present, Western, modernist notion of education even though its basic principles and ideological foundation are problematic in terms [of] ecological sustainability and cultural and epistemological sensitivity" (p. 143). Although the new South African curriculum is supposed to include Indigenous knowledge systems and sustainable development (Breidlid, 2009; Le Grange, 2007), Breidlid's analysis reveals that, not only are Indigenous knowledge and sustainable development lacking in the curriculum, but the language used is inherently Western:

> Concepts like "critical and creative thinking," "organise and manage themselves . . . responsibly and effectively," "critically evaluate information," "use science and technology effectively," "problem solving contexts do not exist in isolation" (DoE, 1997a, p. 10) are familiar to anyone with some knowledge of curricula from the North (p. 144).

African Indigenous knowledge systems are oriented toward economic growth rather than environmental protection (Breidlid, 2009). Indeed, even though sustainability as a concept seeks to emphasize the interconnectedness of life and the need to maintain an ethical balance among the forces of economics, society, and ecology, there is no doubt that economic imperatives seem to take precedence.

Through tracing these educational influences, it becomes evident how colonialism remains present in many education systems in sub-Saharan Africa. As such, it is imperative for researchers to engage with critical, counter-hegemonic approaches, such as postcolonial theory, in order that Indigenous knowledge and practices are not undermined by Western, colonial paradigms.

Postcolonial directions.

Because the effects of colonialism on education are ongoing, many African scholars are engaging with counter-hegemonic strategies including postcolonial theory in order to articulate and counter this continued impact. Such approaches reverse power and knowledge relations, decentre hegemonic practices, and reposition Indigenous knowledges more centrally in formal education and development contexts. It is in the footsteps of these scholars that this study is treading. What follows is a brief overview of postcolonial theory, including its origin and characteristics.

Postcolonial theory was initiated out of literary studies and in relation to critiques of colonialism (Bhabha, 1994; Said, 1978; Spivak, 2006; wa Thiong'o, 1986). It takes as its focus the rethinking of the conceptual, institutional, cultural, legal, and other boundaries that are taken for granted and assumed to be universal, but have their origins in Western ideologies and act as structural barriers. Ngugi wa Thiong'o (1986) calls for "decolonising the mind"—changing minds, both of subjugated people and dominant groups, to challenge dominant Western ways of seeing. However, according to the frame of this study, it is not only the "mind" that needs to be decolonized, but also the related embodied and institutional practices. For progressive and lasting change to be achieved,

we all need to refuse the dominant languages and practices of power that have divided us into superior and inferior, ruler and the ruled, and developed and developing.

Postcolonial perspectives demand that we place at centre stage the continuing implications of Europe's expansion into Africa, Asia, Australasia, and the Americas from the 15th century onwards, not only as a means to understand the subsequent histories of these parts of the world, but as a defining development in European history and of modernity itself (Crossley & Tickly, 2004). Postcolonial work provides a framework that decentres dominant discourses to allow for a multiplicity of centres, creating space for disenfranchised and marginalised groups to speak and produce alternatives to dominant discourse (Bhabha, 1994; Spivak, 2006; wa Thiong'o, 1986, 1993, 2005). Indeed, postcolonial theory entertains and strengthens multiple voices. According to Lunga (2008), postcolonial theory has an aversion to stable identities, origins, absolutes, and either-or paradigms; instead, power, resistance, and identities are conceptualized as contingent, unstable, contradictory and/or always in process. Postcolonialism calls for the unlearning of white privilege and deficit thinking in both national and global contexts (Lavia, 2007; Leonardo, 2005; Subedi & Daza, 2008; Taylor, Gilborn & Ladson-Billings, 2009).

It is important to note that postcolonial thought is not only about "criticism and deconstruction of colonization and domination but also about the reconstruction and transformation including liberation from colonial imposition" (Battiste, 2004, p. 2). As such, it also represents aspirations, "a hope, not yet achieved" (Battiste, 2004, p. 1). The West African concept of *Sankofa* is useful here. Literally translated, *Sankofa* means 'it is not wrong to go back and fetch what you forgot.' *Sankofa* education has been used by

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Tedla (1995) in her call for a new form of African education. She describes this form of education as being rooted in the positive aspects of Indigenous thought and education while borrowing ideas and technologies from other peoples of the world. The notion of *Sankofa* teaches us that we must go back to our roots in order to move forward. We should reach back and gather the best of what our past has to teach us so that we can achieve our full potential as we move forward. Whatever we have lost, forgotten, forgone, or been stripped of, can be reclaimed, revived, preserved, and perpetuated (Tedla, 1995).

In addition, a postcolonial perspective is highly mobile and contested, with porous boundaries, and cannot be considered a single position (Ashcroft, Griffiths, & Tiffin, 2006; Kapoor, 2008; King, 2003). This characterization has been argued as advantageous in that, part of the strength of postcolonialism is in its "messiness" surrounded by heated contestations that enable movement and change (Huggan, 2006; Lopez, 2001). Yeoh (2003) advises to take advantage of the "shape-shifting instability of the concept" (p. 370) and to strategically and critically mine the variegated terrain for insights and impulses:

> It is by encouraging multiple points of entry into the discourse and the presence and participation of a wider range of subjects, scholars and activists that one may hope to chisel at the edges of this epistemological empire and carry the ground away from the current western-centric loci of its imagining. (p. 369)

To avoid becoming a master narrative itself, postcolonial discourse is self-reflexive and always questioning its own assumptions (Lunga, 2008).

Postcolonial theory warns against universalizing notions of history, culture, and experiences—thereby critiquing any monolithic understanding of culture and identity (Minh-ha, 1991). Instead, it celebrates the interstitial "in-between-ness" of culture and identity, valorizing spaces of mixing; spaces wherein truth and authenticity move aside and make room for ambiguity. This space of "hybridity," Bhabha (1994) argues, offers the most profound challenge to colonialism. Bhabha calls this a "third space" (p. 36), where conventional thinking between and across cultures is disturbed, and Western perspectives are not allowed to be used as standard for non-Western "traditions" (Kapoor, 2008). This concept of hybridity challenges the validity and authenticity of any essentialist identity. As Bhabha says, "all forms of culture are continually in a process of hybridity" (cited in Rutherford, 1990, p. 211). Rutherford (1990) writes, "For me the importance of hybridity is not to be able to trace two original moments from which the third emerges, rather hybridity to me is the 'Third Space,' which enables other positions to emerge" (p. 211). Thus, the third space is a mode of articulation, a way of describing a productive, and not merely reflective, space that engenders new possibility. Despite the exposure of the third space to contradictions and ambiguities, it provides a "spatial politics of inclusion rather than exclusion" that "initiates new signs of identity and innovative sites of collaboration and contestation" (Bhabha, 1994, p. 1). Bhabha (1996) posits that the hybrid third space has embedded within it a counter-hegemonic agency. At the point at which the colonizer presents a normalising, hegemonic practice, the hybrid strategy opens up a third space for new articulation of negotiation and meaning (Bhabha, 1996).

In the hybrid third space, people may better be able to deliberately and critically engage with difficult issues surrounding power and oppression in (post)colonial contexts. While locally produced knowledge and practices originating from cultural history, daily experiences, and social interactions are recognized and acknowledged, arriving at a third space through a postcolonial framework does not propagate a total "return" to pre-Western practices. Such framing recognizes contemporary realities and the hybrid nature of current local practices.

Although it is argued that the notion of hybridity challenges the idea of essentialism as described above, some postcolonial scholars have questioned the value, and even accuracy, of a rigid opposition to essentialism, or claims to shared identity. For example, Spivak argues that "[e]ssentialism is like dynamite, or a powerful drug: judiciously applied, it can be effective in dismantling unwanted structures or alleviating suffering; uncritically employed, however, it is destructive and addictive" (cited in Kilburn, 1996). She advocates for what she calls "strategic use of essentialism," (Spivak, 1993, p. 5). Indigenous groups increasingly employ such strategic essentialism as they assert their identity, sovereignty, even their primacy in a given location, as well as resisting oppression and subjugation (Davis, 2011; Weaver, 2000).

Bringing postcolonial perspectives to bear on questions of education and sustainability in formerly colonized locations, such as Malawi, enables new frames, questions, and directions to be explored.

Chapter Summary

The focus of this study is to explore how environmental sustainability is taken up in the forms of knowledge and practice (both Indigenous and non-Indigenous) embedded

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in the local culture of Chinduzi village. Therefore, this chapter reviewed relevant literature in the areas of: sustainability, Indigenous knowledge systems and postcolonial theory. The review completed in these areas reveals the significant role of IK in achieving environmental sustainability (Breidlid, 2009; Corsiglia & Snively, 1997; Elabor-Idemudia, 2002; Mebratu, 1998; Odora Hoppers, 2002; Senanayake, 2011; Settee, 2007; Shiva, 2000, 2005; UNCED, 1992; UNDRIP, 2008; UNESCO, 1978, 2008; Wals, 2009; WCED, 1987; Wilkinson et al, 2007). The review has also shown that, because of globalization as a form of neocolonialism (Abdi, 2006; Curtin, 2005; Kim, 2010; Lunga, 2008; Osai, 2010; Pashby, 2012), the impact of colonialism in education is still present in many African countries including Malawi (Abdi, 2005, 2011; Breidlid, 2009, 2013; Mkosi, 2005; Musopole, 1994; Ntuli, 2002; Shizha, 2005). Also evident is the fact that, although many African countries have set targets to indigenize their education systems, these efforts tend to be inherently Western (Breidlid, 2009; Glasson et al, 2010). In this context, it is necessary to engage with counter-hegemonic strategies as frames of analysis to counter the impacts of neocolonialism.

After reviewing key research, it is clear that there is need for more empirical studies that use counter-hegemonic frames. This study joins scholars who frame their work in postcolonial theory. Framing the study in postcolonial theory offers the possibilities for (re)creating spaces for forms of postcolonial environmental education. Indeed, this study is not about mourning the past, rather it is about making use of history to help understand the present and thus guide the future.

CHAPTER THREE: METHODOLOGY AND PROCEDURES

The previous chapter provided an overview of relevant literature that informs the study. This chapter describes the research methodology and study design, including site and participant selection, data collection and analysis, and ethical considerations.

Description of Research Methodology

My interest in investigating how environmental sustainability is taken up in the forms of knowledge and practice (both Indigenous and non-Indigenous) has led me to research methodologies that allow for multiple perspectives, challenge dominant knowledge views, give voice to local knowledge, and focus on the relationships between culture and power (McKenzie, Kayira, & Wals, 2009). To this end, I used a Participatory Research (PR) methodology that engaged local youth in the research process and outcomes, in addition to Indigenous Research Methodologies (IRM) that were appropriate for working with local Indigenous populations (Le Grange, 2001; Smith, 1999; Wilson, 2008). The combination of these methodologies was centred on the epistemologies of the people of Chinduzi village, while the methods used were based on respect for local ways of being, reflected the appropriate cultural protocols of the area, and grounded in the *uMunthu* concept.

> **Shared characteristics of participatory research and Indigenous research methodologies.**

Participatory Research (PR) is a qualitative research methodology that is normally categorized as belonging to a critical or emancipatory research paradigm (Lather, 2004). As such, it aims to produce knowledge that is based on the research participants' roles in

setting the agendas, participating in data gathering and analysis, and controlling the use

of the outcomes (Reason, 1994). It is also grounded in the belief that marginalized

peoples can empower themselves by becoming more aware of their own resources,

increasing their problem-solving capacity, and becoming more self-reliant and less

dependent (Akom, 2009; Elabor-Idemudia, 2002; Fals Borda, 2001; Fine & Torre, 2006;

Kelly, Mock, & Tandon, 2001; Swantz, 2008). According to Kemmis and McTaggart

(2000), PR is associated with "social transformation in the Third World. It has roots in

liberation theology and neo-Marxist approaches to community development" (p. 568).

Herr and Anderson (2005) attribute PR specifically to Freire's (1970) work, who

theorized about the cultural implications of the formal pedagogies that were used in

education throughout the world, especially in Latin America and his home country of

Brazil. From Freire's work came a type of pedagogy that explored issues important to

community members. The identified issues are used as a basis for literacy instruction so

that literacy involves learning not only to read the word, but the world as well (Freire,

1970).

Many early proponents of PR (e.g., Julius Nyerere, Marja-Liisa Swantz, Orlando

Fals Borda, Rajesh Tandon, Budd Hall) criticized professional social scientists for

"mining" (Smith, 1999) communities for ideas to advance their own careers or using

research to inform decision-makers of policies and development interventions *for,* and

not *with,* the people they researched (Hall, 2005). Instead, these critics promoted the

ability of grassroots individuals to create their own knowledge and work to solve their

own problems through PR processes. As debates on PR became widely disseminated

primarily due to development discourse, by the mid 1980s, new formulations of PR came

on the scene (Tandon, 2002). Participatory action research (PAR) is an example of one of the new formulations, which Tandon (2002) describes as "an enhanced articulation of the early proposal of PR by bringing the component of action in the concept itself" (p. x).

Although PR and PAR originated from use in "developing" countries, they are normally regarded as Western (Kovach, 2009; Le Grange, 2007; Smith, 1999). Some scholars have argued that Freire's *Pedagogy of the oppressed* (1970), on which many versions of PR are grounded, is based on Western assumptions (Esteva, Stuchul, & Prakash, 2005; Teran, 2005). For example, Esteva et al., (2005) argue that Freire failed to understand the connections between critical reflection as the approach to knowledge used in PR and the promotion of a modern Western form of consciousness. Therefore, PR, in seeking to develop critical consciousness (a Western concept and practice), can be potentially considered as a form of colonization.

On the other hand, Indigenous Research Methodologies (IRM) are based upon Indigenous epistemologies and belong to an Indigenous paradigm (Chilisa, 2012; Kovach, 2009; Wilson, 2008). For example, IRM reflect Indigenous peoples' epistemologies, which are derived from local ecology; people's experiences, perceptions, thoughts, and memory, including experiences shared with others; and the spiritual world discovered in dreams, visions, inspirations, and signs interpreted with the guidance of healers or elders (Battiste, 2008c). Indeed, Indigenous epistemologies are embodied and embedded in histories and culture. Others have emphasized the critical role of research in enabling people and communities to reclaim and tell their stories in their own ways (Battiste, 2000; Beverley, 2000). Inherent in the stories are ways of knowing, deep metaphors, and motivational drivers that inspire the transformative practice which many

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Indigenous researchers identify as a powerful agent for resistance and change (Smith, 2005). For Le Grange (2001), part of Indigenous research is to tell an alternative story, to tell the history of Western research through the eyes of the colonized. These counter-stories are powerful forms of resistance, which are repeated and shared across diverse Indigenous communities (Smith, 1999).

Many Indigenous and non-Indigenous scholars have noted the congruency of PR/PAR with IRM (e.g., Brown & Strega, 2005; Fine et al., 2008; Kovach, 2005, 2009; Le Grange, 2001; Smith, 1999; Tuck, 2009; Wilson, 2001, 2008). This research draws on the research of PR and IRM scholars and works with both methodologies in a complementary manner. In what follows, I discuss the commonalities of the two methodologies focusing on their parallel goals of research, orientation to knowledge, relationships, and challenges. Through the discussion, I elucidate how I applied these methodological similarities in my study.

Social action and transformation.

The goals of PR/PAR and IRM are social action and transformation at individual, and/or institutional levels. They actively seek to challenge and change the structures and realities through which people act and make meaning. For example, in action-oriented approaches, the epistemological and ontological claims are that knowledge is co-created through research and that the goal of research is not merely to understand the world, but to "*change* it for the better" (Kindon, Pain, & Kesby, 2007, p 13; emphasis added). Knowledge for the sake of knowing is de-emphasised; instead, it is linked to concrete social action that benefits the community (Fine et al., 2008; Kemmis & McTaggart, 2005; Moore, 2004; Rigney, 1999; Smith, 1999; Tandon, 2002). Because participatory forms of

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research focus on equity and social justice issues (Akom, 2009), they can be powerful

emancipatory tools. As described by a participant in a PAR project: "PAR is one of the

most potent weapons against oppression, it offers an opportunity to gain both skills and

knowledge, to conduct an investigation that roots out both the questions and the answers

that expose injustice" (Cahill, Rios-Moore, & Threatts, 2008, p. 89). Similarly, IRM have

been described as being transformative; actively in pursuit of social and institutional

change, they create space for IK and have a critical view of power relations and

inequality (Bishop, 1998; Smith, 1999, 2005).

Doing PR/IRM research correctly should transform the individual researcher(s)

and participants. For example, Cahill (2007b) discusses how the young women in her

study transformed themselves through a PAR project. Likewise, Wilson (2008) asserts

that researchers should also be transformed throughout the research process: "*If research

doesn't change you as a person, then you haven't done it right*" (p. 135, emphasis in

original).

At an institutional level, Smith (1999) says "transforming institutional practices

and research frameworks is as significant as the carrying out of actual research

programs" (p. 140). Brown and Strega (2005) are in agreement as they posit, "we push

the edges of academic acceptability not because we want to be accepted within the

academy but in order to *transform* it" (p. 2, emphasis added). Similarly, Settee (2007)

notes: "The struggle to *change* institutional practices requires working hard to understand

and to theorize questions of knowledge, power, and experience in the academy so that

one effects pedagogical empowerment as well as *transformation"* (p. 52-53, emphasis

added). PR and IRM have the ability to transform institutions.

In this study, some transformation occurred at the individual level, with potential for institutional transformation. For example, the participating youth took an active role in determining what they would like to learn in the JFFLS program, as well as learning the research process by participating as research assistants. Likewise, I have personally changed as a result of this research: I learned the Indigenous ways of knowing of the people of Chinduzi village (particularly related to their farming practices), as well as enhanced my skills as a researcher through working with the participants. Furthermore, although I conducted the research to fulfill my academic goals, it is my hope that the findings will be taken up by, and bring positive transformation to, both the JFFLS program and the community. For instance, participating Elders and youth made recommendations regarding achieving environmental sustainability in the JFFLS and the Chinduzi community, while the study itself makes recommendations to the JFFLS policy makers (FAO, WFP, and Ministry of Education). If these recommendations get implemented, transformation will take place at both institutional (JFFLS) and community levels.

Knowledge production in research.

Another shared characteristic of PR and IRM relates to their view of knowledge production. Both PR and IRM critique the use of positivism in social science research for its assumption of an objective world whereby scientific methods can more or less readily represent, measure, predict and explain causal relations among key variables (Lincoln & Guba, 1994). Positivist research emphasises the objectivity of knowledge, reproducible results, hypothesis testing, validity, and generalizability (Moore, 2004; Patton, 2002).

The goal is to create "objective" knowledge through the objective researcher. Thus, the assumption is that the researcher is an objective observer who can deliver their questions in a neutral way without influencing the participant, and is able "to enter into the other person's perspective" (Patton, 2002, p. 341) in order to make sense out of their experiences. As Patton (2002) observes:

> The neutral investigator enters the research arena with no ax to grind, no theory to prove (to test but not to prove), and no predetermined results to support. Rather the investigator's commitment is to understand the world as it unfolds, be true to complexities and multiple perspectives as they emerge. (p. 51)

The belief is that, the farther the distance between "researcher" and "researched," the more reliable the results. However, these positivist assumptions have no place in PR and IRM, for they both understand knowledge to be socially constructed and inherently dependent upon relationships, ceremony, transformations, history, and culture. For example, Fine (2008) ascertains that objectivity in PR is "neither disregarded nor simply assumed by virtue of distance" (p. 223), whereas, from an Indigenous perspective, research is not a dispassionate encounter because knowledge and understanding are linked to place, social position, and moral codes that evoke a sense of spirit and feeling as well as an intellectual understanding (Wilson, 2008). Both approaches challenge the notion that legitimate knowledge lies only with the privileged experts' "dominant" knowledge and instead champion local people as holders of knowledge (Dei, 2005; Tandon, 2002).

I would add that researchers are located within a complex set of social structures; our identities, experiences, and aspirations influence the questions we ask, the methods we use, and the conclusions we draw. For example, my passion for exploring how environmental sustainability is taken up in the forms of knowledge and practice (both Indigenous and non-Indigenous) in this study, comes from the experiences I had during my up-bringing, while living in different places, and throughout my academic life. As Wilson (2008) reminds us, "we cannot remove ourselves from our world in order to examine it" (p. 14). Each of us has a different way of knowing and understanding our realities, and because we cannot remove ourselves from "our worlds," we need to work through our understandings and prior knowledge. With this in mind, I did not conduct this study from a point of neutrality or objectivity; rather, I have attempted to locate myself in relation to the research, disclose my intentions, and demonstrate humility by acknowledging my shortcomings and areas of ignorance (Wilson, 2008).

Relationships.

A third shared characteristic of PR and IRM is regarding their understanding of relationships. In positivist research, the relationship between researcher and participant is distant because the researcher is supposed to be objective. This is not the case in PR and IRM, wherein the success of a PR project depends on relationships (Grant, Nelson, & Mitchell, 2008), while relationships are central in IRM (Kovach, 2005, 2009; Menzies, 2001; Tuck, 2009; Weber-Pillwax, 2001; Wilson, 2001, 2008). For example, Wilson (2001, 2008) describes an Indigenous research paradigm as "relational" and maintaining "relational accountability." He asserts that ontology and epistemology provide mutual reality through a process of building relationships because "reality is in relationship one

has with the truth" (2008, p. 73). Wilson goes on to explain that a researcher is not answering questions of validity and reliability or making judgments. Instead, they are fulfilling their relational obligations by asking the questions: Am I fulfilling my role in this relationship? And what are my obligations in this relationship? The axiology, or moral values, therefore, becomes a central part of the methodology in fulfilling a role in the research relationship. As Kovach (2005) describes, the establishment of respectful research relationships is "a sincere, authentic investment in the community" and includes:

> [t]he ability to take time to visit people from the community (whether or not they
> are research participants); the ability to be humble about the goals; and
> conversations at the start about who owns the research, its use and purpose
> (particularly if it is academic research). (p. 30)

Essentially, building relationships with participants is very important.

This research achieved relational accountability through building relationships with participants and learning and following cultural protocols. I went into the community not as an expert, but as a learner. Before and during the research, I spent considerable time learning the cultural traditions and practices of the people of Chinduzi and applied these practices in my interactions. One aspect I learned about early on was regarding the way I dressed. I mostly wore jeans and, although they are commonly worn in cities, women in rural Malawi rarely put on trousers. So after the initial visit, I made sure I had a *chitenje* (wrapper) around my waist to de-emphasise my jeans pants. I also attempted to integrate into the community way of life, for example, by speaking the people's language, eating with them, and being involved in their community activities. In

addition, because the study is grounded in the *uMunthu* concept, it had a "human face,"

as Muwanga-Zake, (2009) articulates:

> Ubuntu as a research philosophy gives the research process a human face,
> as opposed to some top-down imposed research processes, and advocates
> collaboration with the participants and community humanely, with respect
> to their spirituality, values, needs, norms, and mores. Therefore, Ubuntu
> ameliorates tensions in research discourse and brings the researcher to the
> level of the participants. Greet Bantu, sit with them, understand their
> needs, and if possible eat with them. In short become a Muntu for full co-
> operation of Bantu in research. (p. 418)

The issue of collectivity (in other words *uMunthu*) is also apparent in the work of

Indigenous scholar, Tuck (2009). She contends that for many Indigenous peoples, "the

defacto expression of relationship is tribe, collectivity. Relationship is not an extant

fastening of individuals, as in imperialist structures. Instead it is among, within, between,

a collective of us" (p. 61). She further elaborates that collectivity does not start with the

individual, but with the group.

Additionally, relationship building was done through informal interactions with

participants. For example, two facilitators from the community escorted me to and from

the youth participants' homes so that I could obtain informed consent from their

parents/guardians. This gesture proved very beneficial for me. Apart from the facilitators

introducing me to the participants' parents and guardians, the walks provided a good

opportunity to discuss many things. They taught me a lot about the cultural practices of

the area, as well as asked to learn more about me (e.g., about my family and children, my

plans, when I will return to Malawi, and so on). I perceived their interest in my personal life not as "intruding" (as one might assume in the West, where I've commonly found people to only talk about personal experiences with close friends), but as an earnest desire to "know" the person they were interacting with: me. Furthermore, I learned more about the place during the walks. Passing by lone, big trees sparked conversation about the trees' histories and the long standing beliefs and taboos which have helped preserve them, while passing through a dry stream led us to talk about the impact of deforestation in the community. These walks provided such rich learning experiences, as well as opportunities to build relationships and trust with the facilitators.

In fact, my stay in Chinduzi reminded me of my experiences growing up in the village. For example, people used to talk to strangers asking them who they were, where they were going, and if they needed help. My great grandmother would invite people passing by for a meal. Often times, she did not have the essentials or the energy to prepare a meal for them, so she would instead ask my grandmother to do it. Travellers and strangers would be served food unreservedly. Their presence was seen as more of a blessing than a burden and, consequently, brought joy to us children as we knew that the best meals would be served. We longed for visitors. Such practice was normal and demonstrated *uMunthu*. With these memories in place, I tried to emulate such practices during my interactions with the participants and community. For example, every time I met people on my way to and from the site, I would stop and ask where people were going and if they needed a ride. This proved to be an effective approach of integrating myself into the community.

Challenges.

Despite their growing popularity, PR and IRM have not escaped criticism. In the face of rich academic literature rejecting traditional forms of research, PR and IRM continue to be interpreted by many as lacking in scientific rigor, as being overly biased, and as being inappropriately political (Kemmis & McTaggart, 2000, 2005; Weber-Pillax, 1999; Wilson, 2008). In their discussion of the limitations of PR approaches, Kemmis and McTaggart (2000) suggest that some people take the view that "Such practices may employ desirable means and serve desirable ends, but to confuse them with research—or worse still, to disguise or dignify them as research—is fundamental form of deception and manipulation" (p. 568). This point became apparent in the PAR project by Tuck, Allen, Bacha, Morales, Quinter, Thompson, & Fine (2008) in which participants often asked each other if their work "felt like science." Likewise, Wilson (2008) states: "Indigenous researchers have often had to explain how their perspective is different from that of dominant system scholars" (p. 55). He goes on to describe the challenges he faced as an Indigenous researcher attempting to satisfy two sets of ethical standards, those of the Indigenous community and those from the academic institution, which have tended to better support positivistic orientations to research. Nonetheless, many academic researchers continue experimenting with ways of working with communities to create meaningful participation, genuine commitment, and valuable action outcomes. This study joins the work of these researchers.

Taking heed of Foucault's point that "power circulates," others have raised concerns about the ways in which participation may also be used to reproduce hegemony (Cooke & Kothari, 2001; Cornwall, 2004; Kesby, 2005; Mohan, 2001). According to

Rahnema (1990), participatory empowerment approaches to development do little to challenge power structures. Likewise, Cooke and Kothari (2001) contend that PR approaches may disguise realities of token participation, reinforce social hierarchies, emphasize consensus, and reproduce the dominant hegemonic agenda. They cite the World Bank's Participatory Poverty Assessments (PPAs), which are commonly known for using participatory methods to further global agendas under a rhetoric of "participation," yet the emphasis on participation within PPAs has focused on information extraction for macro- and sector- policy analysis as opposed to deeper participatory transformation. This observation is echoed by Kapoor and Jordan (2009) who assert that, since its inception, PR has increasingly been "subject to forces that have compromised its revolutionary potential as a transformatory methodology for the subaltern" (p. 5).

To help address these issues, Kesby (2005) calls for a constructive engagement with power, arguing for "retheorizing empowerment." He urges resisting agents to "draw on technologies such as participation in order to outmaneuver more domineering forms of power" (p. 2038). For Kesby, participation finds its legitimacy in the "self-recognition that it is a contestable, imperfect work in progress" (p. 2052). Cahill (2007a) observes that the negotiation of power could be understood as the struggle between multiple perspectives which could in fact be "a productive contestation" (p. 2862).

Such work on participation provided direction in my own research. I was aware that I would be regarded as having "more" power than my co-researchers and participants for two reasons. First, I am a PhD student. Second, I had been away from home (Malawi) for eight years living in the West. Because both PhD studies and the West were viewed

as sources of power in the local context, I was mindful of this and continuously examined my interactions with everyone to consider the impact on the research. However, the issue of power was still apparent. For example, on my first day at the site, the staff at the school treated me with so much respect and honour, and tried rescheduling their schedules to accommodate me. I quickly pointed out that I should not be given special treatment because I was there to learn. I emphasized that, although I had timelines, I was the one who was to fit into their schedules and not the other way round. Other times when I would receive special attention were during conversations with Elders. While I visited the Elder's home with the youth, often times I would be offered a chair to sit on and the youth would be expected to sit on the floor. I would quickly and respectfully tell the Elder that sitting on the floor with the youth is fine. Also in most cases, participants used to address me by terms us as "teacher" (*aphunzitsi*) or "leader" (*alangizi*), terms associated with someone with power and authority. I would respectfully and use humor to clarify that I did not fit those terms because I was a learner in their midst. These instances made me aware of my position. Thus, I constantly reminded participants that I was there to work with and learn from them so I did not need special treatment.

Finally, the issue of time is crucial in both PR and IRM. As mentioned earlier, both methodologies are based on relationships. Trust is a central challenge between researchers and community members and considerable time must be spent on the consultations required to build trusting relationships. This was a critical challenge for me as a graduate student; I was employing PR and IRM methodologies to meet the requirements of my degree (Moore, 2004) but unfortunately did not have the desired amount of time (and funding) to carry out an "ideal" PR or IRM study. As such, certain

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aspects needed to be curtailed, such as time spent: explaining the purpose of the study; building relationships with the participants (I only met with each participant group twice, at most, before beginning data collection); conducting focus group discussions with youth (more discussions would have allowed for a deeper understanding of their views on knowledge and practice, as well as more time for them to draw their favourite places); and visiting the site (I was present at the site only on the days when the JFFLS had lessons, which was commonly twice a week).

Furthermore, questions surrounding ownership and control of the research agenda are particularly significant in both PR and IRM approaches. As Lincoln and Guba (2000) state:

> Who initiates? Who determines salient questions? Who determines what constitutes findings? Who determines how data will be collected? Who determines in what forms the findings will be made public, if at all? Who determines what representations will be made of participants in the research? (p. 175)

In "ideal" forms of PR and IRM, the line between researchers and participants is blurred, with participants-as-researchers owning and in control of all parts of the research process. However, for a student researcher, the answer to most of the above questions about who controls the research is: *the student researcher, me!* I did not give full control of the process to my co-researchers. While my co-researchers participated in activities such as drawing up a modus operandi at the beginning of the study, developing conversation and discussion questions, collecting data, and undertaking some initial analysis; they did not participate in problem identification or in formulating research questions. The reason for

this was because I had to develop my research problem and questions before arriving in the community, as part of the academic program requirement to prepare a research proposal before the beginning of a study. Although my co-researchers were not in control of all parts of the research process, this is considered acceptable because "participation in all phases of the research does not mean that everyone is involved in the same way in all activities" (Israel, Schulz, Parker, Becker, Allen, & Guzman, 2003, p. 63).

Study Design

Site and participant selection.

Site selection.

The study was conducted at Chinduzi Junior Farmer Field and Life Skills School (JFFLS) in Machinga District (see Figure 2). Chinduzi JFFLS is located at the local primary school of Chinduzi. Before I describe the JFFLS at Chinduzi, I begin with a brief overview of the community of Chinduzi highlighting socio-economic activities, the leadership structure, and culture.

Chinduzi is a village in Machinga district in the southeastern region of Malawi. It is named after a hill in the village. Chinduzi hill has an elevation of 1,270 meters (4,170 feet), latitude: -15°10'51.82" Longitude: 35°13'8.01" (online: geoviewinfo).

Most people living in Chinduzi village are subsistence farmers growing a variety of crops, including but not limited to: maize, groundnuts, beans, pigeon pea, and cow pea (facilitators Sabwelera and Lapukeni). Cotton is also grown as a cash crop though not on a large scale. According to the JFFLS facilitators at Chinduzi, most of these crops are hybrid varieties. Apart from crop husbandry, a number of people in Chinduzi also keep

livestock such as goats and chickens for consumption as well as sale (facilitators Sabwelera and Lapukeni).

In Malawi, traditional leadership positions are hereditary and leaders can be women or men (Brace-John & Ngoma, 2008). Within the traditional leadership structures, each village is headed by a headperson holding a title commonly known as village headperson (VH). Several VHs fall under the leadership of a group village headperson (GVH) who is usually chosen by VHs from amongst themselves. The next rank up in the leadership structure is the traditional authority (TA) who is responsible for five to fifteen GVHs and is normally voted from among the GVHs (Brace-John & Ngoma, 2008). Chinduzi village falls under the leadership of VH Chipamba, GVH Magadi, and TA Sitola. There are 459 people in VH Chipamba (Chinduzi village), 6,063 people in GVH Magadi, 38,611 people in TA Sitola, and 490,579 people in Machinga district (NSO, 2010).

The Chinduzi community has a distinct culture that promotes the idea of togetherness (Mtauchila, 2010). Two main tribes (Yao and Lomwe) call Chinduzi home. The Yao is the predominant tribe (85%) and is believed to be native to the village (Elder Mussa). The Lomwe on the other hand, came from Mulanje and Phalombe districts. The two tribes share commonalities such as emphasising initiation ceremonies in the socialization of the youth as well as following a matrilineal system[11] of descent (Elder Mussa). The relationship between the two tribes is understood to be cordial (Elder Mussa; facilitator Sabwelera; Mtauchila, 2010). For example, while each tribe has its own cultural practices including language, people are free to borrow practices from the other tribe as they see

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[11] A matrineal system is one in which ancestry is drawn from the mother and her descendants.

fit—such as food and dances. Manganje dance is an example to illustrate this point. Most people participate in the dance although it is a Yao dance. It is a celebratory dance performed during happy times such as when the community receives visitors (Mtauchila, 2010). For instance, figure 3 shows a performance of Manganje on the last day of my stay at the site. Additionally, intermarriages between the tribes are common. For instance, facilitator Sabwelera is a Lomwe from Mulanje, but his wife is a Yao from Chinduzi.

Figure 3. Chinduzi youth (JFFLS and general primary school) performing Manganje dance at the end of the study.

While the overview of Chinduzi community/village presents a positive view of the inter-tribal relationships, I should mention that it was difficult to get a sense of politics and power issues within and across the two tribes. This is a limitation of my not

coming from the community. If I was from Chinduzi and grew up there, perhaps I would have had different insights as to the politics and power issues within and across the tribes. Having provided an overview of the community of Chinduzi, I now move on to describe the Chinduzi JFFLS.

The Food and Agricultural Organization of the United Nations (FAO) and the World Food Programme (WFP) Malawi offices, working with the Ministry of Education introduced the JFFLS initiative to District Education Managers (DEMs) who made decisions on schools to implement the JFFLS (Kachale, 2010, personal communication). In the case of Chinduzi, the JFFLS concept was presented to the DEM Machinga along with his team of Primary Education Advisors (PEAs). According to Kachale 2010 (personal communication), FAO only highlighted the conditions necessary for a JFFLS (e.g., land availability, water, soil type, access to sunlight, garden security etc). The DEM and PEAS selected the schools taking into consideration the criteria as well as the ability of a community to support the initiative.

Following the meeting with the DEM, Chinduzi JFFLS was established in 2008. According to the facilitators, prior to start-up the primary education advisor (PEA) for the area met with the Chinduzi community—the chiefs, parent-teacher association, teachers, religious leaders, and the village development committee (VDC)—to explain that the JFFLS was a program for orphan and vulnerable children (OVC) and that Chinduzi was chosen to be one of the communities in the Machinga district to run it.

The community had not yet heard of a JFFLS, but the PEA explained that the objective of the program was to empower these children with the necessary knowledge

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and skills to become self-reliant. Facilitator Mrs. Sankhulani[12] explains: "In 2008 the

PEA came to us to explain the program. [He said that the] target group is orphans,

vulnerable, and needy youth. The idea is to empower them with knowledge and skills to

be self-reliant." The community welcomed the initiative and selected three volunteers to

facilitate the JFFLS: one school teacher (Mrs. Sankhulani) and two community members

(Mr. Lapukeni and Mr. Sabwelera). In June 2008, facilitators, with help from the chiefs,

chose 40 orphan and vulnerable youth to participate in the first cohort of the program.

The first six months of the JFFLS program were dedicated to teaching the youth

gardening skills. After the gardening skills phase was completed, FAO brought livestock,

which included 20 goats, 10 doves, and 10 guinea fowls. Twenty of the youth were each

given a goat and the other 20 received either a dove or guinea fowl. When the animals'

offspring are born, the young animals or birds are given to another youth in the cohort.

Through this rotation of the offspring, every youth gains experience with all three types

of livestock. A schematic of the rotation is presented in Figure 4. The Chinduzi JFFLS

has a team of community members and facilitators who monitor the youth with livestock

to ensure proper care and that the offspring are properly rotated.

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[12] To assure confidentiality and identity of participants in the research, all names have been replaced by pseudonyms.
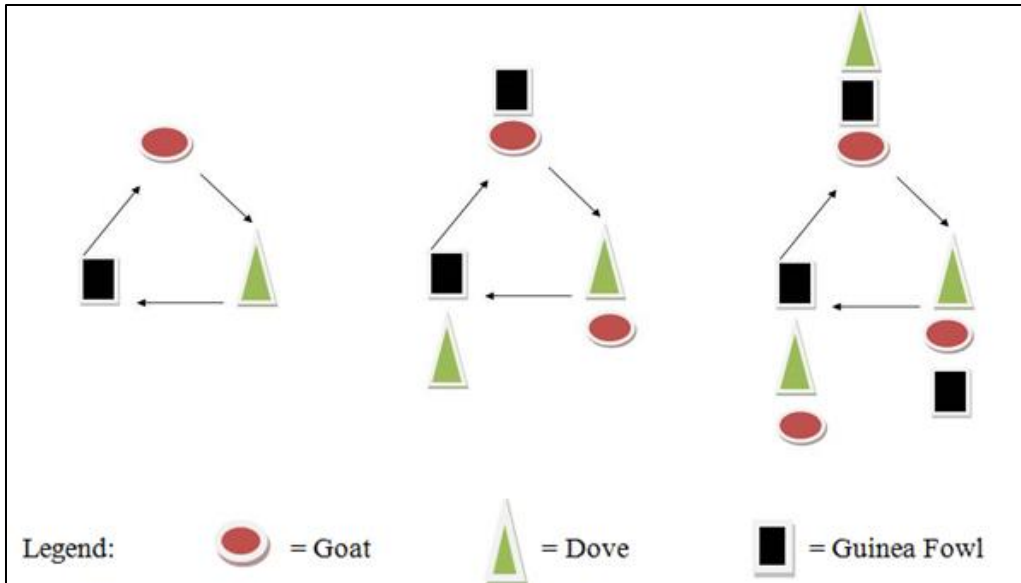
Figure 4. Schematic rotation of livestock.

My choice of Chinduzi JFFLS was primarily based on the JFFLS reports

(Kachale, 2007a & b), as well as my communication with the National Projects Officer at

FAO regarding the level of community involvement in the activities of the JFFLS. I need

to acknowledge the support I got from the FAO Malawi office both before and during the

data collection process. Besides receiving the JFFLS reports, I had the opportunity to

personally communicate (via email, telephone, and in-person meeting) with the FAO

JFFLS staff.

Participant selection.

Participants in the study included facilitators, youth, and Elders. For the purposes

of this study, JFFLS students (who range between 9 and 17 years of age) are referred to

as "youth."

In order to begin the process of recruiting participants, I wrote a letter to the

Ministry of Education Science and Technology in Malawi (Appendix A) seeking

permission to conduct the study at Chinduzi JFFLS. After receiving the permission

(Appendix B), I contacted the District Education Manager (DEM) of Machinga,

explained my study and requested him to contact the headmaster of Chinduzi primary

school on my behalf. I followed up by writing a letter to the headmaster of Chinduzi

primary school myself. In the letter, I explained clearly that I was a doctoral student at

the University of Saskatchewan who was seeking participants for a study called *Re-*

Learning our Roots: Youth Participatory Research, Indigenous Knowledge, and

Sustainability through Agriculture. I further explained that the purpose of the study was

to explore how environmental sustainability in the JFFLS program is taken up in forms

of knowledge and practice (both Indigenous and non-Indigenous) embedded in the local

culture of Chinduzi village. I expressed that I would appreciate the opportunity to carry

out my study at this site and invited the facilitators and youth of the JFFLS to participate.

I emailed the letter to the DEM as well. I received a response from the DEM who

indicated he would send the letter to the headmaster and assured me of support from his

office.

Facilitator participants.

When I arrived in Malawi, I contacted the DEM. He was eager to see me and

subsequently provided someone to escort me to the site. When I reached the site, I found

that the JFFLS facilitators, the headmaster, and his deputy were already there - they had

been expecting me! Two of the facilitators were male and members of the community,

Mr. Lapukeni and Mr. Sabwelera, while one was female, a school teacher named Mrs.

Sankhulani. The headmaster was male (Mr. Zingani) and his deputy was female (Mrs.

Mabedi). During our first meeting, I explained to them broadly what the research was

about, how the research idea had evolved, and where it was going. I also explained what

the research would require of them in terms of time and personal commitment. Although

the study was supposed to be conducted within a certain time frame, I told the team that I

would be flexible to work around their schedules and set up meetings at their

convenience. At the end of the meeting, I gave each facilitator, the headmaster, and the

deputy a consent form to take home and return to me signed when they were ready. All

signed the consent forms without hesitation.

Elder participants.

I requested the facilitators' help to identify Elders from the community to

participate in the study. They helped me identify five Elders (as had been planned for my

study), one female[13] and four male. I requested to meet each Elder at a location of their

choice. They chose to meet me at the school. During this initial meeting, I introduced

myself and explained the study (Appendix C). I explained what their participation would

entail in terms of time and personal commitment. I also gave them the opportunity to ask

questions and clarifications. All five accepted to participate. Due to oral versus print-

based literacy, they gave their consent verbally – in other words, I read the consent form

to them and signed it for them after they gave oral consent. I gave a copy of the form to

each Elder for their records.

Youth participants.

Every year, a cohort of approximately 40 youth is selected by the community to

attend the JFFLS program. This study was conducted during the third year of Chinduzi

JFFLS' establishment, thus it worked with the third cohort of youth. When I arrived at

the site, the new JFFLS cohort of 50 youth, a mix of both male and female, had just been

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[13] Unfortunately, the female Elder has since passed on, may her soul rest in peace.

selected but lessons had not yet started. I requested to meet the cohort for an initial

meeting at this time, during which 26 youth (18 female and 8 male; age range 9-17) were

present. Facilitators were in attendance as well. Just like my initial meeting with the

facilitators and Elders, I explained the study and outlined the youth's role. I then asked

for volunteers to participate in the study. I was hoping for at least 10 youth (5 girls and 5

boys), but all 26 were willing to participate in the study. They agreed to be part of a focus

group to discuss their views and perspectives on the current JFFLS program, particularly

regarding knowledge and practice (both Indigenous and non-Indigenous) as well as their

understanding of place and environmental sustainability in relation to knowledge and

practice. Because all were under 18 years of age, I needed to secure the informed consent

of their parents or guardians; thus, the facilitators escorted me to the home of each youth

participant. All the parents and guardians consented to their children/wards participating

in the study. Similar to the Elders, the parental/guardian consent was verbal and I gave

each family a copy of the consent form to keep.

As per the study's focus on participatory research methodology, I also needed

youth to work with me specifically on the data collecting process. Hence, of the 26 youth,

14 (11 female and 3 male) volunteered to join me during conversations with Elders and

other aspects of the research process.

The process of selecting participants and getting their consent took close to two

weeks. This was necessary because I had to give the participants time, learn the cultural

practices of the community, and build relationship and trust with participants.

Methods of data collection.

The study used a qualitative approach to data collection. Data were gathered through focus-group discussions, archival documents, place mapping, face-to-face individual conversations, and observation. Table 1 summarizes the methods used to collect data in relation to each of my research questions introduced in Chapter One.

Table 1: Summary of Research Questions and Corresponding Data Collection Methods and Research Participants

Research Question	Method	Data Source/Participants
1. How do participants understand place and environmental sustainability in relation to knowledge and practice (both Indigenous and non-Indigenous)?	Face-to-face conversations. Youth facilitate the conversations.	Elders
	Focus group discussions	Facilitators, Youth
	Place mapping	Youth
	Observation	Primary Researcher
2. Within the context of Chinduzi village, the JFFLS program, and its engagement with issues of environmental sustainability, what forms of knowledge and practice (both Indigenous and non-Indigenous) are evident in the JFFLS program?	Face-to-face conversations. Youth facilitate the conversations.	Elders
	Focus group discussions	Facilitators, Youth
	Archival documents	Food and Agricultural Organization (FAO) JFFLS documents; e.g., manuals, curriculum, status reports

	Observation	Primary Researcher
3. What are participants' views on how environmental sustainability should be further engaged in the JFFLS program in relation to knowledge and practice (both Indigenous and non-Indigenous)?	Face-to-face conversations. Youth facilitate the conversations.	Elders
	Focus group discussions	Facilitators, youth. Youth share with facilitators what they heard from Elders.

Focus group discussions.

I held focus group discussions with facilitators and youth to help answer

questions one to three. With consent from the participants, discussions were recorded. At

the beginning of the first focus group discussion for each participant group, we mutually

agreed on guidelines so that everyone would be comfortable, could speak freely and

would be respected. At the end of each discussion, I prepared a summary of the main

points which I shared at the beginning of the next meeting. All group discussions took

place at the school and were approximately two hours long.

Focus groups draw upon respondents' attitudes, feelings, beliefs, experiences, and

reactions in ways that would not be feasible using other qualitative methods. It is argued

that one can get a great deal of information during a focus group session. As Sillitoe,

Dixon and Barr (2005) ascertain:

 A focus group is a tool of studying ideas in a group context and is based

 on the belief that the whole is greater than the sum of its parts. Its purpose

 is to generate new information, clarify further points of detail, validate

 information derived through other methods, and build consensus between

group members. The goal is to get closer to participants' understanding of

the topic. (p.177)

Nilan (2006) posits that focus group discussions stimulate a multiplicity of views and

emotional processes within a group context. Group discussions often bring out

respondents' immediate reactions and ideas, also making it possible to observe some

group dynamics and organizational issues. According to Berg (2004), the synergy

between group members often generates much richer data than one-on-one interviews.

This point was evident in this study. Although facilitator and youth group discussions

were based on semi-structured questions in Appendices E and F respectively, the

dynamics of the group prompted additional questions and insights throughout the

discussions. The questions were used flexibly, with probes to encourage dialogue,

reflection, and elaboration of responses.

Facilitators.

As noted earlier, the three facilitators, the headmaster, and his deputy agreed to

participate in the study as facilitator-participants. I had a total of four focus group

discussions with these participants between October and December 2010. However, the

headmaster did not participate in any, while the deputy only attended the first one. The

first two discussions focused on learning about the JFFLS and the facilitators' views on

knowledge, practice, and environmental sustainability in the JFFLS program. During the

third focus group, youth shared with facilitators what they learned from their

conversations with Elders. The last discussion was focused on verifying and clarifying

what was discussed during the previous focus group meetings.

Youth.

Twenty-six youth participated in four youth focus group discussions. The first

discussion was aimed at learning their views and perspectives on the current JFFLS

program, particularly with regards to knowledge and practice (both Indigenous and non-

Indigenous). During the second focus group, youth discussed how they understood place

and environmental sustainability in relation to knowledge and practice. At the end of the

discussion, they participated in a place-mapping exercise where they were asked to draw

their favourite place(s) in their community (see place mapping explanation below). Their

drawings were discussed during the third and fourth focus group meetings.

Place mapping.

Place mapping method was used to determine how the youth participants

understand place and environmental sustainability in relation to knowledge and practice

(research question one. Visual methods of collecting data are considered helpful in

probing youth understandings and representations of place (Béneker, Sanders, Tani, &

Taylor, 2010; Lee & Abbott, 2009). For example, it is argued that images communicate

in different ways than words and stimulate aesthetic, emotional responses as well as

intellectual responses (Thomson, 2008). Thus, researchers use images, such as place

mapping, in their research to prompt different responses and generate data that could not

otherwise be obtained through verbal and/or oral research methods (e.g., Burnard, 2002;

Clark-Ibanez, 2004; Egg, Schratz-Hadwich, Trubwasser, & Walker, 2004; Kaplan &

Howes, 2004). Some researchers argue that the use of image-based research as an

alternative means of expression is particularly helpful with children and youth who have

difficulty with words (Moss, Deppler, Astley, & Pattison, 2007). Others suggest that,

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through the creation of images, young people are more ready to express their beliefs and emotions (Leitch & Mitchell, 2007; Weber & Mitchell, 1995).

Participating youth were asked to draw pictures of their favourite places in their community. In addition, they gave a short narrative of their drawings. We discussed their drawings in a focus group as described above (see Appendix F for guiding discussion questions). This method gave the youth the opportunity to visually describe their notion of "belonging" (McLaughlin, 1993), but also revealed their unsaid and unheard stories, and reflected the sociocultural realities that impacted their understanding of place and environmental sustainability. Visual methods were also used in this study to gain a richer understanding of how youth may be operating within hybrid spaces of Indigenous and non-Indigenous knowledge and practice, and how this affected their orientation to environmental sustainability.

Individual conversations.

To help answer research questions one to three, the 14 youth participants and I had individual conversations with the Elders (see Appendix G for guiding questions). Although "conversation" as a method of data collection is similar to "interview," I chose the former because conversations are a cultural practice and more consistent with IRM (Kovach, 2009), while the latter is a "Western" research method. The nature of these conversations was dialogical and respectful of traditional cultural protocols for interacting with Elders. In creating and negotiating meaning, we had conversations similar to Van Manen's (1977) notion of conversations, which he describes as "a type of dialogue which is not adversative but as Socrates expressed it, 'like friends talking together' about their ideas" (p. 218). *uMunthu* was also at the centre of all our

interactions; as such, respect was shown both in the way we talked to the Elders and in how we dressed. For example, we ensured we were not wearing short skirts or dresses, while I made sure to wear *chitenje* over my jeans. As with the focus groups, all the conversations were recorded, after receiving participant consent.

The conversations were conducted with the 14 youth who volunteered to assist me with the data collection process. These young women and men worked with me during the entire period I was at Chinduzi (October 2010 to January 2011). They participated in refining Elder conversation questions, pilot-testing the conversations among ourselves, and leading conversations with Elders. To give everybody a chance to lead a conversation, we decided to divide the conversation questions amongst ourselves. After refining the questions, each youth chose one they wanted to lead. We had a chart for every Elder's visit (Table 2 is an example). Sometimes youth exchanged questions and, when one was not able to join the group, there was no shortage of volunteers to lead the discussion on their behalf. This group of 14 youth met with me before and after each Elder's visit to prepare and debrief respectively. In addition, they also led a focus group discussion with facilitators during which they shared what they had learned from the Elders.

Table 2: Example of Chart Showing Roles during Conversation with Elders

Conversation with Elder Mpando Date: November 3, 2010 Time: 3pm	
Question	Person Asking
1. *Kodi akulu-akulu ndi atsogoleri a ku dera lino amatenga mbali yanji mu ntchito ya chiringanizo cha JFFLS?* (What roles do Elders and other local leaders play in the JFFLS program?)	Yusuf

2. *Kodi inu mukudziwa zomwe asungwana ndi anyamata*   Spiwe
    amaphunzira mu chiringanizo cha JFFLS? (Are you aware of
    what the youth are learning in the JFFLS program?)

    a. *Mumadziwa ngati iwowa (asungwana ndi anyamata)*   Tiyamike
        amaphunzira za chidziwitso cha makolo (nzeru za
        chikhalidwe cha makolo mdera lino?) kapena ngati
        iwowa amaphunzira za chidziwitso cha makono (nzeru za
        chizungu)? (Do you know if they are learning the local
        IK and or Western knowledge?

    b. *Ngati iwowa (asungwana ndi anyamata) amaphunzira*   Ndiuzayani
        zonse (za makolo komanso za chizungu), inu mukuganiza
        kuti ndi chidziwitso chiti (kapena nzeru ziti) chimene
        iwowa amachiona chopambana? (If they are learning
        both, which form of knowledge do you think is held in
        high esteem?)

    c. *Inu maganizo anu ndi otani pa zinthu izi?* (What are your   Enelesi
        views on this?)

3. *Kodi inu mukuganiza kuti ndizofunika kuti inu kapena anthu*   Fatsani
    m'mdera lino adziwe zimene asungwana ndi anyamata
    amaphunzira mu chiringanizo cha JFFLS? (Do you think it is
    important for you or the community of Chinduzi to know what
    the youth are learning in the JFFLS program? Why and or why
    not)

4. *Kodi ndi miyambo yiti ndiponso zikhulupiriro ziti zomwe*   Landileni
    mukuganiza kuti asungwana ndi anyamata a mu pologalamu ya
    JFFLS aziphunzira komanso kutsatira? (What set of values and
    beliefs do you think the youth in the JFFLS program should learn
    and practice?)

5. *Kodi inu mukuganiza kuti asungwana ndi anyamata a*   Thandizo
    muchiringanizo cha JFFLS adziphunzira za chikhalidwe cha
    makolo (nzeru za makolo) a m'mudzi uno wa Chinduzi? (Do you
    think the youth in the JFFLS should learn the IK of the people of
    Chinduzi village? Explain

6. *Mukuganiza kuti chidziwitso cha makolo (nzeru za makolo)*   Chimwemwe
    chingalowetsedwe bwanji mu chiringanizo cha JFFLS? (How
    should IK be incorporated in the JFFLS program?)

7. *Mukuganiza kuti chidziwitso cha makolo (nzeru za makolo)*   Dalitso

chingaphunzitsidwe mu njira ziti mu chiringanizo cha JFFLS?
(Please suggest ways how IK in the JFFLS should be taught and learned.)

8.	*Kodi inu mukuganiza kuti akulu-akulu ngati inu pamodzi ndi akulu-akulu ena a m'dera lino mungatenge mbali yanji mu chiringanizo cha JFFLS?* (What role do you think Elders like yourself and other local leaders should play in the JFFLS program?)	Austin
9.	*Inu mungalimbikitse ntchito zomwe cholinga chake chiri kugwiritsa ntchito moyenera ukatswiri omwe uli ndi anthu mu dera lino, mwachitsanzo monga akulu-akulu kuthandiza pophunzitsa za chidziwitso cha makolo (kapena nzeru za makolo) mu chiringanizo cha JFFLS?* (Would you support efforts that aim at making effective use of local expertise, especially Elders as co-teachers when teaching IK in the JFFLS program?)	Yamikani
10.	*Maganizo anu ndi otani pa nzeru za azungu (kapena chidziwitso cha a zungu)? Kodi mukuganiza kuti asungwana ndi anyamata a mu chiringanizo cha JFFLS adziphunzira nzeru za a zungu? Fotokozani maganizo anu.* (What do you think of Western knowledge? Do you think the youth in the JFFLS should be learning Western knowledge? Explain.)	Mphatso
11.	*Kodi pali zinthu za muchilengedwe zokhudzana ndi malo zomwe zimakhuza moyo wanu, kapena miyoyo ya anthu a m'dera lino; kapena zomwe inu mukuganiza kuti mtsogolo muno zidzakhudza miyoyo yanu?* (Are there issues in the environment in relation to place that affect your life, or that of the community; or that you think might affect either in the future?)	Yankho
12.	*Mukuganiza kuti tichite chiyani kuti tithandize kukonza zimenezi?* (What do you think should be done to help address these issues?)	Chimwemwe
13.	*Inu mukuganiza kuti chidziwitso cha makolo (kapena nzeru za makolo) chingathe kutenga mbali pa zinthu izi?* (Do you see the local IK as playing a role in addressing these issues? Explain.)	Dalitso

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While the purpose of involving the youth in my study was to fulfil the

participatory nature of my research, Elders viewed youth participation as an opportunity

to address them directly. This was evident because, when Elders were sharing their views they were directing many of their responses, not at me, but at the youth. For example, the phrase *"tikufuna kuti inu a chinyamata mumvetsetse kufunikira kwa zimenezi"* ("we want you, the youth, to understand the importance of these things") was very common.

Each Elder was visited three times in her/his home between November 2010 and January 2011. The first conversation centred on learning the Elder's views and perspectives on the JFFLS program, their understanding of place and environmental sustainability in relation to knowledge and practice (both Indigenous and non-Indigenous), and their vision for environmental sustainability in the JFFLS program. Although I transcribed the conversations myself, I shared them with the youth and we listened to the conversations together. As we listened and discussed what we were hearing, we quickly became aware we needed more clarification on certain issues and had follow-up questions. So, we went back to each Elder and read the transcript to her/him, pausing for clarifications and checking if what we thought we heard represented what was said. We did the same thing after the second round of conversations and, during the last visit, confirmed what we had heard. This process, called participant member checking (Thomas, 2006), gave each Elder the opportunity to listen to and verify the final conversation transcript, after which she/he gave verbal release of the transcript.

Observation.

Observation was used to help answer research questions one and two. Observation enables researchers to gather data on physical surroundings, human interactions, and program settings (Cohen, Manion, & Morrison, 2000; Morrison, 1993; Patton, 1990, 2002). Others have described observation as a tool that can be used to

verify what has been gathered through other tools such as focus group discussions and interviews (Yin, 1994). As Cohen et al. (2000) state, observation:

> Enables researchers to understand the context of programs, to be open
>
> ended and inductive, to see things that might otherwise be unconsciously
>
> missed, to discover things that participants might not freely talk about in
>
> interview situations, to move beyond perception based data and to access
>
> personal knowledge. (p. 305)

Furthermore, for Vidich (1955), participant observation enables the researcher "to secure data within the mediums, symbols, and experiential worlds which have meaning [to respondents]," with the "intent to prevent imposing alien meanings upon the actions of the subjects" (p. 354).

I observed lessons in the garden (at the school and in a facilitator's home), as well as a lesson on life skills in the classroom. Additionally, I observed conversations and focus group discussions to help understand and interpret the participants' expressions and responses. Although I was facilitating the discussions, I paid attention to what was being said and not said. I also observed informal interactions among the youth. As I have explained earlier, this work employed participatory and Indigenous research methodological approaches grounded in the *uMunthu* concept. Humility and respect for local culture and practices were central in all my interactions. See Appendix H for my observation protocol.

A major advantage of direct participant observation is that it provides in depth, here-and-now experience to reveal implicit practices. According to Lincoln and Guba (1985), "observation...allows the inquirer to see the world as his subjects see it, to live in

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their time frames, to capture the phenomenon in and on its own terms, and to grasp the culture in its own natural, ongoing environment..." (p. 273). To do this, I became an active participant, immersing myself within the activities of the group I studied and focusing my observation on group process rather than on my position as a researcher or outsider. I participated in the activities such as tilling the land and watering plants during field lessons; cooking meals and, of course, eating! All these were ways of integrating myself into the community. Using observation in a participatory way helped me to understand and gain insights on how environmental sustainability is taken up in the form of knowledge and practice embedded in the local culture of Chinduzi village.

Archival documents.

Although documents are less active or interactive when compared with other forms of qualitative data such as interviews, Merriam (1988) considers documents as a useful and "ready-made source of data, easily accessible to the imaginative and resourceful investigator" (p. 104). To answer the second research question, I collected a set of JFFLS documents from the Food and Agricultural Organization (FAO) Malawi office. These documents included a manual that addressed general issues of a JFFLS, such as the origins of the program, its principles, and the steps to establish one. The other documents were on JFFLS in Malawi and included the JFFLS curriculum, JFFLS status reports, and manuals covering vegetable growing, livestock production, and life skills.

Data Analysis

Data for analysis included transcribed recordings of conversations and focus group discussions, youth's drawings of their favourite places, my observation field notes, and archival document review notes. I transcribed the Elder conversations and focus

group discussions as soon as possible after they were conducted. Elder conversations and youth focus groups were largely in vernacular language of Chichewa, while facilitator focus groups were a mix of Chichewa and English. The conversations and focus group discussions were transcribed verbatim because I did not want to lose any meaning in the translation. Bearing in mind that I went into this community, not to deductively prove something but inductively learn from the participants, I began immersing myself in the raw data by reading and re-reading the transcripts, my observation field notes, and the archival document review notes, as well as reviewing and revisiting the drawings for meaning and content.

I used inductive analysis as the basis for analyzing data for this research. As Lincoln and Guba (1985) say, "Data analysis is thus not a matter of data *reduction*, but of *induction*" (p. 333 emphasis in original). The purpose of the inductive approach, Thomas (2006) argues, is to "allow research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by structured methodologies" (p.238). Hammersley and Atkinson (1995) suggest that, in analyzing qualitative data, the initial task is to find concepts that help make sense of what is going on. These concepts start arising during data collection and that marks the beginning of the analysis (Patton, 1990). Thus, data collection and analysis are ongoing and interative, not summative, and go hand-in-hand to build a coherent interpretation of the data. Therefore, I began my inductive analysis during the data collection phase. From focus group discussions, conversations, observations, and the archival document review notes, I began developing tentative understandings, looking for patterns, deciphering themes, and

relating these to the research questions. I discussed these with my co-researchers—the 14 youth participants—to verify meaning.

When I returned to Canada from my field work, I continued with an in-depth analysis of the data. In what follows, I describe this process, starting with how I analysed youth place maps and then went on to analyse the transcripts, my observation field notes, and archival document review notes.

It is argued that research that uses children as active informants on their perception of place or space, is concerned less with the development of technical and conceptual competence, and more with the interface between the formal and informal spaces that children respond to and reconstruct (Burke, 2005; Watts, 2010). Therefore, in my analysis of place-mapping drawings, I did not analyze the images for technical, conceptual or aesthetics competence. Instead, my analysis was based on Collier and Collier's (1986) method for analyzing photographs. This approach starts with a holistic view of the photograph dataset in which general thoughts, questions and impressions are noted, then proceeds to a detailed analysis of pertinent characteristics image by image, and concludes with another holistic view. In addition, I considered the types of knowledge and practice represented in the drawings, whether it was Indigenous or non-Indigenous or both.

In analyzing the remainder of the data, I read the transcripts, observation field notes, and archival document review notes several times to identify common concepts. Every effort was made to allow concepts to emerge inductively from the data. Therefore, data were captured, analyzed and creatively organized by means of codes. I developed a coding framework and manually coded the transcripts. The most frequently occurring

items were organized into themes. I moved the transcripts into NVivo and completed the coding using the software's qualitative analysis abilities.

The data analysis process was not straight forward, rather, it was cyclical. For example, I initially came up with ten major categories. However, after I discussed them with my supervisor, she noted that my analysis was "choppy." This was an indication that I had not finished the process of combining the smaller categories into more encompassing categories or that I had not made the crucial decisions about which categories were the most important (Thomas, 2006). Following my supervisor's feedback and taking heed of Thomas' (2006) suggestion that inductive coding should produce three to eight major categories, I went back to my coding frame and revised each category, searching for similarities, contradictions, and new insights. This process led to collapsing many of the initial categories so that I ended with four new categories, which I then conceptualized into six broad themes that were most relevant to my research objectives. I present these categories and themes in the next chapter.

Considering that this study was informed by a counter-hegemonic approach—postcolonial theory—I read the data with a critical lens to discern gaps, silences, privileges, and inconsistences. To delve beyond surface appearances, I questioned the data. For example, I looked beyond the positive impressions of the JFFLS program as described by participants or in the archival documents. I questioned why participants said what they said regarding the knowledge and practice in the community—whether it was positive or negative. For example, in adherence with cultural protocols, I respectfully asked facilitators what they thought of the training manual being in English while only one of them was comfortable in English, as well as what they thought of the content,

which included items that were not common in the community nor in Malawi as a whole.

I also wanted to know what participants thought of broadening the space for youth

learning multiple knowledge and practice. These processes led me to uncover silences

and privileges. I also confronted myself in a self-reflective way, by considering a number

of questions, such as: "Why was I interested in the study?" and "What does the study

mean, not only to me, but the community as well?" In addition, part of my analysis

included exploring how gender played a role in the development, practice, and sharing of

local knowledge, how it was represented in the drawings of the youth's favourite places,

and if/how it was considered in the JFFLS program.

Reliability of the Research Study

According to Lincoln and Guba (1985), there are four general types of

trustworthiness in qualitative research: credibility, transferability, dependability, and

confirmability. As per the PR and IRM methodologies framing this research, the study

achieved trustworthiness mainly through relationships. This research also achieved

"relational accountability" (Wilson, 2001, 2008) through data collection methods,

relationship building with participants, and its grounding in *uMunthu*. Additionally,

trustworthiness was achieved through participant member checking and triangulation.

Member checking was achieved by ensuring that after every focus group discussion or

conversation, I provided a summary of the main issues covered. I also went back to the

participants to clarify and verify what was said and heard. Furthermore, because

conversations and focus groups were recorded and transcribed verbatim, they maintained

the integrity of participants' voices. Triangulation was done by using different methods

of data collection, including focus groups, conversations, place mapping, archival documents, and observations.

Another way which reliability was achieved, was through maintained contact with the research participants. Although I was at the study site for four months, I have maintained contact and engagement with the participants since returning to Canada. I talk to each participant group on average once a month through telephone. Sometimes it is me who calls them and other times it is them. When they call, they usually just give me a signal[14] that they want to talk; once I get the signal I call them back because it is cheaper for me to call them.

I should mention that there were many times throughout conducting the study when I was in a dilemma because of the ambivalence of the complexity of the realities of the youth participants. For example, I used to encourage the youth to work hard at their education (in the formal school as well as the JFFLS). However, they quickly made me better understand their reality by pointing out the challenges they face. For instance, in response to my encouragement, they would say they did not have resources to enable them to go further than the primary level of schooling, because they would not have anyone to support their secondary schooling. I, therefore, made a commitment to them that I would try to help them find support to see them through to secondary school. As it turns out, eight of the JFFLS youth I worked with got selected to secondary school; six in 2011 and two in 2012. As a method of support, I am personally helping them with tuition. I am trying to help these youth have an education (through formal schooling) and hopefully, among other benefits, be able to consider more than one knowledge system as

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[14] The signal is known as *flash* which means dialing a number and disconnecting it as soon as it rings. Once the receiver gets the signal, they call the number. This is common practice in Malawi particularly when the caller does not have enough money for a phone conversation.

a solution to environmental sustainability in their community and Malawi as a whole. While I wanted to help the youth I developed relationships with, providing this type of support raises some ethical questions: Is my support ethical? What sort of relationship do I have with these youth now that I am supporting them? Do they now feel subordinate to me? Where does and should the support stop? What if I can't continue to support them? I acknowledge that I do not have answers to these questions. However, I will attempt to explain my decision to encourage the youth and provide support for their schooling. First of all, the reality is that the youth are facing many challenges including meeting basic needs. Secondly, although my schooling experience might not have been the best (e.g., did not acknowledge the knowledge and practices of the ancestors and instead emphasised Western knowledge systems), I acknowledge that it provided me the foundations necessary to be able to pursue schooling at a higher level, which in turn, has enabled me to look beyond the status quo and consider other possibilities than Western schooling and instead what might be possible through "third spaces." Perhaps encouraging and supporting these youth with their schooling is the right thing to do? This is a complex issue and I am still struggling with it.

Ethical Considerations

Approval to conduct this research at Chinduzi JFFLS was granted by both the University of Saskatchewan Behavioural Research Ethics Board and the Malawi Ministry of Education, Science and Technology (Appendix B). I explained the purpose of the research to the participants, including the expectations in terms of work and time commitments. Participants were given the opportunity to think about whether they

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wanted to be a part of the research. They were made aware that participation was voluntary and that they could withdraw from the study at any time (Appendix D).

Participants were informed that direct quotations from the discussions and conversations could be used in the research publications and presentations. They were made to understand that they had the right to participate in the study, but they also had the right to not allow their information to be used in publications or presentations. To assure confidentiality and identity of participants in the research, all names have been replaced by pseudonyms.

Facilitator-participants signed an informed consent form to participate (Appendix I) while Elders and youth guardians gave verbal consent due to oral versus print-based literacy (Appendices J and K respectively). Elder-participants were the only group that gave consents (again orally) for the release of their conversation transcripts to allow for publication of quotes in whole or in part (Appendix L). This is because transcription and verification of Elder conversations was completed in the field with the 14 youth.

Original copies of all data, accessible to only the researcher and supervisor, will be kept by the supervisor for a minimum of five years and will then be destroyed as required by the University of Saskatchewan Behavioural Research Ethics Board.

Limitations of the Study

This study did not include, nor intended to include a representative sample of JFFLSs in Malawi. It was specific to local issues in Chinduzi village and might have carried with it certain characteristics of the community it was embedded in. Therefore, results cannot be generalized. In terms of research participants, the research was restricted to the three JFFLS facilitators, JFFLS youth who were present the day I had an

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initial meeting with them, and Elders who were selected by the facilitators. Perhaps those participants not included would have provided different views and perspectives. The study did not include youth or teachers from the primary school.

In addition, the data on youth drawings of their favourite places were based on youth descriptions of their drawings during focus group discussions as well as on my own interpretation of the drawings. Because of these limitations, I should mention that it was difficult to know for certain the reasons for including features or youth experiences in the drawings. For example, a drawing of a young girl carrying a book might suggest that education is important for this youth (Figure 8). But because the girl has one hand, the drawing requires additional comments from the youth to understand for certain the meaning. A one-on-one conversation with each youth, going through each component of the drawing, may have been more illuminating; as opposed to a focus group discussion (particularly when there were 26 youth of varying ages in the focus group). Although I did not rush the youth through talking about their drawings (we talked about the drawings in two meetings), in hind sight, I think it would have been more effective if I had one-on-one conversations or two separate groups meeting at different times: one for the younger participants and the other for the older ones.

Another limitation concerns viewing myself as an insider/outsider. While I am a Malawian and speak the language of the people in Chinduzi, I was mostly an outsider. As I have explained under the discussion of site selection above, I learned that the two tribes in Chinduzi (Yao and Lomwe) have cordial relationships. However, since I do not come from this community, I lacked knowledge of how the community interacts and relates to

each other, or if there are any politics and power issues within and across the tribes. If I

was a native member of the community, perhaps I would have had different insights.

Chapter Summary

This chapter has described the research approaches that I used to explore how

environmental sustainability is taken up in the forms of knowledge and practice

embedded in the local culture of Chinduzi village. The methodology employed in the

study included a combination of aspects from PR and IRM. Facilitators, youth, and

Elders were the research participants. Data were collected through focus groups, place

mapping, individual conversations, observations, and review of archival documents.

Following an inductive data analysis, six themes were identified which I present in the

next chapter.

CHAPTER FOUR: RESULTS

This chapter presents results of the study conducted at Chinduzi Junior Farmer Field and Life Skills School (JFFLS) in the Machinga district of Malawi (see figure 2).

Based on the review of literature and the important issues identified within, and the methodological approaches, three research questions were developed to achieve the purpose of the study:

1. How do participants understand place and environmental sustainability in relation to knowledge and practice (both Indigenous and non-Indigenous)?

2. Within the context of Chinduzi village, the JFFLS program, and its engagement with issues of environmental sustainability, what forms of knowledge and practice (both Indigenous and non-Indigenous) are evident in the JFFLS program?

3. What are participants' views on how environmental sustainability should be further engaged within the JFFLS program in relation to knowledge and practice (both Indigenous and non-Indigenous)?

Themes from Data Analysis

Following the inductive analysis of the data as described in the previous chapter, I identified common words and phrases, which I categorized into six broad themes:

1. General views on knowledge and practice (both Indigenous and non-Indigenous);

2. Place and environmental sustainability in relation to knowledge and practice (both Indigenous and non-Indigenous);

3. Current status: Environmental sustainability and knowledge and practice in the JFFLS program;

4. Moving forward: Engaging environmental sustainability in the JFFLS program;

5. Moving forward: Engaging environmental sustainability in Chinduzi community;

6. Inconsistencies in policy, practice, and communication.

The identified themes correspond to the research questions in the following ways: the first theme provides an overview of participants' perceptions of knowledge and practice; the second theme corresponds with question one; the third theme with question two; and the fourth and fifth themes with question three. While the last theme does not specifically correspond with a research question, it informs implications for implementing a JFFLS, as well as teaching and learning in a JFFLS program.

In presenting the findings of the study, I quote extensively from Elders' conversations, and both facilitator and youth focus groups. To maintain the authenticity and integrity of the data, I present the quotes verbatim as spoken by participants in the local language of Chichewa. I also provide an English translation following the quotes. All participant names have been replaced with pseudonyms to protect participant identity.

Theme One: General Views on Knowledge and Practice

The first theme that will be discussed is participants' (Elders, facilitators, and youth) general views on knowledge and practice. The broad focus of the study was knowledge and practice (both Indigenous and non-Indigenous). Thus it is helpful to gain an understanding of participants' views and perceptions on this topic. These views and perceptions are embedded in the other findings. Before I present the findings, it is important to note that in this study I understand knowledge and practice to be intermeshed. Unlike in western understandings where knowledge is something abstract, Indigenous knowledge systems are contextual in nature; dependent on the culture, place, tradition, history, and geographical position of a given community of peoples; and

embedded in the cumulative experiences and teachings of Indigenous peoples rather than in a library or in journals (Battiste, 2008b). Hence they are embodied, implicit, and embedded in people's practice and social habitus (Bourdieu, 1980) and, as such, they cannot be "boxed in time and space" (Dei & Asgharzadeh, 2006, p. 54) or objectified. Thus in this study, knowledge and practice is conceptualized as embodied, implicit, encompassing both processes and practices, and embedded in the place and social habitus of the people of Chinduzi village.

Sub-themes under the theme of participants' general views on knowledge and practice include: the hybrids of Indigenous and non-Indigenous knowledge and practice, as well as privileging forms of knowledge and practice. The sub-themes are presented in turn.

Hybrid: Indigenous and non-Indigenous knowledge and practice.

Most participants (Elders, facilitators, and youth) are of the view that the youth in the JFFLS (as well as in primary school in general) need to learn both the local IK and practices of the community, as well as the non-Indigenous knowledge (Western knowledge). As put by Elder Dzinyemba, "*Ndikofunika kuti anawa aphunzire nzeru ya makolo komanso yachizungu ku sukulu. Akatero atha kugwiritsa ntchito nzeruzi malingana ndi mmene angaonere.*" ("It is important for children to learn both Indigenous knowledge and Western knowledge in school. That way they will be able to use each one depending on the situation") (First conservation).

While most Elders supported youth learning both knowledge systems in school, they provided a caution on this aspect. They emphasized the need to not accept everything that is being promoted from other parts of the world, but to be prudent by

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filtering and selecting only positive aspects of Western knowledge (WK), because not everything would be appropriate for them. In addition to the introduction of inorganic fertilizers, Elders gave an example of the promotion of blue gum trees (*Eucalyptus terreticornis)* in Malawi. Most communities in Malawi embraced an effort to plant the trees everywhere throughout the country. Only later did communities realize that the blue gum species was not a good agroforestry species for the region. Because of their deep root systems, the trees absorbed a lot of water from the surrounding environment, depriving nearby plants. Elder Mussa puts it this way: *"Mtengo wa blue gum unabwera ndi azungu tinatengeka ndi kudzala pali ponse koma ndi mtengo woononga nthaka kwambiri umatha madzi. Ndiye pali zina za chizungu zimene zili za bwino koma zina ayi. Tayenera kusankha osamatengeka ndizonse zobwera ndi azungu."* ("Blue gum tree species came with the Westerners, we were excited and grew it everywhere, but this species is very detrimental because it absorbs lots of water. There are some things that Westerners bring that are good, but others are not. We have to be selective of what to take from them because not everything they bring here is good") (First conversation).

The point on selecting positive aspects of knowledge and practice was not only limited to WK, but was applied to IK as well. Participants talked about choosing "good" Indigenous knowledge and practice. For example, according to Elder Mlauzi, youth should learn "good*"* cultural practices so they can grow with good morals and character. The word good was emphasized by the Elder suggesting a recognition, shared by other participants, that not all cultural practices are *good*. Even the youth are aware of the potential for bad cultural practices, as epitomized in Mayeso's view on local Indigenous practices: *"Nzeru zina za makolo ndi zonyansa kwambiri, monga kusimba amatiuza kuti*

tikachotse fumbi, mchitidwe omwe uli onyasa chifukwa umafalitsa matenda monga a

edzi." ("Some local Indigenous knowledge is not good, for example during initiation ceremony they tell us that we should sleep with a woman (*kuchotsa fumbi*), a bad practice that contributes to the spread of diseases such as HIV/AIDS") (First focus group discussion).

Some youth seemed to make a distinction between knowledge/practice on morals and character, versus other types of knowledge and practice. As Spiwe puts it: *"Tiphunzire nzeru ya chizungu pa zina ndi zina, koma pankhani ya chikhalidwe, tiphunzire nzeru yamakolo chifukwa yimaphunzitsa makhalidwe abwino monga kulemekeza makolo ndi akulu…komanso kuzilemekeza tokha monga mabvalidwe"* ("We should learn Western knowledge for other things but when it comes to behavior-related, we should learn Indigenous knowledge because it teaches good manners and morals such as to respect parents and Elders…but also to respect ourselves like in dressing") (Second focus group discussion).

It is clear that most participants support a hybrid of Indigenous and non-Indigenous knowledge and practice in the JFFLS program as well as in the general primary[15] school. However participants warn against adopting the knowledge systems wholesale: being prudent in selecting only positive and appropriate aspects from both systems.

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[15] In Malawi "Primary school" refers to Elementary school. The JFFLS is housed at the Chinduzi Primary school and when participants talked about youth learning hybrid forms of knowledge and practice in school, they were not just referring to the JFFLS but the primary school as well.

Privileging forms of knowledge and practice.

While learning both knowledge systems in school was supported by most participants, some appeared to privilege one over the other. For instance, some viewed WK as superior, stating it is the type of knowledge that can develop a person. Such viewpoint is expressed by Elder Wenzulo: *"Nzeru ya chizungu ndiyapamwamba chifukwa yimapangitsa munthu kuti apite patsogolo, atukuke ndikukhala opambana. Nzeru yamakolo ndiyotsalira, siingampangitse mwana kupita patsogolo. Ife tikufuna ana athu aphunzire Chingelezi ndi nzeru ya azungu…tisachedwe ndi zamakolo koma tilimbikire zachizungu."* ("Western knowledge is superior; it enables one to get ahead. Indigenous knowledge is backward, it cannot help a child excel and develop. We want our children to learn English and Western knowledge…we should not waste time with Indigenous knowledge but we should promote Western knowledge") (First conversation).

Some youth expressed similar views of privileging WK. As Felix says, *"Ine nzeru zamakolo ndilibe nazo chidwi… ndikaphunzira nzeru zamakolo kusukulu, sindioneka ngati ndaphunzira."* ("I do not have any interest in Indigenous knowledge because it is inferior and if I learn it in school, I will not appear like I am educated") (First focus group discussion). Felix was a member of the team (14 youth) that worked with me on a daily basis holding conversations with Elders and participating in the initial data analysis. It was interesting to note that at the end of the study, Felix had changed his opinion about IK. He was enthusiastic about learning both knowledge systems in school for the same reasons given by Elders Mlauzi and Dzinyemba.

Although some youth who were part of the research team changed their points of view on knowledge and practice at the end of the study (e.g., Felix), others maintained

their positions that WK was superior. For example, Tiyamike says: "*Kuphunzira nzeru za makolo ku sukulu zingakhale zosokoneza.*" ("Learning Indigenous knowledge in school would be confusing") (Last focus group discussion). An interesting development within the participatory research process was that as the youth became more comfortable with one another and with the process, they began asking follow-up questions of each other's responses. For example when Tiyamike gave her opinion about learning IK in school, Mphatso followed up with what I thought was a great illustration: "*Ukunena kuti kuphunzira nzeru za makolo ku sukulu zingasokoneze, monga atati azitiphunzitsa kapangidwe ka manyowa kuzera mnjira ya makolo, kapena kulosozera za nyengo monga akulu-akulu anatifotokozera, zimenezo zingakhale zosokoneza bwanji?* ("You are saying learning Indigenous knowledge in school would be confusing, let's say they teach us manure making following Indigenous ways or weather fore-telling signs like the Elders explained to us, how would that be confusing?") (Last focus group discussion). Tiyamike maintained her position. She elaborated that for her, school is a place to learn the knowledge and practice that can help her *"develop"* and *"excel"*: "*Ku sukulu ndiphunzire nzeru zomwe zingathandize kutukuka ndikupita patsogolo.*" ("In school I should learn knowledge that can help me develop and excel") (Last focus group discussion).

In his support for WK over IK, Elder Wenzulo referred to me to illustrate his point:

> *Ndi miyambo yamakolo anthu sankapita patali, amangokhala pompo… koma yachizungu yimayenda, munthu umatha kupita uko ndi uko monga inu aphunzitsi mwachoka ku Canada…mmene munkapita ku sukulu [ku*

mudzi kuno] munaphunzira chingerezi ndi nzeru ya azungu simnaphunzire

nzeru ya makolo. (People did not go far with Indigenous knowledge…but

with Western knowledge one is able to go to different places, like you, the

teacher,[16] you have come from Canada…because when you went to school

[here at home] you learned English and Western knowledge not

Indigenous knowledge) (First conversation).

I did not respond to his accurate observation about my learning Western knowledge and

not IK in school immediately. After much reflection and considering that the study was

informed by a "hybrid third space" (Bhabha, 1994; see discussion of postcolonial theory

in chapter two—literature review), which is a space of inclusion rather than exclusion

and has a counter-hegemonic agency embedded within, I decided I was going to respond

to Elder Wenzulo's observation. I first discussed my response with the youth before we

went to the Elder's home. This is how I responded to Elder Wenzulo's correct

observation:

I acknowledge that I did not learn the local Indigenous knowledge and

languages in my schooling and how I viewed them as inferior forms of

knowledge and practice. But as I have grown older I have begun to

question why my earlier education did not give me the opportunity to learn

the knowledge and practice of my grandparents in school. I have begun to

wonder what would have been wrong if my agriculture lessons included

the local knowledge of foretelling weather for example? I am curious and

wondering if the local Indigenous knowledge could complement the

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[16] Elders used to refer to me as a "teacher." This is the power issue I have elaborated in the previous chapter that I was regarded as someone with "power." I kept reminding participants I was there to learn from them.

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Western knowledge we learn in school, perhaps if the youth could learn

both types of knowledge in school. With climate change impacts on

especially those of us depending on agriculture for our livelihoods, I am

wondering if we can sustain our environment with Western knowledge

alone. I am not promoting one knowledge over the other but wondering if

the school has space for "and/both" instead of "either/or." Perhaps the

local Indigenous knowledge of the people could help us as we look for

solutions for environmental sustainability? My quest is to get views and

perspectives of the people of Chinduzi on learning in the JFFLS program:

should the youth in the program learn both local Indigenous knowledge of

Chinduzi and Western knowledge? If they should learn the local

Indigenous knowledge, how should it be taught—facilitators alone or local

expertise should participate? These are the questions I am grappling with

(Second Elder conversation).

After hearing my explanation, Elder Wenzulo had this to say "*Mwina*

mukatero[kuphunzira nzeru ya makolo ndi yachizungu] tikhoza kugwirizana, koma nzeru

ya makolo paiyo yokha siingathandize." ("If you say that [learning both Indigenous

knowledge and Western knowledge] I would agree with you, otherwise Indigenous

knowledge alone cannot help"). The explanation helped him see that I was not proposing

"either/or" scenarios but rather "and/both" possibilities.

While some Elders such as Elder Wenzulo held WK in higher esteem, others

seemed to privilege the local IK. According to Elder Mussa:

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Nzeru ya makolo ndi nzeru yomwe yili yopambana kotelo yofunika

kwambiri chifukwa ndi nzeru yomwe mwana amaphunzira akangobadwa.

Nzeru ya azungu yimachita kubwera mwana akakula. Chifukwa chake

tikunena kuti ndikofunikira kuti mwana apitirize kuphunzira nzeru

yoyamba nzeru yamakolo akapita ku sukulu. (Indigenous knowledge is the

most important knowledge a child learns as soon as it is born. Western

knowledge comes later. That is why we are saying it is important for a

child to continue learning the first knowledge when the child goes to

school) (First conversation).

Facilitators of the JFFLS also supported the use of IK over WK. The reason for

facilitators' view was primarily inaccessibility of WK technologies and inputs due to

costs, as well as the goal of a JFFLS empowering youth with knowledge and skills they

can pursue later on their own. Facilitators are of the view that teaching youth WK would

not be appropriate because some youth would not be able to afford the materials such as

chemical fertilizers. These points are revealed in this excerpt:

Mrs Sankhulani: The manual focuses on Western knowledge, but we as

facilitators use more of the IK because we cannot afford the materials for

Western knowledge.[17]

Jean: If you had the means to purchase materials for Western knowledge,

would you still focus on IK?

Mr. Sabwelera: *Tikhoza kupitiriza kuwaphunzitsa nzeru ya makolo* (We

would continue teaching them IK).

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[17] Mrs Sankhulani was the only facilitator who would speak English because she is a teacher at the primary
school.

Jean: Why would you continue teaching them IK?

Mr Lapukeni: *Cholinga cha pulojeketiyi [JFFLS] ndi choti ana aphunzire zomwe angathe kuchita pa iwo okha. Ndiye tikati tiaphunzitse kwambiri za chizungu, ena sangathe kugula zofunikira monga feteleza.* (The goal of this project [JFFLS] is that youth should learn what they can do on their own. If we focus on teaching them Western knowledge, some [youth] may not afford inputs such as chemical fertilizer) (Second focus group).

Generally most participants support youth learning a hybrid of IK and WK in school. However, some privilege one form of knowledge system over the other. Having presented partcipants' general views on knowledge and practice, the next section presents findings relating to place and environmental sustainability.

Theme Two: Place and Environmental Sustainability

The second theme that arose from the data analysis addresses the issues of place and environmental sustainability in relation to local knowledge and practice. This theme directly corresponds to research question one: How do participants understand place and environmental sustainability in relation to knowledge and practice? Because different methods were used to collect data to help answer this question – focus groups and conversations with facilitators and Elders; and place mapping and focus groups with youth – I have categorized the theme into two sub-themes. The sub-themes are, Chinduzi place: A historical account, and Youth sense of place.

Chinduzi place: A historical account.

As participants endeavoured to illuminate a historical rendering of Chinduzi in the context of place, stories around agriculture and deforestations were prominent. It is

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through these two features of place that information about the role of knowledge and practice emerged.

Both Elders and facilitators participating in the study described the place of Chinduzi in terms of agriculture-related knowledge and practice. They gave a history of agricultural practices in the community. They described the status of the soils, rainfall patterns, and farming practices to ensure environmental sustainability; and how these have changed over time prior to independence (in the 50s and early 60s) to present. They mentioned the thick forests and abundance of trees. Figure 5 shows a land use map of Chinduzi from 1986 (the most recent available). It is clear that during that time, areas for cultivation represented as "general cultivation" in the map were abundant. Elders and facilitators described how people used to clear land and grow crops without any fear of not having good harvest because the soils were fertile, and rains came on time and in the right amount. This view is exemplified in Elder Dzinyemba's account:

> *Konse kuno kunali mitengo yambiri, moti munthu sumatha kuona mtsinje*
>
> *wa Shire monga tikuona pano* [as he pointed to the river which is nearly 7
>
> km away from his house] *chifukwa chothithikana mitengo…nthaka yathu*
>
> *yinali yachonde anthu timangodzala chimanga ndikumadya osaopa chilala*
>
> *chifukwa mvula imabwera pa nthawi yake ndipo mokwanira.* (This place
>
> had many trees, forming a thicket such that one was unable to see the Shire
>
> river as we see it now [as he pointed to the river which is nearly 7 km
>
> away from his house]…our soils were fertile, we used to grow maize and
>
> eat without fearing of drought because rains came on time and in the right
>
> amount) (First conversation).
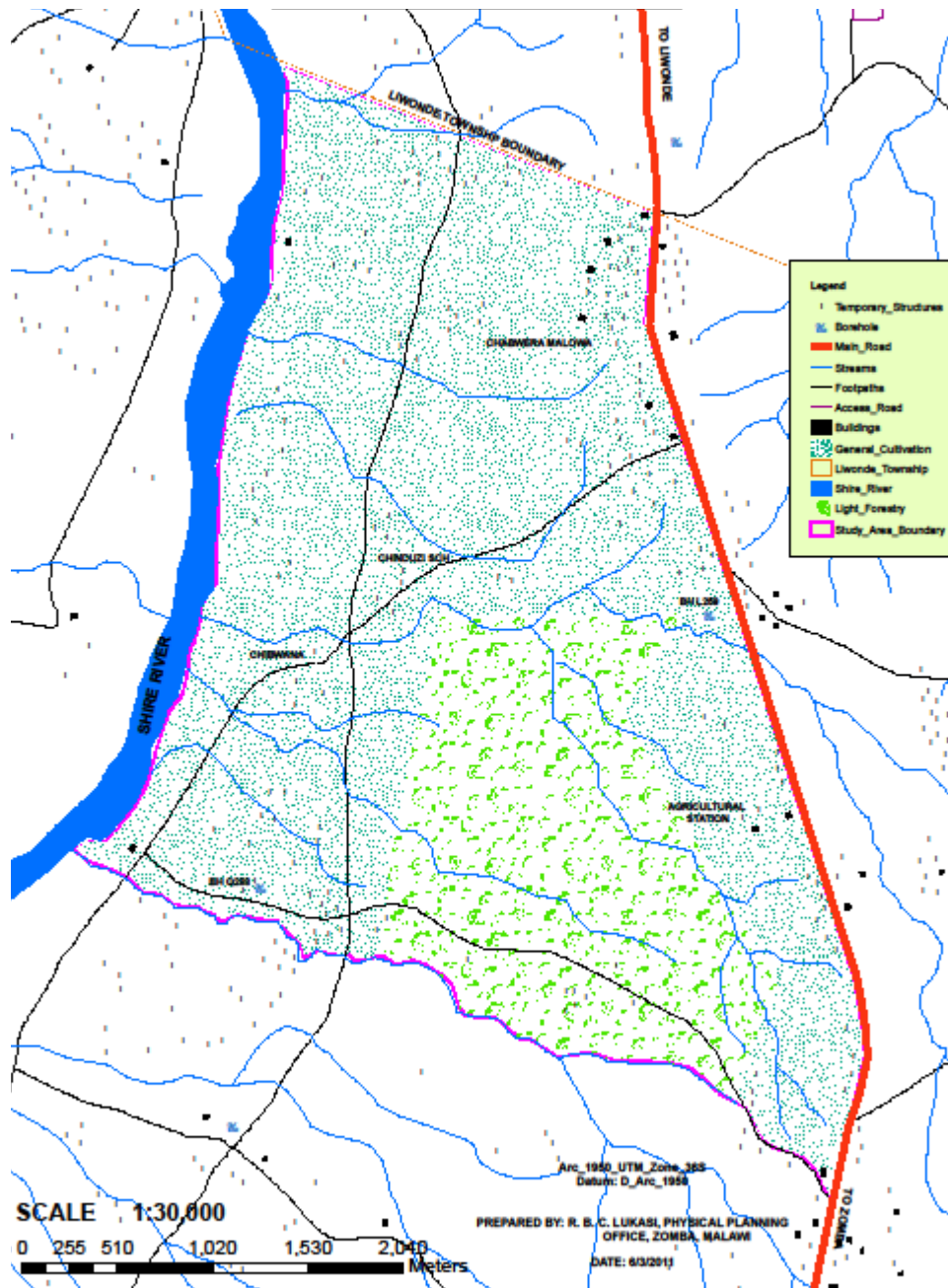
Figure 5. Chinduzi land use map, 1986.

Source: Lukasi (2011).

It is important to note that at independence in Malawi (1964) both smallholder agriculture and large-scale commercial agriculture were not as developed as in most African countries (Mkandawire, 1999). One of the reasons for the lack of development was that Malawi was assigned the labour "reserve" status to provide labour to estate farming in Malawi and the Southern African regional markets including the mines and plantations in South Africa and the then Southern and Northern Rhodesias (Zimbabwe and Zambia respectively) (Mkandawire, 1999). It is fair to assume that in the 50s and early 60s people in rural Malawi (including Chinduzi) were for the most part, using Indigenous agricultural practices. After the formal colonial rule, some Western agriculture practices were introduced as Malawi participated in the globalization agenda.

Elders and facilitators talked about the measures they traditionally implemented to ensure their soils remained fertile. They mentioned five areas of practice including: shifting cultivation, legume intercropping and rotation, manure making, weather fore-telling signs, and beliefs and taboos. All these practices have been cultivated through many generations and, therefore, are identified as Indigenous knowledge and practices. In what follows, I give an example of how participants described each of these practices.

First, Elder Mussa explains the Indigenous practice of shifting cultivation and how it has changed over time:

> *Nthaka yathu yinali ya chonde chifukwa timaipatsa mpata opuma, timatha kusiya malo kukhala dzaka osalimapo cholinga choti nthaka yibwerere…timatha kupanga zimenezi chifukwa anthu tinalipo ochepa. Izi tinkachita m'ma 50 ndikumayambiriro a 60. Tinayamba kusintha malimidwe athu chamma 70 maka-maka chifukwa chochulukana;*

sitikanatha kusiya malo osalima. Tinayamba kugwiritsa feteleza

ndikudzala mbeu za hybrid zocha msanga cholinga tikolole zochuluka

pamalo ochepa. Feteleza ndi mbeu za hybrid zimapedzeka mosabvuta

ndipo zinali zosadula, anthu ambiri tinasangalala. Koma zinthu

zinayamba kusintha ndikhulupirira chamma 90. Feteleza anayamba

kudula kwambiri moti ambirife sitinathe kukwanitsa, tinadzala opanda

feteleza. Poti nthaka inali itazolowera feteleza, sitinathe kukolola

zokwana. (Our soils were fertile because we used to give them a break to

regenerate through shifting cultivation. We were able to do this because

there were few people. This was mainly in the 50's and early 60's. We

began to change our farming practices in the 70s mainly because of a rise

in population; we could not afford to leave land fallow. We started using

fertilizer and fast maturing hybrid maize varieties so that we could harvest

more on a small piece of land. Fertilizer and hybrid seed were easily

available and affordable and most people were excited. However things

started to change I believe in the early 90's. Fertilizer became so

expensive we could not afford it, so we planted without and did not

harvest enough because our soils had become used at this point) (First

conversation).

Literature supports Elder Mussa's account. According to Bekunda, Sanginga, &

Woomer (2010), the push to use synthetic fertilizers started becoming important in sub-

Saharan Africa during the 1960s when, in its implementation of the "Freedom from

Hunger Campaign (FFHC)," the FAO agreed to prioritize fertilizer projects to

demonstrate the impacts of modern technology on agricultural production. From the mid-1970s to the early 1990s, the Malawi government financed a universal fertilizer subsidy, subsidized smallholder credit, and controlled maize prices (Dorwad & Chirwa, 2011). These measures made fertilizer affordable for many smallholder farmers. However, with the introduction of Structural Adjustment Programs (SAPs[18]), the fertilizer subsidy system began to break down in the late 1980s/early 1990s and collapsed in the mid-1990s. Because one of the aims of SAPs is to abolish fertilizer subsidies, fertilizer prices skyrocketed, making them beyond the reach of most farmers (Cleary, 1989). Most farmers grew crops without applying fertilizer but because their soils were depleted and used to fertilizer, they harvested very little which led to a food crisis (Cromwell et al., 2001; Dorward & Chirwa, 2011; Frankenberger, Luther, Fox, & Mazzeo; 2003; Harrigan, 2003). Most participating Elders remembered the food crisis with a lot of detail.

Second, facilitator Sabwelera described the practice of legume intercropping in this way: "*Sitimadzala mbeu yamtundu umodzi mmunda, timasakaniza chimanga ndi nyemba, maungu, kapena nandolo. Timadzala nyemba, maungu, kapena nandolo pakati pa mapando a chimanga…izi zimathandiza nthaka kuti ikhale ya chonde.*" ("We were not growing one type of crop in the garden, we used to mix maize with beans, pumpkins or pigeon pea (*Cajanus cajan)*. Beans, pumpkins or pigeon pea were planted in between the maize stations…such practice helped to maintain soil fertility") (Third focus group).

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[18] SAPs are economic policies for developing countries that were promoted by the World Bank and the International Monetary Fund (IMF) since the early 1980s. According to Cleary (1989) the purpose of SAPs is to steer economies toward better economic and social performance. The aims of SAPS are: opening the natural economy to imports; reducing the size and role of government; eliminating subsidies to agriculture; encouraging privatization of many economic and social sector and; devaluing the local currency (Cleary, 1989). SAPS are viewed by some as ongoing forms of colonialism that operate through global economic policy (Chossudovsky, 2003).

Third, the process of manure making was explained by Elder Dzinyemba: "*Kalelo manyuwa timapangira kumunda konkuja, tikangomaliza kukolola masamba akadali a green, timakwatulira mngalande*" ("We used to make manure right in the garden, soon after harvesting, while the leaves were still green we could cut everything and put it in between the ridges") (Second conversation). This process for manure-making will be described in detail later in the chapter.

Fourth, all participating Elders mentioned one or more signs for fore-telling weather based on cultural beliefs as well as long term observations. For example, budding of leaves by certain trees and the croaking sound of frogs signify the coming of rains. *"Zizindikiro zolosera nyengo: Kunoko timawoonera mitengo mphiri [la Chinduzi]… mitengo yikayamba kuphuka masamba yikubweresa masamba kusonyeza kuti mvula yasala pang'ono kubwera, ndiye kuti yambani kulima."* ("Signs for fore-telling weather; we look at trees in the hill [Chinduzi]…when trees start to bud it means rains are about to come, which means we need to start preparing our fields") (Elder Mussa, second conversation). Very hot temperatures during the months of September and October predict high rainfall in the coming season. On the other hand, increased occurrence of termites in the gardens, high production of mangoes and prolonged cold season are indicators of low rainfall in the coming season.

Fifth, beliefs and taboos that used to protect the natural resources of the place, such as trees, were also mentioned. Elder Mussa notes: *"Makolo kale anali ndizikhulupiliro zomwe zimathandiza kuteteza chilengedwe monga panali mitengo ina yomwe simayenera kugwetsedwa chifukwa inali ya mizimu."* ("Our parents had beliefs and taboos which helped protect the environment, for example there were certain trees

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that were not supposed to be cut because they were associated with spirits") (Second conversation). The community still has some big trees in selected places which have not been cut down due to the beliefs associated with them: it is still believed cutting such trees would bring bad luck.

The agricultural-related knowledge and practice participants described in providing a historical context of Chinduzi place are mostly Indigenous. However participants mentioned that due to population growth (as well as government policies such as SAPS), many people in the community no longer practice most of the IK wholesale. Instead, they blend the Indigenous practices with non-Indigenous ones such as the use of synthetic fertilizers.

Insight into deforestation stands out as another feature emerging from participants comments on place in relation to knowledge and practice. Unlike data on agriculture-related knowledge and practice which came from Elders and facilitators, data on deforestation were drawn from all participants. All participant groups were concerned about deforestation and its impacts on Chinduzi place, including in relation to the environmental sustainability of the place. The statement: "*Kudula mitengo kwabweletsa mabvuto osasimbika kudera kwathu kuno.*" ("Deforestation has brought undescribable problems in our community") was not uncommon. Participants are well aware of the reasons of deforestation. For instance, Elder Mlauzi explains the reasons for the continued deforestation in the community: *"Mitengo yambili yatha ndikudulidwa chifukwa cha ootcha makala ogulitsa komanso nkhuni pakhomo. Komanso anthu tachulukana. Zonsezi zikuonjezela kuchepa kwa mitengo ku dela kwathu kuno."* ("Deforestation occurs because of people who burn charcoal for sale as well as firewood

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for use in homes. But also our population is growing. All these contribute to the scarcity of trees in our community") (Second conversation).

The data have revealed three main impacts of deforestation including soil erosion, drought, and firewood shortage. Data describing the three identified impacts are discussed in the following paragraphs.

Participants lamented the loss of the soil due to the decrease of trees. The decrease in the number of trees reduce the protective surface cover in the area, thereby exposing the soil to more rain and wind. Elder Dzinyemba describes the impact in this way: "*Kukokoloka kwa nthaka ndi bvuto lalikulu kwathu kuno. Bvuto limeneli ladza chifukwa chakusowa mitengo. Mitengo imateteza nthaka, yikamayoyola masamba ndiye kuti isungile nthaka kuti mvula ikamabwera isakokole nthaka.*" ("Soil erosion is a big problem in our community. This problem has arisen because of the scarcity of trees. Trees protect the soil from eroding, when they shed leaves, the leaves cover the soil and act as a barrier so that when the rains come, the soil is not easily washed away") (First conversation).

Drought was another impact of deforestation that participants discussed. They elaborated how their community has been severely affected by drought in recent years and linked the impact to deforestation: "*Kwathu ndikobvuta mvula ndi kale ndiye kusowa kwa mitengo kwaonjezela bvuto lochepa mvula moti chilala chakhala chosasowa.*" ("Our area does not receive enough rain already and deforestation has exacerbated the problem so that we experience drought more than ever") (Elder Mussa, second conversation). Deforestation and drought are closely linked as facilitator Lapukeni explained: "*Mitengo imabweletsa mvula, malo opanda mitengo amakodola chilala.*" ("Trees bring rainfall, a

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place without trees attracts drought") (Second focus group). Literature supports Mr. Lapukeni's observation because deforestation reduces plant evapotranspiration, which in turn reduces rainfall leading to, among other impacts, drought (IRIN, 2006; Laurance & Williamson, 2001).

Youth were also eloquent in describing how drought has affected their community citing issues of hunger, disease, lack of potable water, and lack of clean air. These issues are highlighted in this excerpt of a focus group with youth:

Yamikani: Kukakhala chilala chakudya chimasowa chifukwa anthu sakolola zokwana. (When there is drought we do not have enough food because we do not harvest enough.)

Spiwe: Matenda sachoka pakhomo. (Disease.)

Jean: Ungapeleke zitsanzo za matenda omwe amabwela chifukwa cha chilala? (Can you give examples of the diseases that come because of drought?)

Spiwe: [Matenda] otsekula mmimba monga cholera. (Water-borne [diseases] such as Cholera.)

Jean: Matenda otsekula mmimba amakhudzana bwanji ndi chilala? (How are water-borne diseases related to drought?)

Landileni: Kukakhala chilala madzi amasowa, ndiye anthu timamwa madzi osasamalika nkuona timatsekula mmimba. (When there is drought, water is a problem, so we drink water that is not potable that is why we get water-borne diseases.)

Austin: Komanso matenda osowa chakudya mthupi monga kwashoko.

(Also nutrition-related diseases such as kwashiorkor.)

Chimwemwe: Inde chifukwa chosowa chakudya. (Yes because of lack of

adequate food) (Second youth focus group discussion).

Another way drought has affected the people of Chinduzi is in changing their

knowledge and practices related to earning a living through agriculture. Most people in

Chinduzi, like many rural communities in Malawi, depend on agriculture for their

livelihoods. However, due to persistent drought in Chinduzi, many have changed their

farming practices. According to participating Elders and facilitators, these changes

include irrigation, crop diversification, and non-farming income generating activities. It

is reported that about 40% of the people in Chinduzi practice irrigation along the banks

of the nearby Shire river (Elder Wenzulo, third conversation).While most people used to

grow maize primarily, they have diversified their crops to include drought resistant ones

such as cassava, potatoes, sorghum, and pigeon pea. As Elder Mpando said: "*[Anthu]*

akalima chimanga sakhulupirira chimanga chomwecho chifukwa amadziwa kuti mvula

itha kuthawa nthawi ina iliyoonse. Ndiye amatha kulima chinangwa, mbatata, nandolo.

Mmbuyomo zonsezi kunalibe." ("[People] do not trust growing maize alone because they

know that rains are unpredictable they can stop anytime. So they grow other crops like

cassava, potatoes, pigeon pea, and sorghum. All this was not there in the past") (Third

conversation). Considering that in their historical account of Chinduzi place, participants

talked about how in the past people grew different types of crops, I asked for clarification

of the *past* period being referred to by Elder Mpando:

Jean: Mwanena kuti mmbuyomo anthu samalima mbeu zosiyana-siyana. Kodi ndi zaka ziti zimachitika izi? (You have said in the past people were not growing a variety of crops. How long ago was this?)

Elder Mpando: Nthawi yomwe tinayamba kuthira feteleza ndi kudzala mbeu ya chimanga cha hybrid...tinalangizidwa kuti tizilima chimanga...ndiye ambiri tinasiya malimidwe akatsakaniza monga makolo amachitila kalelo kutsakaniza mbeu zosiyana-siyana. (This happened when we started applying chemical fertilizer and planting hybrid maize seed...we were advised to grow maize...such that most of us abandoned mixed cropping like our ancestors used to plant a variety of crops) (Third conversation).

In addition, drought has led others to engage in non-farming income generation activities such as small businesses like selling fish: "*Anthu ena asiya ulimi chifukwa cha chilala...ayamba mabusiness ena ndi ena monga kugulitsa nsomba.*" ("Some people have stopped farming because of drought...they have started small businesses such as selling fish") (Elder Mpando, Third conversation).

Scarcity of firewood is another impact of deforestation that participants discussed. Deforestation directly affects the availability of firewood for home use. Elder Mussa explained how most women in the community spend a lot of time searching for firewood. Because his wife was in attendance during our conversation with him, the youth and I asked her to speak to the issue of firewood. This is how she responded:

Mayi Mussa: Kupeza nkhuni ndi bvuto lalikulu…timayenda mtunda wautali kukafuna nkhuni. Timabvutika ndithu. Tikachoka mmwawa chamma 7 koloko timabwera chamma 2 koloko. Timakafuna nkhuni ku phiri la Chinduzi koma kukwera kumakhala kovutilako komanso nkhuni kuti tizipeze mphirimo zimavuta chifukwa mitengo yambili yatha mmphiri. (Finding firewood is a huge problem…we walk long distance looking for firewood. We leave home around 7 o'clock in the morning and do not get back home until 2 o'clock in the afternoon. We look for firewood in Chinduzi hill, climbing the hill is difficult, but also finding the wood is difficult because there are not many trees left.)

Jean: Mmangopita mmphiri mmene mungafunile kapena pali malangizo omwe mmasata? (Do you go to the hill any how or there are rules you follow?)

Mayi Mussa: Timakatenga chiphaso kwa amfumu kutiloleza kukafuna nkhuni m'phiri la Chinduzi…koma ndi ntchito yovuta [kufuna nkhuni mphiri], timatopa, kupweteka mmiyendo, mthupi mmawawa ndithu, pamene utakhale siumatha kudzuka kutopa. Chifukwa chakutopa timalephera kugwira ntchito zina ndi zina pakhomo. (We get a pass from the Chief. The pass allows us to fetch firewood in Chinduzi hill…but it [fetching firewood in the hill] is a very difficult task, we get very tired: legs and the whole body ache such that once you sit down you do not want to get up. Because we get very tired, we are unable to do other chores) (Mrs. Mussa, second conversation).

It is evident that deforestation has huge impacts on the community of Chinduzi including soil erosion, drought, and lack of firewood.

In order to begin to make a connection between knowledge, practice, and place, it was evident that participants—particularly Elders and facilitators—grounded their understanding of Chinduzi within a historical context describing historical agriculture-related knowledge and practice. Also participants described how the place of Chinduzi is currently impacted by deforestation. The next sub-theme under the theme of place and environmental sustainability is what I have called "youth sense of place."

Youth sense of place.

As explained in the previous chapter, a place mapping method was used to find out how youth understand place and environmental sustainability in relation to knowledge and practice. Twenty-six youth participated in the place-mapping exercise. Because some youth drew more than one place, I had a total of 30 drawings. Following Collier and Collier's (1986) general approach as described in the previous chapter, I looked at all drawings to get an overview of what was in the drawings. I noted issues of interest, as well as questions. At this point I identified the features that were represented in the drawings which ranged from trees (both Indigenous and non-Indigenous), to houses and people, to monkeys and cars.

To give additional context to the drawings, youth were asked during focus group discussion what they do in the place, when and with whom, how they used the place themselves and how they felt about it. In the second phase of the detailed analysis, I looked at each drawing with its accompanying focus group transcript, exploring the relationship between the features and what was said. Focus group conversation discussed

place mainly in relation to hanging-out with friends, and studying and playing different games. In the final stage of my analysis, I identified a main concept revealed in youth drawings as "youth sense of place." Many of the drawings depicted positive features such as modern houses, people dressed in fashionable clothes, flowers, and so forth. However, at the same time, other drawings showed signs of despair such as deforestation, vulnerable homes, and people with missing limbs. I therefore further categorized the main concept of "youth sense of place" into subcategories of "hope" and "despair." The third and fourth subcategories of sense of "belonging" and "gendered places" respectively, arose from analysing youth's responses on their time spent in their favourite places. The four subcategories under the sub theme of "youth sense of place" are presented in turn. Youth's favourite places showed representations of both Indigenous and non-Indigenous knowledge, which will also be discussed.

Hope.

Hope was evident in most drawings. Although youth were asked to draw their favourite places *in* the community, many of the drawings did not have a resemblance to any specific place in the community, but rather they were drawings of imagined places. It appears the imagined places not only convey the lived realities of the youth, but also signify possible desires and aspirations. Thus, they represent hope.

Youth drawings showed hope in the imaginaries of the journey to success represented, for example, through depiction of baobab trees, education/books, and bus. The baobab tree (*Adansonia digitata)* is a symbol of hope and success, and is a tree many of the youth drew. One of the prominent banks in Malawi, Standard Bank, also uses this tree as a symbol to represent success of investment. The favourite place for one of the

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youth participants, Chimwemwe, is a place with a hut but also with a baobab tree (Figure 6). As can be seen in Chimwemwe's drawing, the baobab tree is proportionally bigger than the house. Although she is currently living in a small hut, perhaps she does not see her life continuing in those conditions. She envisages a better future represented by the baobab tree overshadowing her hut. In a way, what is important for her is not her current condition, but rather her hope for the future. Studies have shown that in their drawings, children tend to include only details that highlight issues that they deem important (Watts, 2010). Thus, for Chimwemwe, the hut is less important than the envisaged future represented by the baobab tree.

Figure 6. Chimwemwe's favourite place showing a hut and a baobab tree.

Another symbol of hope depicted in youth drawings was a modern house. For participant Tiyamike, her place (Figure 7) includes two houses—one with a modern roof of corrugated iron sheets (top left) and the other with traditional grass-thatching (top right). In addition, there are two buses—one operated by a private company known as "Axa" (middle left) and the other being a public one called "Shire" (middle right). Axa is regarded as high class and costs more than Shire. There is also a tree and a grasshopper in

her place. The strongest and most detailed elements in her drawing are the iron sheet-roofed house and the Axa bus. This is how Tiyamike talks about her favourite place:

> *Tiyamike: Ndajambula manyumba awiri yamalata ndi yamaudzu.*
>
> (I have drawn two houses one roofed with iron sheets and the other grass-thatched.)
>
> *Jean: Chifukwa chani manyumba awiri?* (Why two houses?)
>
> *Tiyamike: Ndimalaka-laka nyumba ya malata chifukwa siumamweta udzu chaka ndi chaka.Ya maudzu chonchobe nditavutika.* (I wish for a house roofed with iron sheets because you do not have to replace the grass every year. I have included a grass-thatched one in case I can't afford the iron sheets) (Third youth focus group discussion).

Although Tiyamike does not talk about the buses in her drawing, one sees the significance of their inclusion in her discussion of culture represented in the drawing:

> *Ine ndimalaka-laka moyo wamutauni ndi chikhalidwe chachizungu. Ndatopa ndi chikhalidwe cha kuno ku mudzi…ife kuno kumudzi timakhala tikulima, koma mtauni ndimaona ngati samavutika ngati ife, samagwira ntchito zotopesa monga ulimi ngati ife…Chikhalidwe chamakolo ndichotsalira. Ndimafuna nditakhala mtauni ndikumasata chikhalidwe chachizungu.* (I wish for a city-life and Western culture. I am tired of life here in the village…we work in the field, I think people in cities do not have as hard a life as us, they have it easy, they do not do tiring jobs such as farming like us…Indigenous culture is backward. I would like to live in

the city and practice Western culture) (Third youth focus group

discussion).

This view could imply that Tiyamike is ready to leave the village and get on the bus on

her way to the city where she sees herself having a better and more progressive life. She

believes people in the city have an easy life and are more progressive because they

practice Western culture. When asked what she meant by Western culture, she explained

that for her, Western culture meant watching television, speaking English, buying

fashionable clothes, eating good food, and driving a car. Many youth concurred with her

on the issue of Western culture (and leaving the community for the city) as a solution to a

better life.

Figure 7. Tiyamike's favourite place showing houses, buses, grasshopper, and a tree.

On the other hand, while Tiyamike views leaving the village as a solution to her

vulnerability; other youth participants feel they could address their vulnerability in the

village. For instance the imagined favourite places for both Thandizo and Enelesi are in

Chinduzi. Like many other youth, these two aspire to a favourite place where they will be

able to put into practice both Indigenous and non-Indigenous forms of knowledge. For

instance, Enelesi speaks of being able to wear fashionable clothes and shoes (non-

Indigenous as seen in the lady in her drawing standing near a tap in Figure 8) but at the same time having a local variety of chicken in the home to provide good protein. When she was asked why a local variety of chicken, Enelesi said "*Nkhuku za lokolo ndizabwino [chifukwa]sizamabvuta kusamala.*" ("Local chickens are good [because] they are easy to take care of.") Many youth spoke positively about their lives in the village. They expressed a desire to remain in their village even after completing their education to establish forestry initiatives to help solve the problem of deforestation, for example. This point is exemplified in Yankho's dream for the future:

> *Cholinga changa ndi chakuti ndikamaliza sukulu ndikufuna ndizatukule ku*
>
> *mudzi kwathu kuno, kuti ndizathe kuthandizana ndi anthu osowa*
>
> *chithandizo. Ndikufuna ndizagwire ntchito ya forest, ku mudzi konkuno*
>
> *ndizakhazikisa bungwe la mmudzi momuno kuti tizathe kumakambilana*
>
> *zosamalira nkhalango yathu [Chinduzi.]*
>
> (My goal is that after I finish school, I would like to stay in the village and
>
> help develop my community especially in the area of Forestry. I would
>
> like to be a Forestry Officer and work with people in my community to
>
> save our forest [Chinduzi]) (Third youth focus group discussion).
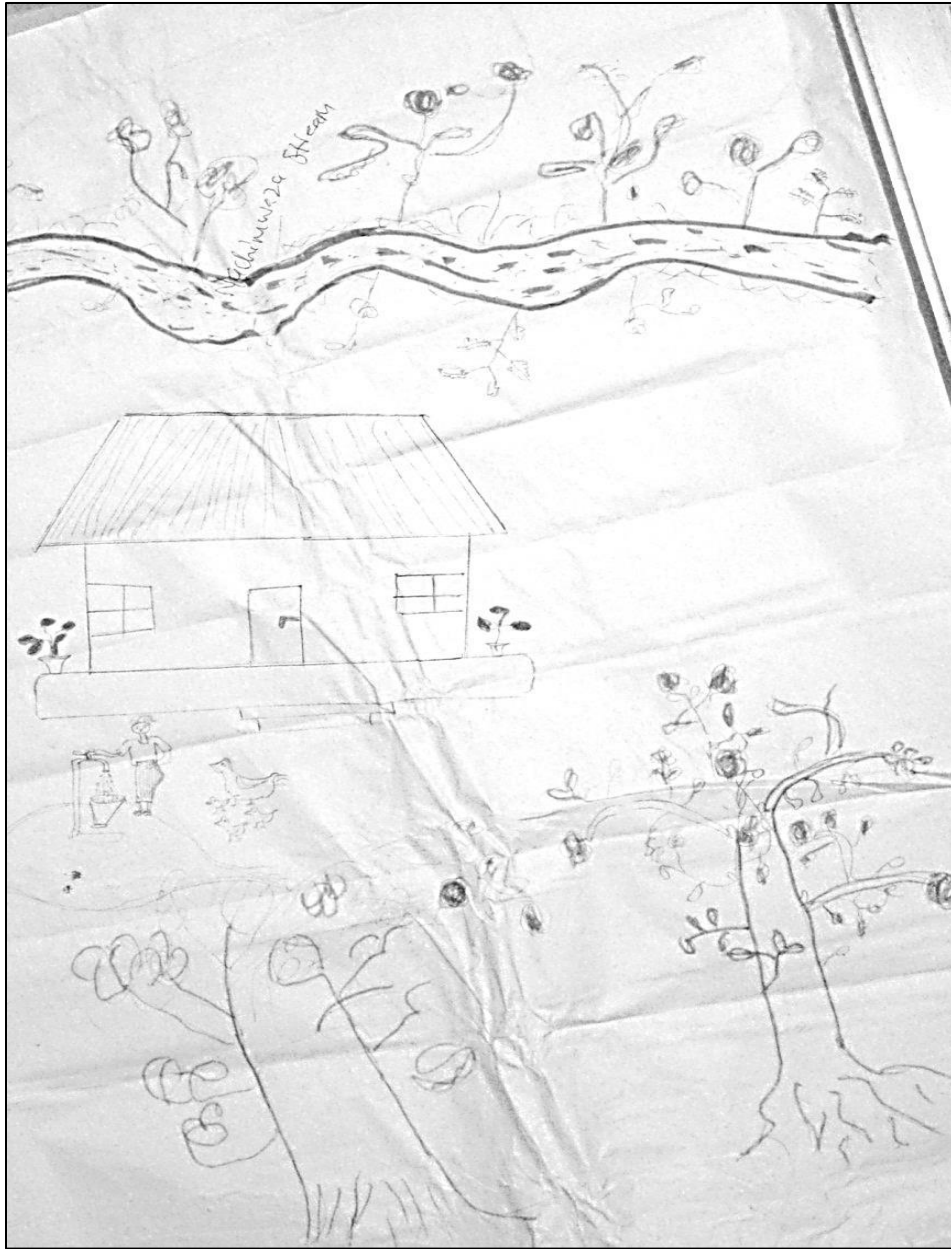
Figure 8. Enelesi's favourite place showing a house, stream, tap, lady, chicken and trees.

Despair.

Despair was a second common feature arising from the youth drawings. Signs of despair depicted in many of the drawings are exemplified by deforestation, vulnerable homes, and people with missing limbs, which all could signify roadblocks to moving forward to a better life. Many of these issues were also elicited during both youth and

facilitator focus group discussions as well as in conversations with Elders. Participants described Chinduzi community as a "place" facing many environmental problems, while at the same time, its people are attempting to reverse the negative impacts threatening it.

In many instances, a drawing represented both despair and hope, as can be seen in the imaginary places of Thandizo (Figure 9) and Ndiuzayani (Figure 10).

Figure 9. Thandizo's favourite place representing hope (e.g., house with iron roof, chimney; lady in fashionable clothes; truck; girl milking cow) and despair (deforestation).

The top portion of Thandizo's drawing (Figure 9) represents great hope in the form of a house, albeit small, with an iron-roof and a chimney, even though none of the houses in Chinduzi has a chimney. The top portion of the drawing also includes flowers around the house; a well-dressed lady; a young girl driving a truck and another young girl milking a cow; and maize to which fertilizer has been applied. Thandizo talks about her place in this way:

> *Thandizo: Ndajambula nyumba, maluwa chifukwa amakongolesa pakhomo.* (I have drawn a house and flowers because flowers beautify a place).
>
> *Jean: Malowa ali ndi zinthu zambiri monga anthu, ng'ombe, galimoto. Ungalongosore kuti chikuchitika ndi chiyani?* (This place has a lot of items, such as people, cow, and truck. There is a lot of story here. Can you take us through what is going on?)
>
> *Thandizo: Ine malo amene ndimakonda ndi omwe pali nyumba yamakono, maluwa, komanso amayi atabvala zobvala zamakono zachizungu, handibagi yokongola. Komanso mtsuko wabwino wotungila madzi. Komanso pakhale ng'ombe za mkaka, galimoto monga iyi, munda wa chimanga wothila feteleza.* (My favourite place is one with a modern house, flowers; the lady of the house dresses in fashionable, Western-style clothes with a beautiful handbag. Also a good clay pot for drawing water [top right]. In addition, the place should have milk-producing cows [second row, middle], a car like this one [second row, right], a maize garden to which fertilizer has been applied [second row, left of cow].

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Jean: Chifukwa chani ukufuna kugwiritsa ntchito mtsuko potunga madzi osati ndowa? (Why do you want to use a clay pot for drawing water and not a pail?)

Thandizo: Chifukwa mtsuko umadzidziritsa bwino madzi kusiyana ndi ndowa. (Because the clay pot cools the water unlike a pail [She is referring to drinking water. Refrigerators are not common in the community and storing drinking water in clay pots is a continued Indigenous practice for many rural communities in Malawi.]).

Jean: Wanena kuti pamalo pakhale ng'ombe zamkaka, galimoto ndi munda wa chimanga wothila feteleza.Ungalongosole zifukwa zake? (You have said the place should have milk-producing cows, car, and a maize garden to which fertilizer has been applied. Can you explain why your favourite place should have such things?)

Thandizo: Ng'ombe zamkaka zimapeleka mkaka chomwe ndi chakudya chopatsa thanzi komanso tiyi wothira mkaka amakoma. Ndimasirira ndikaona anthu akuyendetsa galimoto…feteleza amathandiza kukolola zochuluka. (Milk-producing cows provide milk which is a nutritious food but also tea to which milk has been added tastes good. When I see people driving cars, I wish I would be the one…fertilizer helps harvest more).

Jean: Kodi malo okhala ngati amenewa alipo ku Chinduzi? (Does such a place exist in Chinduzi?)

Thandizo: Ayi, koma ndi malo omwe ndimala-laka nditakhala nawo

mmudzi muno. (No, but I aspire to have such a place in this village) (Third

youth focus group discussion).

On the other hand, the bottom part of Thandizo's drawing is not as hopeful as the

top portion. It shows signs of despair, particularly deforestation and environmental

degradation. This is how Thandizo talks about this part of the drawing: *"Chilengedwe*

chikuonongeka kwathu kuno…kudula mitengo kumaononga chilengedwe." ("There is

environmental degradation in our community…cutting down trees destroys the

environment.") The caption under the fallen tree at bottom left in Thandizo's drawing

reads "Tree has fallen due to strong winds." The caption at bottom right reads

"Environmental degradation." While the negative environmental impacts are all literal, I

wonder whether she is using these statements as metaphors for her real life as well.

Although both of her parents are alive, she is vulnerable. She faces many challenges. She

is a tree trying to stand firm but the challenges of life are pulling at her and trying to

break her. Yet, she does not give up because she is hopeful for the future. It appears hope

is more important to her; thus, she represents it with more features and at the top of the

illustration where the eye is first drawn.

Figure 10. Ndiuzayani's favourite place showing house, flowers, trees, and a girl
carrying a book.

Another drawing that represented both Hope and Despair was that of Ndiuzayani
(Figure 10). Ndiuzayani is a 10-year-old girl and an orphan, who lost her mother. She is
in standard 3.[19] She seems to like plants because in her drawing, plants are three of the
five items. There is a lot of hope shown in this drawing. One sees hope represented by
the beautiful flower, which is proportionally bigger than the other features. Perhaps its

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[19] In Malawi we use "standard" to refer to grade: the primary/elementary system has 8 standards.

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beauty and size signify its importance, as explained with Chimwemwe's illustration (Figure 6) earlier. It appears that the only beautiful things around Ndiuzayani's surroundings seem to be flowers. The detailed pattern of the flower shows that she has looked closely at it. The colourfully dressed young girl and the iron-roofed house in the drawing could also represent hope. The young girl is carrying a book which might also symbolize hope. Ndiuzayani realizes that the importance of going to school is a way to strengthen her position in her world. However, upon closer inspection, the illustration shows the girl has only one hand. Perhaps, the one-handed girl portrays the challenges she may encounter on her journey toward a better life? This question led me to study the data more closely looking for barriers affecting youth learning. In addition to the missing hand in Ndiuzayani's drawing, the data revealed four other challenges which I have considered as signs of despair. The challenges include distance to and from school, food, time, and school supplies. I present these barriers in turn.

In terms of the distance from home to school, Ndiuzayani walks close to 8 km daily as her home is nearly 4 km away from school. I visited her home on a couple of occasions. The first time was when I visited her guardians to get consent for her participation in the study. Other times I would escort her and other youth home when conversations with the Elders ran late. In my conversations with facilitators, I asked them how distance from school impacted children, such as Ndiuzayani. Facilitators mentioned that it was a big problem for most children, particularly the younger ones. When it becomes too cold or rains too much, most miss school. The probability that younger children will drop out of school seems to be higher the farther a child lives from school.

According to GOM (2011), long distance is one of the top three reasons children in the earlier standards/grades drop out of school in Malawi.

Another barrier facing Ndiuzayani, and many children in the community, is food. Ndiuzayani has only one meal a day in the evening after she returns from school. Sometimes she snacks on mangoes or green maize during the day, but only when they are in season. On days when the youth have JFFLS lessons, food is more available because she has a meal of *nsima* with peas. Time spent on school-related activities and leisure is another challenge facing many youth, particularly girls, in the community. Many girls are expected to help with household chores, such as drawing water, fetching firewood, cleaning dishes and home surroundings, and gardening. This is how another girl participant, Spiwe, describes her day:

> *Ndisanapite ku sukulu mmawa, ndimatsuka mbale, kutsetsa*
>
> *pakhomo…mmawa sindimadya kanthu, ndimazadya ndikabwera ku*
>
> *sukulu…ndimayesetsa kupita ku sukulu tsiku ndi tsiku koma kukhala*
>
> *mvula ndimajomba.* (Before I go to school in the morning, I clean dishes
>
> and sweep the surrounding…I do not eat anything in the morning. I eat
>
> lunch after I come back from school…I try to go to school every day, but
>
> when it rains I do not go) (Fourth youth focus group discussion).

Accessing school supplies is another barrier impacting youth learning in Chinduzi. Many youth expressed concern over the difficulties in securing school supplies and paying fees. Felix puts it this way *"Olo utalimbikira sukulu ndikusankhidwa kupita ku sekondale, ukhoza kulephera chifukwa chosowa wokulipilila [fees]."* ("Although you may work hard in school and get selected to go to secondary school, you may fail to go because you

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do not have anyone to pay [fees] for you"). As I have explained in the previous chapter, it was such concerns that led me to personally commit myself to supporting the youth with their secondary education.

Youth drawings revealed both positive and negative signs which I have called "hope" and "despair" respectively. However aspects representing hope were more emphasized than those signifying despair. I will continue to elaborate on the way the "youth sense of place" featured in the data through a discussion of how a "sense of belonging" was represented by youth participants.

Sense of belonging.

Youth depictions of a "sense of belonging" in relation to sense of place were largely grounded in narratives of friendships and family. Friendships were deemed important in providing youth a sense of belonging. Many of the youth in the study spoke passionately about their favourite places and described them as their own; places where they could hang out with friends and feel free to play, talk about anything and study. Below is how Dalitso describes his favourite place:

Dalitso: *Malo amene amanditsangalatsa ndi phiri lathu la Chinduzi.* (My favourite place is our local hill of Chinduzi).

Jean: *Chifukwa chani?* (Why?)

Dalitso: *Chifukwa pali malo ena mphirimu ndimakonda kupitako, ndipo ndikakhala malo amenewa, ndimakhala omasuka.* (Because there is a specific place in the hill where I like to go, and when I am at this place, I feel free).

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Jean: Umapita ndi ndani? Chifukwa chani umakhala omasuka? (Who do you go with and why do you feel free?)

Dalitso: Ndimapita ndi anzizanga, timakhala omasuka chifukwa timatha kukamba nkhani zambiri-mbiri mopanda kuopa kuti wina atimvera. (I go with my friends. We feel free because here we are able to discuss many issues without fear of being heard by anyone).

Jean: Nkhani zake zimakhala zotani, ungapeleke zitsanzo? (What sort of issues do you discuss? Can you give examples?)

Dalitso: zambiri, timakamba za sukulu, kuthandizana ku sova masamu. Komanso timakamba za atsikana ndi zibwenzi. (We discuss many things, such as school stuff. We help each other solve maths. Also, we talk about girls and relationships). [Everybody laughs] (Third youth focus group discussion).

It appears the favourite places are not only for socializing, but are also places where youth help each other out with academics.

While Dalitso did not hesitate in revealing the topics he and his friends discuss when they are in their favourite places, many youth were not as eager to disclose, instead choosing to be vague. This can be seen in Felix's discussion of his favourite place:

Felix: Malo anga ndi phiri lathu lomweli la Chinduzi. Ndimapitako ndi anzanga kukacheza…timakambirana za sukulu ndi 'zina ndi zina.' (My favourite place is our very own Chinduzi hill. I go there with my friends to hang out and chat...we talk of school work and 'other things').
[Everybody laughs and asks "what are the other things?"]

Felix: (Kuseka) (He just laughs).

Jean: Mwina ndizokhuza atsikana ndi zibwenzi?

(May be its issues involving girls and relationships?)

Felix: Ayi (kuseka), timakambirana masamu.

(No [he laughs], we talk of maths) (Third youth focus group discussion).

It was evident that friends were an important aspect of youth's favourite places. Whether it was under a mango or *Ngwemba* tree playing *bao*[20] or *phada,*[21] swimming and fishing in the nearby Shire river, standing on the Shire bridge watching boats, or studying on the Chinduzi hill, youth were visiting all these places not alone, but with friends, as illustrated in the following excerpts:

> *Landileni: Malo a ine ndipansi pa mtengo wa mango. Timasewera* bao *ndi anzizanga…komanso timakamba nkhani zathu. Timakonda malo amenewa makamaka nthawi ya mango chifukwa tikamva njala timatha kuthyola mango ndikumadya...timatha kuwerenga pansi pamtengowu chifukwa umapeleka mpweya woziziwa bwino.* (My place is under a mango tree. I play *bao* game with my friends…also we discuss a lot of issues among ourselves. We like this place particularly when mangoes are in season so that when we get hungry, we reach for the mango fruit in the tree…we also like to study under the tree because we get a good breeze of air).

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[20] *Bao* is a type of board game commonly played in Malawi. The board contains four rows with eight holes. Sixty-four pebbles are used, with two per hole. Since most rural youth cannot afford a board, they usually make holes in the ground and use stones or seeds as pebbles. This is a traditionally male game although there is an increasing number of women who are playing *bao*.

[21] *Phada* is another common game played by children in Malawi, usually girls. It is similar to hopscotch. A matrix of boxes is drawn on the ground and the player throws a small piece of stone into a box. A player loses their turn when the thrown stone does not land on the targeted box or when the player steps on the line of one of the drawn boxes on their way to collect the thrown stone.

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Fatsani: Ndimasewera ndi anzanga pansi pa mtengo wa

Ngwemba...*timasewera masewero monga* phada, *mpira wa manja.*

Komanso timakambirani zinthu zambiri-mbiri monga zokhuzana ndi

sukulu ndi zina zotero...ndimakonda mtengo wa Ngwemba *chifukwa*

zipatso zake timatha kupanga juice. (I play with my friends under the

Ngwemba tree…we play different games, including *phada* and netball. We

also discuss a lot of issues, such as school work, etc…I like the *Ngwemba*

tree because we use its fruits to make juice).

Mayeso: Ine malo amene amanditsangalatsa ndi mtsinje wa Shire.

Ndimapita ndi anzizanga kukasangalala…timasambira, kapena kuima pa

bridge ndikungoona zochitika. (My favourite place is the river Shire. I go

there with my friends for recreational purposes…we swim, or stand on the

bridge hanging out watching what goes on) (Third youth focus group

discussion).

Many of the youth's favourite places are where they socialize, and friendships are

considered an important aspect. All youth spoke of being in their favourite places not

alone, but with friends. Thus friendships contributed to a strong sense of belonging

within the sub theme of youth sense of place.

Family was one of the main contributors to a sense of belonging as it relates to

"youth sense of place." For instance, just like Mayeso, Yusuf's place is the nearby Shire

river. However, he does not go to the river with friends but with his father and not for

recreational purposes, but to work in the *dimbas* (irrigation garden). *"Ndimapita ku*

dimba *ndi bambo anga pa weekend…ndimathandizila kusamala mbeu. Timadzala*

chimanga, tomato ndi anyezi…mbeu zimenezi maka-maka timagwiritsa ntchito pa khomo ngakhale nthawi zina timatha kugulitsa.” ("I go to our *dimba* with my father over the weekend…I help tender crops. We normally grow maize, tomatoes and onions...these crops are mainly for home consumption, though sometimes we sell them"). Yusuf's family has a garden along the river and Yusuf helps out in the garden. As I have explained in the previous sub theme of a historical account of Chinduzi, persistent drought has led many people to venture into irrigation along the banks of the Shire river. In addition, observational data revealed that youth were more comfortable with each other and seemed to enjoy each other's company, as well as that of the facilitators. There was good rapport between youth and facilitators. In the beginning, the youth were too shy to ask questions, however, they became more comfortable very quickly, feeling free to ask many questions. The lessons in the garden were active and often filled with laughter.

Gendered places.

In addition to hope, despair, and sense of belonging, youth depictions about place in the data are notably gendered. Together these four characteristics provide a rich picture of "youth sense of place," which is included in the analysis under the theme "place and environmental sustainability." In this section I elaborate on the data suggesting that youth sense of place also included gendered places.

Data revealed that while both girls and boys visited their favourite places to socialize, most girls indicated they also go to these places (e.g., the local hill, local stream) to fulfill household chores such as fetching firewood and drawing water. For example, the favourite place for Spiwe, a girl-participant, is the local hill of Chinduzi. This is how she describes it: *"Malo anga ndi phiri la Chinduzi…ndimapita ku phiri ndi*

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anzanga kukafuna nkhuni. Nthawi zina timapita kukawerenga..timakhala pansi pa

mtengo kumamvetsera mphepo yabwino." ("My favourite place is Chinduzi hill…I go

with my friends to fetch firewood. Sometimes we go there to study…we sit under a tree

and get a good breeze of air") (Fourth youth focus group discussion). In contrast, while

the favourite place for Landileni, a boy-participant, is the same local hill, unlike Spiwe

who goes there to fetch firewood, Landileni visits the hill mostly to hang out with friends

and chill out or study. This is how he describes it: *"Malo onditsangalatsa ndi phiri la*

Chinduzi…ndimapita ku phiri ndi anzanga kukawerenga, chifukwa cha mpweya

wabwino, timatha kumva bwino zowerenga. Komanso timatha kukhala kungoyang'ana

mitengo, chinthu chomwe chimanditsangalatsa zedi." ("My favourite place is Chinduzi

hill…I go with my friends to the hill to study, because of the refreshing air, we are able to

understand what we are studying. But also we spend time just looking at the trees,

something that makes me happy") (Fourth youth focus group discussion).

Another gendered point related to youth sense of place concerned the level of

detail in the drawings as it reflects differing gender roles. Drawings made by girls tended

to have more details (e.g., houses, rivers, taps, chickens etc.). This is exemplified in the

favourite places of Enelesi (Figure 8) and Thandizo (Figure 9). On the other hand,

drawings made by boys often included only a single feature, such as a tree (e.g., Austin's

favourite place in Figure 11). The differences may be due to the types of chores girls and

boys do. Enelesi speaks of the importance of having water nearby, hence a tap outside the

house. However, realizing that many times taps run dry in this area, her favourite place

needs to be close to a stream so she does not have to go a long distance to draw water

when the tap runs dry. In addition, she wants to have trees near the dwelling to provide

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firewood. She does not like traveling long distance looking for wood. As mentioned before, her favourite place must have chickens to provide a nutritious diet. Similarly Thandizo describes her favourite place as having milk-producing cows to provide good nutrition as well as a clay pot for cooling drinking water. Thus girls appear to be taking into consideration many of the tasks a girl child performs in a home; consequently, their favourite places must enable them to do the tasks with ease.
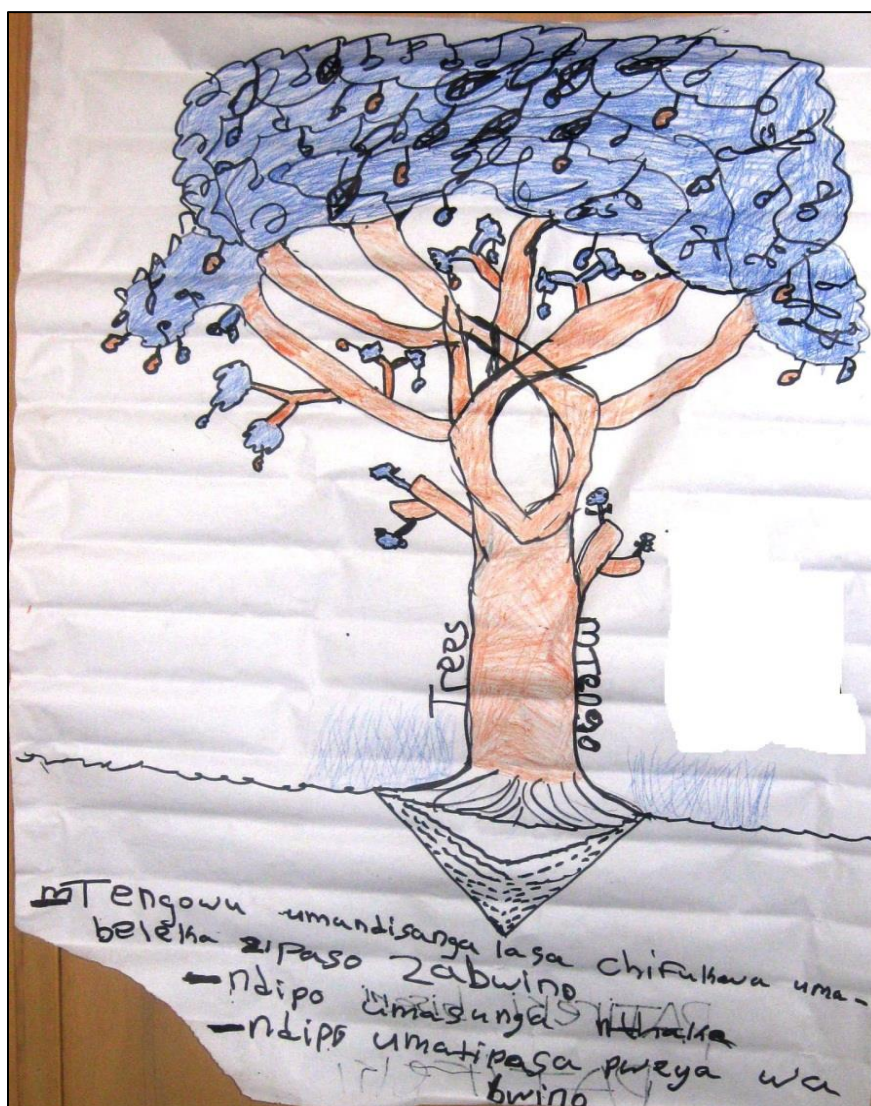
Figure 11. Austin's favourite place showing a mango tree.

In describing their favourite places, youth often talked about activities they engage in on a daily basis. Such discussions revealed another form of gendered place. For instance, in describing their typical day, many girls spoke of helping with household chores both in the mornings before they go to school and in the afternoons after they return home. Boys, on the other hand, tend to help in the mornings and have their afternoons free for studying and leisure. This pattern is exemplified in the day of Lonjezo and Yusufu, a 14-year-old standard eight girl and a 15-year-old standard eight boy, respectively:

> *Lonjezo: Ndikadzuka mmawa, ndimathandiza kutsuka mbale, kutsetsa pakhomo, komanso kukatunga madzi ku mjigo. Kenako ndimapita ku sukulu. Ndikabwera ku sukulu chamma folo ndimadya lunch. Ndikapuma pang'ono ndimapita kukatunga madzi ku mjigo…nthawi zina ndimapita kukafuna nkhuni m'phiri la Chinduzi…phiri la Chinduzi lili pafupi ndi kwathu. Ngati sindipita kokafuna nkhuni ndimakhala ndi mpata wosewera ndi azinzanga pansi pamtengo wangwemba…malo omwe timakonda…kapena [mpata] wowerenga…ndimayimba kwaya ku tchalitchi ndiye masiku ena ndimapita ku practice… Ndimathandizira ku munda kweni-kweni loweruka.*
>
> (After I wake up, I help clean plates and the surroundings, and I go to draw water from the bore hole. Then I go to school. I come back from school around 4 p.m., and have my lunch. After I rest a bit, I go to draw water from the bore hole again…sometimes I go to the nearby Chinduzi hill to fetch firewood. On the days that I do not go to fetch firewood, I

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have a chance to play with my friends under the ngwemba tree…this is

our favourite place…or [I have a chance] to study…I am in the local

church choir; so, some days I go for choir practice. I help in the garden

mostly on Saturdays).

Yusufu: Ine ndimadzuka 5 koloko mmawa kukathandizira ku munda kwa

ola limodzi. Kenako ndimapita ku sukulu. Ndikabwera ku sukulu chamma

folo ndimadya chakudya kenako ndimacheza ndi anzizanga kapena

kuwerenga. Timakomana malo osiyana-siyana monga pansi pamtengo wa

mango, timatha kusewera bao *pamenepo kapena kungocheza.*

(I wake up at 5 in the morning and go to help in the garden for about an

hour. Then I go to school. I come back from school around 4 p.m., have

my meal and then play and hang out with my friends or study. We

frequent various places in the community, including under the mango tree.

We play games like *bao* or just chat) (Fourth youth focus group

discussion).

It is clear that girls in the study have fuller days because they have more

responsibilities in the form of household chores and thus, less time for study and leisure

compared to their male counterparts. Daily activities of girls and boys affect their

education. Of the 26 youth participants in this study, eight (5 girls and 3 boys) were in

standard eight at the time of the study. Standard eight is the last primary/elementary

grade in Malawi at the end of which students take national examinations called Primary

School Leaving Certificate Examinations. Selection to secondary school is very

competitive because there are fewer secondary schools compared to the number of

qualified students (SDNP, 2010). Of the eight standard eight youth-participants, five

were selected to go to secondary school. Of the five, three were boys (all of the boys) and

two were girls (Telephone conversation with Mr. Lapukeni, August 26, 2011).

Unfortunately, Lonjezo was not one of the two girls selected. While there may be many

factors contributing to non-selection of the girls, one might speculate that workload

might be one of the determining factors. However, the correlation between workload and

academic achievement would require a separate study.

Youth sense of place is illustrated in the drawings of their favourite places, which

represent both Indigenous and non-Indigenous knowledge and practice. The drawings

further reveal aspects of hope and despair. A sense of belonging was evident in the social

relationships associated with the activities youth perform in their favourite places.

Additionally the drawings exhibit gendered aspects.

The theme of place and environmental sustainability has been presented in terms

of historical account of the place of Chinduzi (addressing historical agriculture-related

knowledge and practice and current impacts of deforestation), as well as youth sense of

place through drawings of their favourite places. Youth drawings illustrate hope, despair,

a sense of belonging and gendered aspects.

Theme Three: Current Status - Environmental Sustainability and Knowledge and Practice in the JFFLS Program

The third theme that emerged from the data covers the current status of

environmental sustainability and local knowledge and practice in the JFFLS program.

The theme corresponds with the second research question: Within the context of

Chinduzi village, the JFFLS program, and its engagement with issues of environmental

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sustainability, what forms of knowledge and practice (both Indigenous and non-Indigenous) are evident in the JFFLS program? Data are organized under the headings of Curriculum and Teaching methods.

Curriculum.

In order to gain an understanding of the current status of curriculum utilized in JFFLS programming as it relates to uptake of issues of environmental sustainability, it is helpful to first discuss agriculture-related curriculum, then components that can be understood as lifeskills curriculum.

Agriculture-related curriculum.

The agriculture-related curriculum includes soil fertility management (SFM) and pest and disease control practices. Some SFM and pest and disease control knowledge and practices are Indigenous while others are non-Indigenous.

Soil fertility management.

Data indicated that the Chinduzi JFFLS agriculture-related curriculum includes two SFM practices: legume intensification and manure.

Legume intensification SFM practices comprise agroforestry, green manures, rotation, intercropping, and growing crops under leguminous trees. In what follows I present data on these practices.

The JFFLS garden has agroforestry trees known as *Gliricidia sepium* (hereinafter *Gliricidia*). *Gliricidia* is native to South America but is naturalized in many African countries including Malawi (PACE., n.d.). These trees are a type of "fertilizer trees" (Ajayi, 2007; Ajayi, Akinnifesi, Sileshi, & Chakeredza, 2007). The trees are leguminous,

thus they are capable of fixing atmospheric nitrogen to improve soil fertility (Bekunda , Sanginga, & Woomer, 2010). In addition, they increase soil organic matter and improve the physical conditions of soil (Kwesiga, Franzel, Place, Phiri, & Simwanza, 1999). JFFLS youth use *Gliricidia* leaves as green manure for their crops. Figure 12 shows youth cutting *Gliricidia* branches from their garden to prepare green manure.

Figure 12. Youth cutting *Gliricidia* branches from their garden.

Facilitators decided that the youth would grow mustard, a non-Indigenous vegetable, but widely used in the community. They decided they were going to use manure to fertilize the soil. Youth learned how to make green manure using *Gliricidia* leaves from their garden by following steps listed in Table 3.

Table 3: Procedure for Making Green Manure Using *Gliricidia* Leaves

Step	Action
1	Measured the bed 1 m width by 4 m length
2	Dug the top soil gently and put it aside
3	Continued to dig approximately 40 cm deep, removed the subsoil, and put it aside
4	Put *Gliricidia* leaves to make a layer of approximately 20 cm thick (Figure 13)
5	Filled the remaining 20 cm with topsoil (took extra top soil from surrounding areas)
6	Placed stones around the bed to prevent water overflowing
7	Covered the bed with grass to reduce evaporation
8	Watered the bed

Because the rains had not started yet, the bed was to be watered every day for two weeks. Facilitators explained that green leaves decompose faster than dry ones because they have water. Thus, if they used dry leaves, they would have to water it twice a day and would have to wait longer (three weeks) before they could plant. Youth took turns watering the bed (they made a roster for this).

Figure 13. Green manure making on a vegetable bed.

In addition to using *Gliricidia* as demonstrated, facilitators explained that there are other ways that *Gliricidia* could be used as green manure. They explained they could cut the branches and leave the cuttings in the field until the leaves dropped. Then, the leaves could be mixed directly into the soil. Alternatively, instead of leaving the leaves to dry in the field, they could dry them in a shade. Once the leaves are dry, they could be pounded into powder. The powder can be applied between planting stations in the same way fertilizer is applied. After the process is completed, the dry poles and sticks can be used for firewood or other uses.

Another legume intensification technique JFFLS youth practice is legume rotation. This is an Indigenous practice as explained by the Elders in their presentation of a historical account of the place of Chinduzi. During the 2010/2011 growing season, youth planted maize, groundnuts, and *nseula* (a variety of cow pea—*Vigna unguiculata*). They would rotate the crops in the following season by switching the legumes (groundnuts and *nseula*, which put nitrogen compounds back into the soil) with maize (which takes nitrogen compounds from the soil). In addition the youth learn the practice of intercropping legumes with maize, another Indigenous practice. This was done at one of the facilitator's home, Mr. Sabwelera, who intercrops maize with pigeon pea. He plants maize and pigeon pea at the same time, but because pigeon pea develops slowly, maize is harvested before the pigeon pea begins to develop a dense cover of leaves, which would hinder the proper growth of maize by shading it from sunlight. Mr. Sabwelera explained that this practice reduces the need for chemical fertilizer in the following growing season as well as damage by pest and disease. Pigeon pea–maize intercropping is a common farmers practice in Chinduzi.

Apart from intercropping maize and pigeon pea, facilitators described the growing of crops under Indigenous trees known as *Mkonda chau/Msangu (Faidherbia albida)* which are common in the community. The trees are known as *Mkonda chau* in Yao (the predominant language in the study area) and *Msangu* in Chichewa (the national language of Malawi). Because the leaves of these trees are rich in nitrogen, growing crops under them does not require fertilizer or manure application. This is how Mr. Lapukeni (one of the facilitators) describes *Mkonda chau* trees:

Nthawi yamvula mitengoyi imayoyola masamba omwe amathandiza

kubwezera chonde mnthaka. Kutero sitimathila feteleza kapena manyuwa

ku mbeu zomwe tadzala pansi pamitengoyi. Ndiponso sitimadandaula kuti

mbeu zathu zikutchingidwa ku dzuwa chifukwa mitengo imakhala ilibe

masamba nthawi yadzinja…masamba amaphuka dzinja likatha kapena

tinene kuti kumayambiliro a chilimwe, nkuona akulu-akulu amati

mitengoyi ndi "mkonda chau" kapena "[mkonda] chilimwe" kutanthauza

kuti imakonda chilimwe…chifukwa ndi nyengo imene

[mitengoyi]imaphuka masamba. (These trees shed their leaves at the onset

of the rainy season. The leaves help replenish soil fertility such that we do

not apply fertilizer or manure to crops grown under such trees. Also we do

not worry about our crops being shaded from sunlight because the trees

remain bare during the entire rainy season…the trees begin to bud at the

end of the rainy season or we could say at the beginning of the dry season,

that is why Elders call these trees "*mkonda chau"* or [*mkonda*] *chilimwe*

meaning they love the dry season because that is the season they [trees]

bud).

Elders also talked about the practice of growing crops under *Mkonda chau* trees. They

pointed out that this practice is more sustainable in terms of both affordability and impact

on the environment. Their emphasis was on ensuring this knowledge and practice is

passed on to all the youth and children at home as well as in school.

Thus legume intensification measures included in the agriculture-related

curriculum include agroforestry, green manures, rotation, intercropping, and growing

crops under leguminous trees. Manure usage is another SFM practice addressed in the curriculum.

The use of animal and "Chinese" manure was another SFM observed. This practice is another area in which it is possible to see both Indigenous and non-Indigenous knowledge practices being used within the JFFLS program. One type of manure that youth used was animal manure: chicken and goat droppings were used to fertilize their mustard vegetables. In Figure 14, the youth are planting mustard seed on a bed where they have applied chicken droppings. Facilitators explained that because they used dried droppings, they could plant immediately because the droppings are of good concentration (*odzidzira)*. With goat droppings on the other hand, although they were also dry, they had to wait a week before planting mustard to let the droppings decompose (*awole*), because goat droppings take longer to decompose compared to chicken droppings. Facilitators explained that if they used fresh goat droppings, they would have to wait even longer (three weeks) before they could plant because fresh goat droppings are too strong (*otentha*), meaning concentration is high, hence they would need more time to reach a good concentration. To conserve soil and water, youth put stones around both beds (one with chicken droppings and the other with goat droppings) as well as covered them with grass. Finally, they watered the beds. They once again drew a roster to water the beds just like they did with G*liricidia*.

Figure 14. Youth planting mustard on a bed they applied chicken droppings.

Besides the use of dry chicken and goat droppings, youth also learned how to make

liquid manure using chicken or goat droppings. This was a theory lesson described by

facilitators. The procedure is summarized in Table 4.

Table 4: Procedure for Making Liquid Manure Using Chicken or Goat Droppings

Step	Action
1.	Half-fill a drum with chicken droppings
2.	Fill up the drum with water
3.	Stir the mixture every day for 2 days
4.	Filter the solution using a sack

The manure is ready and can be applied near the planting station using a cup. If using

goat droppings, the mixture has to be stirred longer (6-7 days) because goat droppings are

harder than chicken droppings. Elders did not describe the making of liquid manure.

Facilitators said they learned the technique at the JFFLS facilitators' training and it is

described in the facilitators' manual (Kachale, 2008b, p. 41). It appears liquid manure

making may be a non-Indigenous practice in Chinduzi community.

Youth were also taught how to make Chinese manure. This was largely a theory

lesson at Mr. Sabwelera's home (one of the facilitators). Starting with the materials

needed (water, fresh animal dung [goat, cow or chicken], and crop residues or grass cut

into small pieces [green and dry]), Mr. Sabwelera described the process of layering the

materials in a particular way. He started with making a circle with a 75cm radius (Figure

15), and then pouring water to soften the ground. The youth had many follow-up

questions to the description. It is possible the lesson would have been more useful and the

ideas made clearer to the youth if they actually made the manure. The excerpt below is

part of the account:

> *Mayeso: Chifukwa chani manyuwawa amatchedwa Chinese?* (Why is this
>
> type of manure called Chinese?
>
> *Mr. Sabwelera: Amene anabweretsa machitidwe a manure amenewo.*
>
> *Azungu a ku China amatithandiza kwambiri kumbali ya malimidwe.* (It is
>
> named after the people that brought this practice. The Chinese help us a lot
>
> in terms of farming).
>
> [He continues to describe the process]:
>
> *Tikathira madzi timaika ndowe za fresh, kenako timaika maudzu kufikira*
>
> *20cm, ndikuthira madzi. Timabwereza kuika zimenezi [ndowe, maudzu ndi*
>
> *madzi] mpaka titapanga chulu. Timaika mtengo pakati kuti tizichita check*

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ngati manyuwa akupsa. Pakadutsa sabata imodzi timachotsa mtengo uja

kuti tione ngati manyuwa akupsa, ngati akupsa mtengo umakhala otentha

apo iyayi mmayenera kuyambilanso. Pakadutsa sabata ziwiri,

timaphwasula chulu chathu ndikusinthanitsa zomwe zinali pamwamba

zibwere pansi ndipo zapansi zipite pamwamba. Izi timachita chifukwa

manyuwa amayamba kupsa pansi ndiye zomwe zinali mmwamba zayenera

kubwera pansi kuti zipitirize kupsa. Manyuwa amakhala atapsa pakadutsa

masiku 28. (After we pour water to the ground, we add fresh animal dung,

followed by a layer of grass cuttings 20cm high, then we again add water

to the mixture. We continue to add these layers [dung, grass and water]

until we get a sizeable anthill. We then put a stick in the centre which we

use to check if the manure is maturing. After a week we remove the stick

to check if the manure is maturing as it should, if it is, the stick will be hot,

if it isn't, you have to start all over again. After two weeks, we dismantle

everything; replace the bottom layers with the top ones because the bottom

ones will have matured. After 28 days the manure will be ready).

[Youth present had many follow-up questions on the process of making

Chinese manure. The other facilitator, Mr. Lapukeni comes to the rescue

of Mr. Sabwelera by helping answer the questions].

Yankho: Zimenezi mmapanga ku nyumba kapena ku munda? (Do you do

this at home or at the garden?)

Mr. Lapukeni: Kunyumba olo kumunda. Komanso timapangira pansi pa

mtengo. (Either at home or at the garden. Also we make this under a tree).

Enelesi: Pansi pamtengo chifukwa chani? (Why under the tree?)

Mr. Lapukeni: Timasata mthunzi kuchitira kusunga chinyontho. (We want the shade to keep the moisture.)

Landileni: Mmbali mmaikamo chani? (What do you put on the sides?)

Mr. Sabwelera: Timaika udzu osati dothi. (We put grass around not soil).

Spiwe: Simmaika dothi koma udzu chifukwa chani? (Why do you put grass and not soil*?*)

Mr. Lapukeni: Timafuna kuti mpweya uzilowa, tikaika dothi mmalo mwa udzu, zimenezi sizitheka. (We want air circulation, if we put soil instead of grass, this will not be possible.)

Yusufu: Ndimaona minda yambiri ili ndi zulu ndi mabowo atamata-mata ngati uvuni. Ndimanyuwa anji amene aja? (I see many gardens with anthills with holes which look like a brick kiln. What type of manure is that?)

Mr. Lapukeni: Gulu limene lija ndi Chinese okha-okha. Amaika mmwamba amaika myala pansi ngati thandala…komanso ameneaja samachotsa, akangomata amatha kuona kuti akupsa chifukwa chimakhufuka chokha. (It is the same Chinese manure only that they make it differently, they put stones on the bottom and make a raised stand. Also they do not dismantle; they are able to tell that the manure is maturing because the anthill collapses by itself.)

Spiwe: Mmayamba kupanga manyowa a Chinese nthawi yiti? (When do you start making Chinese manure?)

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Mr. Lapukeni: Tikangomaliza kukolola masamba adakali a green chifukwa amaola msanga. Chinanso timakhala ndi nthawi pa nyengo imeneyi chifukwa timakhala titakolola. (Soon after harvesting when the leaves are still green because they decompose faster. Also we have time during this period because we have harvested our crops).

Figure 15. Facilitator explaining how to make Chinese manure—drawing circle.

Mr. Sabwelera uses both Indigenous and non-Indigenous practices to manage soil fertility. He experiments with the use of both manure and fertilizer with the aim of finding out the most effective combination. During a JFFLS lesson at his home, he

showed the youth three plots of maize differently treated. The plots were each a quarter of an acre in size. To one of the plots he had applied Chinese manure and fertilizer. He applied the manure to planting stations (25cm apart) before the rains started (around October). When the rains came, he planted the seeds on the same planting stations. Soon after germination he applied fertilizer known as NPK 23:21:0 (the numbers refer to the percentage of nitrogen, phosphorus and potassium respectively.) Because he had applied manure before, he did not apply as much fertilizer to this plot.

To the second plot he applied goat manure and fertilizer. He changed the order for this one. He applied fertilizer (same type as first plot) after germination followed by manure to this plot. He applied fertilizer only to the third plot. While there was no distinct difference in the plots at the time of our visit, it was easy to notice that maize in the first plot looked the most "green." I was interested in finding out the yield, so I followed up with him through a telephone conversation. He harvested 8 50kg bags of maize from the first plot, 7 from the second, and 5 from the third. It appears the combination of fertilizer and Chinese manure gave him the best yield, followed by goat manure, and lastly fertilizer alone. While it was clear that fertilizer alone did not give him the best yield besides being expensive, he was not ready to do away with it. He said he would do the same treatments during the next growing season on a different piece of land to see the difference.

Manure usage is a common practice in Chinduzi. However participating Elders in the study had different views regarding whether the practice of using manure was Indigenous or non-Indigenous. While some considered it a non-Indigenous practice that was taught to them by *azungu* such as the Chinese (hence the name of the manure making

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in the community is Chinese), others argued it was a long standing practice of earlier generations. For Elder Wenzulo, manure-making is Western knowledge and practice. According to him, before Westerners came to Malawi, people were not making manure, and they did not follow any order in their farming practices: *"Anthu amadzala popanda mizere, anthu amangopanga zachisawawa…zopanga manyowa kunalibe…azungu anabwera kutiphunzitsa malimidwe abwino…ndiye chifukwa chake tikunena kuti tisachedwe ndi zamakolo, koma tisate zachizungu zomwe zikutithandiza."* ("People did not make ridges, they were not following any order…we did not make manure…when the Westerners came they started teaching us good farming practices…that is why we are saying we should not waste time with Indigenous knowledge but follow Western knowledge which is helping us") (Second conversation). On the other hand, Elder Mussa disagrees with Elder Wenzulo. He gave a detailed procedure of how he learned to make manure from his parents who learned from their parents and so on. Here is his account:

> *Kupanga manure ndi luso lomwe limachitika kale ndi makolo…kalelo amathira manyowa mzere ngalande yonse, manyowa kuwapanga kwake sanali ozunzika kwambiri monga mmene tikuchitira pano. Chimanga chikangocha chikulowera kuti chikaume, mmunda mmasalamo udzu wina umakhalabe wauwitsi. Sitimadikira kuti tikolole, tikhale pansi tidye, chakudya takolola chithe ndiye tizipita ku munda kuja…chimanga chikangocha timapanga mizere, kumakwatula zaziwisi ndikuojeka ndiye kuti ikamakwana June/July ndiye kuti zaola zapanga kale manyuwa ndiye mmangopanga mizere. Kudikira kupanga manyowa kunja kutauma masamba atauma, ndikopweteka komanso manyowa ake sakhala*

amphamvu. Achinyamata mumvetsetse, kupanga manyuwa ndi nzeru ya

makolo siyachizungu. (Manure-making is a practice that was done by our

ancestors…they used to apply the manure in between the ridges…the

process of making manure was not intensive as we do today. We used to

start making manure soon after the maize ripened and was beginning to

dry, the garden had grass that was still green. We were not waiting to

harvest, eat the harvest…we began burying the green grass/ and leaves

residues (*kuojeka*) soon after the maize ripened, so that by June/July the

grass and leaves would have decomposed and then we would make ridges.

Waiting to make manure when the ground is dry and the leaves and grass

are dry is not easy but also the manure made is not very effective. You the

youth need to understand that manure-making is an Indigenous knowledge

and practice not Western.)

He continued to explain how the manure-making process taught by the Chinese is less

efficient than the local Indigenous way:

Manyowa a China timagwiritsa ntchito pa station imodzi monga

timachitira ndi feteleza. Ndiye kuti munda uzakwanire chonde chabwino

pamatenga zaka zambiri chifukwa manyowa timachita onyamula

kuwapitsa ku munda. Koma ndondomeko ya makolo manyuwa amakhala

mngalande chifukwa tinaojeka kuteroko munda wonse umakhala wa

chonde. (We apply Chinese manure on each planting station like we do

with fertilizer. In this way, it will take many years of applying manure for

the whole garden to be fertile. On the other hand, following the Indigenous

method, the manure is in between the ridges because we buried the

residues (*kuojeka*), in this way the entire garden is fertile) (Second

conversation).

According to him, the West must have applied some local Indigenous knowledge of

manure making to be able to manufacture fertilizer. He argued that without this, it would

not have been possible "*Azungu anatengerapo njira yamakolo ya kapangidwe ka*

manyuwa kuti apange feteleza. Kopanda zimenezo, feteleza sakanamutha." ("The West

must have applied some local IK of making manure to be able to manufacture fertilizer.

Otherwise they would not have managed to manufacture fertilizer").

I should note that these two Elders were both born and raised in Chinduzi.

The contention on whether one practice was Indigenous or non-Indigenous was

not only observed with Elders, but facilitators as well. For example, while planting

without making ridges is an Indigenous practice of the people of Chinduzi according to

Elder Wenzulo, facilitator Lapukeni thinks otherwise: "*Kunabwera mzungu wina*

anatilangiza njira ya makono yotchedwa 'undisturbed farming' *kutanthauza kuti tizidzala*

mopanda mizere chifukwa ndi mchitidwe wabwino wobwezeletsa chonde mnthaka." ("A

white man came and advised us about a new farming practice known as undisturbed

farming meaning we should be planting without making ridges because it is a good way

of replenishing soil fertility").

The agriculture-related JFFLS curriculum addresses both Indigenous and non-

Indigenous SFM practices in the form of legume intensification and manure. The next

section is a continuation of the focus on the agriculture-related curriculum within the

broad theme of environmental sustainability and knowledge and practice in the JFFLS

program. The section presents data related to pest and disease control measures.

Pest and disease control.

Another agriculture-related topic in the JFFLS curriculum covers the control of

pest and disease. Youth learn various methods of preventing vegetable pests and diseases.

These methods are Indigenous and non-Indigenous. As described by facilitators, youth in

first two cohorts (2008 and 2009) planted strong smelling plants such as onions, garlic,

and marigolds in between other vegetables (mustard, rape, cabbage, and tomato) to repel

pests. Onions were planted in between tomatoes and rape, while marigolds were planted

in between mustard and cabbage. This method is non-Indigenous and is known as

companion planting (Kachale, 2008b). While the first two cohorts learned the methods by

actually doing them, the third cohort (the one I observed) learned through theory lessons.

Facilitators described the procedure of making a pesticide from grasshoppers to control

grasshopper attack (Indigenous practice). Here is Mr. Lapukeni's account of making the

pesticide: "*Timatenga anunkhadala 10, kuwatswanya ndikuwaviika mmadzi okwana 5*

litres. Tikatero timasiya kuti zigone cholinga kuti zilowelerane bwino. Kenako mmawa

timasefa ndikupopela mbeu." ("We crush 10 grasshoppers and add them to 5 litres of

water. We leave the mixture overnight to soak, we then filter the mixture and spray the

vegetables"). *Anunkhadala* is a type of grasshopper. Literally translated it means "smells

on purpose" as a protective measure. According to facilitators, the reasoning behind

making a pesticide from the grasshoppers to control attack by the same grasshoppers is

that once the vegetables are sprayed with the pesticide, they will smell like the

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grasshoppers and that will prevent the grasshoppers from eating the vegetables because they will feel like they are eating themselves.

Facilitators also described how to treat aphids (*chiwawu*), aphids and grasshoppers together, and diamondback moths (*agulugufe*). According to facilitators, many of these practices are non-Indigenous and are included in the JFFLS manual (Kachale, 2008b). For aphids, they use a mixture of chilies and garlic or onions. About 10 g (*dzanja limodzi*) dried chilies and 3 cloves of garlic or onions are crushed. A litre of water is then added to the mixture and left overnight. The mixture is filtered. To dilute the mixture, 5 litres of water is added to it. The mixture may then be sprinkled on the affected plants.

Tobacco leaves and soap can be used to control aphids and grasshoppers as described in Table 5.

Table 5: Control of Aphids and Grasshoppers Using Tobacco Leaves and Soap

Step	Action
1.	Boil a cup of dry shredded tobacco leaves in 5 litres of water for 30 minutes
2.	Add 4 tablespoons powdered soap (surf or omo) and stir until dissolved
3.	Mix a litre of the solution with a litre of cold water
4.	Spray the mixture on aphids and grasshoppers

To control diamondback moths (*Plutella xylostella*), Neem seeds (*Azadirachta indica*) may be used. Fifty grams of the seeds are crushed in a mortar and soaked in a litre of water overnight. The mixture is sieved and sprayed on affected vegetables such as

cabbage, mustard, and rape. Although Neem tree is native to India, it is grown in many parts of Malawi including Chinduzi.

In addition, Elders described an Indigenous practice of using animal urine (cow or goat) to repel insects. *"Timatha kugwiritsa ntchito mikodzo ya mbuzi kapena ng'ombe. Timasungunura mikodzo ndi madzi ndikupopera mbeu. Mbeu zimatetedzedwa ku tizirombo ndi mbozi komanso sizimadibwa ndi ng'ombe kapena mbuzi."* ("We also use goat or cow urine. We dilute the urine with water and spray the crops. This protects the crops from pests but also prevents animals from feeding on the crops.") Elders also spoke of Indigenous methods such as sprinkling ash over sucking and crawling insects. This, they said, is used both when crops are in the field and storage.

It was evident that the agriculture-related JFFLS curriculum contains both Indigenous and non-Indigenous SFM and pest and disease control practices. Youth practiced SFM measures including legume intensification (agroforestry, green manures, and rotation), and the use of animal manure (chicken and goat). The other SFM and pest and disease control practices presented were theory lessons.

Life skills curriculum.

A second component of the JFFLS curriculum addresses life skills. The life skills taught included gender equality; HIV/AIDS awareness and prevention; medicinal plants for treating common ailments; social skills including conflict resolution, communication, respect, and team work; and human rights. In what follows I present data observed in the teaching of these skills. It is important to note that most of these skills were not taught as stand-alone topics but as part of the integrated learning process and activities—for example, during focus group discussions, conversations with Elders, field lessons, or on

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the way to the Elder's house as we were having conversations. A session on human rights was the only topic taught as a stand-alone lesson.

Gender equality was addressed through sharing tasks during field lessons. Both girls and boys participated in garden bed-making, seed selection, sowing, watering, and weeding. In addition, facilitators constantly encouraged both girls and boys to participate in the lessons. Youth that had been in earlier JFFLS cohorts spoke of the use of games to address traditional power relations between genders. As Tiyamike says "*Timapanga masewero…timalumpha chingwe tonse anyamata ndi atsikana.*" ("We played games…we jumped a rope both boys and girls").

While I did not observe facilitators linking topics to HIV/AIDS, I did observe Elders doing so. During our conversations, Elders gave advice on good morals. They emphasized the importance of the youth taking care of themselves, and desisting from sexual temptations lest they catch the HIV virus. They encouraged the youth to work hard in school and not rush into marriage. Facilitators, on the other hand, explained in general terms the uses of medicinal plants to treat ailments such as fever, constipation/diarrhoea, high blood pressure, and influenza. This was during a lesson at one of the facilitator's home (Mr. Sabwelera). He described the treatments as the youth toured the "medicine" garden which has trees and herbs (Indigenous and non-Indigenous) with medicinal uses. For instance, African basil (*mpungabwe*, Indigenous) is used to treat fever. It is also used to repel mosquitoes and snakes. The sap from a cut of Aloe vera leaf (non-Indigenous) may be used as a laxative; and as a cure for burns, conjunctivitis, ear infection, and veneral sores. Garlic (*adyo*, non-Indigenous) strengthens the immune system and reduces the incidence of high blood pressure and influenza. Mr. Sabwelera

did not provide details on how the trees and herbs are used to make concoctions. He explained that normally facilitators do not teach JFFLS youth medicinal plants, despite their tremendous knowledge of medicinal plants.They are uncomfortable teaching this information to the youth because they believe they did not receive sufficient training to competently teach the topic. As Mrs. Sankhulani explains:

> To [As for] myself [me] the training was not enough information, it was half-baked cake. I don't feel competent teaching something I didn't get myself."

> Mr. Lapukeni agrees with Mrs. Sankhulani commenting on the dosage:

> *Ndondomeko yake, zimakhala ndi miyezo yake kwa mwana, wankulu. Timaona kuti mwina tikawaphunzitsa akhoza mwina kusokoneza mayezedwe ndiye sizingakhala bwino.* (The medicine needs to be dispensed in correct dose for a child or an adult. We may teach the youth medicinal plants but we feel they may make mistakes in measuring the correct dose and that would not be good) (First focus group discussion).

Thus Facilitators believe it is safer to teach the youth about medicinal plants in general terms without specific details.

One set of life skills I observed among the 14 youth who were with me throughout the period was social skills for conflict resolution, communication, respect, and team work. As would be expected with any group working together, there were disagreements, tensions, and arguments among the youth. In the beginning, there were many arguments among the youth. I often had to intervene to settle disputes and remind all of us that we were all one, and needed to respect each other as we worked together. Everyone had a valuable point and we needed to respect that even if we did not agree

with them. As I explained in the previous chapter, the youth and I developed a modus operandi at the beginning to ensure we had guiding procedures and a collective understanding of responsibilities and expectations. It was interesting that as time went by, everybody got along. In most cases, disagreements were amicably dealt with by the youth themselves as I watched. Indeed by the end of the study, many indicated they had become good friends. Elder Mlauzi made this prediction early on in the research. She was commending the participatory nature of the study, particularly the strategy of holding conversations together with the youth and not the researcher alone and how this was a relationship building exercise, *"Monga mmene mukuyenda nawomu ndiye kuti pamenepo mukuwakondetsa ngati anali odana…[chifukwa choti akuyendera limodzi nthawi zonse] ndiye kuti akhala wogwirizana."* ("As you are making these visits with them, you are making them like each other if they were not on terms before…[because they are together all the time] they will learn to work together amicably").

A lesson on human rights was conducted in a classroom as a stand-alone. The focus of the lesson was on children's rights. The lesson began with a brief history of the institutionalization of human rights following the United Nations (UN) general assembly's adoption of the Universal Declaration of Human Rights in 1948. A discussion on the inception of the UN Convention on the Rights of the Child in 1989 followed. The last part of the lesson covered the adoption of the Rights of a Child by the Malawi Government and their inclusion in the Malawi constitution in 1995. Apart from covering children's rights, facilitators also discussed responsibilities that come with the rights. For example, the right to parental guidance comes with the responsibility to obey parents, the right to a name and identity comes with the responsibility to respond to that name and to

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respect other people's names and identities, the right to privacy comes with the responsibility to behave responsibly while away from parents/guardians, and the right to nationality comes with the responsibility to be patriotic to one's country.

JFFLS youth learn a variety of life skills including gender equality; HIV/AIDS awareness and prevention; medicinal plants; social skills; and human rights. The knowledge and practice in these areas are both Indigenous (e.g., some medicinal plants, morals, social skills) and Western (e.g., medicinal plants, human rights, gender equality).

As outlined above, understandings of environmental sustainability in relation to knowledge and practices are furthered through the JFFLS both through the agricultural and lifeskills curriculum. In the next section, I go on to discuss how teaching methods also influence how environmental sustainability is taken up in relation to knowledge and practice in the JFFLS program.

Teaching methods.

Data suggest that facilitators use a range of teaching methods including question and answer, demonstration, dramatization, dance, and songs. The first two methods were mostly used during field lessons, while all five were used during the in-class lesson on human rights. Connections to environmental sustainability were more evident in the field lessons than the in-class lesson. Thus, in what follows I present findings based on the teaching methods of question and answer and demonstration.

The question and answer method was the most common teaching strategy facilitators employed. During both field and classroom lessons, facilitators encouraged the youth to ask questions and not fear providing a "wrong" answer. They emphasized that it was only a discussion and everybody's contribution was valued and no one was

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being assessed or judged. I felt this was a good strategy to remove pressure and anxiety for the youth.

It became evident that facilitators would not tell the youth an answer to a question without asking them the question first. At times I found this strategy problematic, particularly in the introductory part of the lesson. While youth were actively involved in most lessons, I noticed that in most cases, the introductory part of field lessons was not clear. On several occasions both the youth and I did not know what the lesson was about. Facilitators would begin by asking questions or telling the youth to go get this or that, without explaining the lesson of the day. In the beginning, I would usually ask the youth standing next to me if she/he knew the focus of the lesson and they did not know either. I encouraged them to ask, but they were shy, so I would ask. During group discussions with the youth, I would encourage them to ask questions both during field lessons, as well as during our conversations with Elders.

As the study progressed, the youth took my advice and began asking more questions of facilitators. This is exemplified in an excerpt of a lesson on planting mustard vegetables on a bed they had made with *Gliricidia* green manure. As was typically the case, facilitators did not tell the youth what they were planting until one asked:

> *Yamikani: Kodi tikudzalachi ndi chani?* (What are we planting?)
>
> *Facilitator: Masamba* a *mpiru kapena tanaposi.* (Mustard vegetables.)
>
> [Youth are excited; everybody wants to participate in the planting! They are told to plant 3 seeds per station.]
>
> *Ndiuzayani: Chifukwa chani tidzale zitatu pa phando?* (Why should we plant 3 seeds per station?)

Facilitator: Kuchitira kuti tikadzala imodzi mwina siimera…zikamera

zonse tidzachosa zinazo maka-maka zooneka zofooka. (To increase the

chance of germination…if all germinate we will thin out the weak ones.)

Lonjezo: Kodi manyowa a gilisidia tinapanga tsiku lija sali pansi

kwambiri kuti midzu ya mbeu yiwapedze? (Is the *Gliricidia* manure not too

deep for the mustard roots to reach?)

Facilitator: Mukufunsa mafunso abwino kwambiri. Tiyeni tikumbe tione.

(You are asking very good questions. Let us dig and see the depth of the

manure.)

[They find the manure at a depth of about 20 cm. Facilitators explain this

is a good depth for the roots to reach. After planting is done, youth are told

they are going to cover the bed with grass before watering it. Then another

question]:

Dalitso: Tiika maudzu chifukwa chani? (Why are we going to cover the

bed with grass?)

Facilitator: Kutchinga ku dzuwa kuti bedi lisaume koma likhale ndi

chinyezi. Komanso tiika maduka mmbali kutetedza madzi kuti

asasefukire…izi zimatetedzanso ku tizirombo…mchitidwe umeneu

umathandiza kusunga nthaka kuti ikhale yachinyezi kotero chilengedwe

chathu chimatetedzedwa. (To prevent the sun heating the bed directly

thereby helping keep moisture. We will also put half bricks around the

edges to prevent runoff water…such measures also protect the vegetables

from termite attack…such practice help conserve soil water which in turn

[help] preserve our environment.)

The mustard the youth planted on this day germinated well, unfortunately they never grew to maturity because they were eaten by grasshoppers. Youth replanted the mustard more than three times without success. One of the facilitators, Mr. Sabwelera then decided he was going to bring mustard seedlings from his home for youth to plant in their garden. The lesson on transplanting mustard seedlings utilized the second common teaching method of demonstration.

Demonstration was another common teaching strategy facilitators used. An example of this was illustrated in a lesson on transplanting mustard. Facilitators told the youth to take control of the task. The only thing the youth were told was the distance between planting stations (35 cm). The youth started measuring the planting stations guided by the facilitators. They kept conferring amongst themselves if they were doing it right and the facilitators were watching closely and advising accordingly. After they marked the planting stations, facilitators demonstrated how to transplant the seedling (Figure 16). After watching the demonstration, each youth was given a seedling to transplant.

Figure 16. Facilitator demonstrating how to transplant mustard seedlings.

Another example where demonstration was evident was in the lesson that took place at the home of a facilitator, Mr. Sabwelera. He showed the youth his plots where he experiments with different soil fertility management practices, and his vegetable and "medicinal" gardens. One feature that captured the curiosity of the youth was a "sack garden" (Figure 17). This is a compact movable garden for leafy vegetables made out of a "sack" as the name suggests. Mr. Sabwelera described the process of making a sack garden in this excerpt:

Zofunikira (Materials): Sack, soil, stones, one stick about a meter long and 4 to 6 cm wide, two sticks about 45 cm long, and seedlings of green leafy vegetables such as mustard.

Ndondomeko (Procedure):

1. *Poyamba timayika dothi mu thumba/saka kufika kota.* (We first ¼ fill the bag with soil.)

2. *Kenako timaika mtengo wautali pakati pa thumba ndikuika dothi mmbali mpaka pamwamba.* (We then place the meter-long stick in the middle and fill in soil around it to the top of the sack.)

3. *Timagwedeza mtengo kuti tipange bowo, tikatero timachotsa mtengowo.* (We move the stick around to make a hole in the middle and remove the stick.)

4. *Kenako timaika myala pa bowo mpaka mmwamba. Miyala imapangitsa kusungila madzi.* (Then we place the stones in the hole and fill it to the top. The reason for the stones is that they will help to better hold water in the "sack garden.")

5. *Tikachoka apo timatenga mitengo yaifupi ija ndikuika pamwamba pathumba. Tikatero ndiye kuti tamaliza kupanga garden yathu…chatsala ndi kuokera mbeu zathu.* (We then place the 45cm-long sticks across the mouth of the sack [see Figure 17]. The garden is thus ready…what is remaining is to transplant our seedlings.)

6. *Timachita maki malo omwe tiokere pamtunda wokwana macentimita 10.* (We mark planting spaces about 10cm apart around the sack.)

7. *Kenako timaokera mbeu mmalo omwe tachita maki. Mbeu imodzi pa malo.* (We plant one seedling in each planting station.)

8. *Ngati munthu ulibe malo olima, ukhoza kudzala masamba pogwiritsa sack garden…kotelo mchitidwe umeneu umathandiza kusunga chilengedwe chathu chifukwa sitigwiritsa nthaka nthawi zonse.* (If one does not have land, they can grow vegetables using this method…in this way our land is preserved because we don't have to till it all the time.)

Figure 17. Facilitator describing how to make a sack garden.

The youth showed a lot of interest in the sack garden and commented on how "cool" it was to be able to grow vegetables in a sack.

The data also suggest that many youth enjoyed the teaching style used in the JFFLS lessons more than the teaching style used in the regular primary school lessons. Thus they would miss regular school sessions in the morning, but made sure they were present at the JFFLS lesson in the afternoon. For example this is how a youth participant, Landileni, explains why he could not come to school in the morning on this day:

Landileni: A mai anandipempha kuti ndipite ku chigayo, ndinasinkha-

sinkha kuti ndipite kuchigayo mmawa [ndikujomba sukulu] kapena

masana [ndikujomba maphunziro a junior farmer field]? Ndinasankha

kupita ku chigayo mmawa kuti ndisajombe ku maphunziro a junior farmer

field. (My mom asked me to go to a maize mill for her so I had to choose

whether to go in the morning [and miss regular school] or go in the

afternoon [and miss junior farmer field lessons] I chose to go to the maize

mill in the morning so that I do not miss junior farmer field lessons.)

Jean: Chifukwa chani unasankha kusajomba maphunziro a junior farmer

field? (Why did you choose not to miss junior farmer field lessons?)

Landileni: Chifukwa maphunziro amenewa [junior farmer field]

ndiwosangalatsa. (Because these lessons [junior farmer field] are fun)

(Fourth youth focus group discussion.)

Most youth participants agreed with Landileni's point that JFFLS lessons are fun

citing reasons such as friendlessness of facilitators, less pressure to provide a *right*

answer, provision of a meal, and having not to write exams.

In conclusion to this section, the data suggest that environmental

sustainability is furthered in the JFFLS in relation to local knowledge and practice

through both Curriculum and Teaching methods. The JFFLS curriculum includes

agriculture-related topics (e.g., soil fertility and pest and disease control measures),

and life skills topics (e.g., gender equality; HIV/AIDS awareness and prevention;

medicinal plants; social skills; and human rights). Facilitators teach all lessons

using a variety of methods such as question and answer, demonstration,

dramatization, dance, and songs. Question and answer and demonstration are the most common methods used in the field lessons, while all methods were used in the in-class lesson. This overview of the JFFLS Curriculum and Teaching methods suggests how they contribute to how environmental sustainability is currently taken up in the program. The next theme addresses participants' views on how environmental sustainability should be engaged in the JFFLS program in the future.

Theme Four: Moving Forward: Engaging Environmental Sustainability in the Chinduzi JFFLS Program

The fourth central theme involves participants' (Elders and youth) vision for engaging environmental sustainability in the Chinduzi JFFLS program in the future, which corresponds with the third research question: What are participants' views on how environmental sustainability should be further engaged within the JFFLS program in relation to knowledge and practice (both Indigenous and non-Indigenous)? Data are presented according to participant group: Elders and youth.

Elders

Elders made specific recommendations on the curriculum and teaching methods in relation to addressing environmental sustainability in the JFFLS program at Chinduzi.

Curriculum.

Similar to the third theme, Elders suggested that environmental sustainability be incorporated both in relation to agriculture-related and life skills curricula.

Agriculture-related curriculum.

Elders recommended that in addition to Western knowledge, the curriculum need to include content covering the knowledge and practice of earlier generations from within the community. Specifically, youth need to learn Indigenous practices in relation to: soil fertility management (SFM), weather fore-telling signs, and beliefs and taboos. Elders argued that not only are Indigenous knowledge and practices affordable, they are also less harmful to the environment. The recommendations are presented in turn.

Soil fertility management.

Generally participants were aware of the shortfalls of chemical fertilizers citing issues such as: *amafunika kugula…ndipo ndiodula mtengo* (we have to buy…and is expensive), *amaotcha nthaka* ('burn'/'spoil' the soil), and *tayenera kuthira chaka ndi chaka (*need to be applied repeatedly every farming season). Elders talked of finding less detrimental, viable, and sustainable solutions. To this end, they recommended local IK and practices—going back to old customs.

In addition to the SFM practices in the JFFLS curriculum described in the third theme, Elders would like the youth to learn other SFM practices currently not in the curriculum, particularly around manure making. Such manure-making practices are described by Elders Mussa and Mlauzi as follows. Because some Elders believe that manure-making is an Indigenous practice, while others believe it is not, I present the practice of manure making as both Indigenous and non-Indigenous. For Elder Mussa, he would like the youth to learn to make manure following the method of the ancestors. His description of the process has been presented in the previous theme under current SFM practices. Elder Mlauzi recommends youth learning the process of manure making by

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mixing goat droppings with remains from an old toilet: "*Nzeru zamakolo zakale…*

timatenga manyi ambuzi kuwasinja, kutenga zotsalira za pa chimbuzi chakale kusinja,

ndikuphatikiza ndi manyi ambuzi ndi kuthila mmunda… sitimathila feteleza ndipo anthu

timakolola nkhokwe." ("Indigenous knowledge of our ancestors…we used to pound goat

droppings, pound the remains from an old toilet, we then mixed this with the pounded

goat droppings and apply in the garden…we were not applying fertilizer but we were

able to get bumper harvest") (Second conversation).

Another area of SFM-related Indigenous knowledge and practice Elders would

like youth to learn is that of the signs of soil fertility decline. Through their long time use

of the local knowledge and observations, Elders can tell the soil is losing fertility. For

example, they talked about loss of crumb structure—it becomes light and sandy (*nthaka*

imakhala yopepuka komanso ya mchenga), loses water retention (*siimasunga madzi*),

changes in the colour of soil from dark to reddish (*nthaka imasintha*

maonekedwe…m'malo mokhala yokuda imakhala yofiira), and causes yellowish and

stunted plants (*zomera sizimakula komanso masamba amakhala yellow m'malo mwa*

green). To this end, Elders recommended that knowledge and practice regarding

identifying soil decline should be included in the school curriculum so that all youth in

the community can learn it, and thus be in a better position to identify and remediate

these conditions when possible.

Weather fore-telling signs.

Another area the Elders would like the JFFLS youth to learn is traditional signs

for fore-telling weather. They felt this would enable youth to be better prepared for the

farming activities of land preparation, crop selection, planting, weeding, harvesting, food

storage, and processing of food. The Elders descriptions of the signs are included under the second theme of "Place and environmental sustainability." For instance, to signify imminent rains, Elders gave examples such as budding of leaves on certain trees and the croaking sound of frogs. They fore-tell high rainfall in the coming season if they get very hot temperatures during the months of September and October. Indicators of low rainfall in the coming rain season include increased occurrence of termites in the gardens, prolonged cold season, and high production of mangoes. Elders in the study strongly recommend that such knowledge and practices should be part of the curricula for all youth in Chinduzi community.

Beliefs and taboos.

In their historical account of Chinduzi place under the second theme, Elders also talked of beliefs and taboos that used to protect the natural resources of the area, such as those surrounding trees. For example, certain trees were not supposed to be cut because they were associated with spirits. The community still has some large trees in selected places which have not been cut down due to the beliefs associated with them: it is still believed cutting such trees would bring bad luck. This intergenerational knowledge was passed on to children through observation, imitation, storytelling, practicing, rather than through "formal" education. However, due to changing times, and also because not all youth have parents or guardians to pass such knowledge on to them, Elders are of the view that such knowledge needs to be part of the school curriculum.

Life skills.

Life skills is another topic Elders consider important for engaging environmental sustainability in the JFFLS program. They felt the school curriculum should include

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important cultural virtues for character building and the instillation of morals as these factors relate to sustainable and responsible actions. To this end, they recommended the teaching of *uMunthu* (humanness, interconnectedness, respect), including a strong sense of community as core value, as well as religion (both Indigenous and non-Indigenous). Elder Mussa pointed out that education and *uMunthu* are not the same thing. According to him, a person may be highly educated, but if they do not have *uMunthu* they are as good as nothing because *uMunthu* makes one "human" through demonstrating empathy and respect for others ("*Kuphunzira ndi uMunthu ndi zosiyana…ukhoza kukhala ophunzira kwambiri koma ngati ulibe uMunthu, palibe chimene ungapindile…chifukwa uMunthu umapangitsa kuti munthu akhale 'munthu'…aonetse chikondi…komanso alemekeze ena…"*). Elders also emphasized youth learning "respect" as a virtue. Here they did not refer solely to respecting people, but to everything that contributes to a person's wellbeing, including non-human entities (i.e., nature). The phrase *"Munthu ndi nthambi yachilengedwe"* ("A person is part of nature/environment"), was said by almost all Elders in the study. This means that people's knowledge systems, traditions, and spirituality are inseparable from their environment. Thus the youth are expected to respect and protect their relationships with nature and with one another. That is the essence of *uMunthu*; they are expected to nurture these relationships. For Elders in the study, education of the youth should be rooted in the culture, knowledge and practice of the community of Chinduzi. Essentially, the knowledge and practice that earlier generations employed in order to live sustainably should be part of the school curriculum.

uMunthu was also evident in the "youth sense of place" presented under the second theme. Most youth talked about being in their favourite places, not alone, but with

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others. This social aspect is not surprising because for many Africans, the collective is privileged over the individual. When the Elders talked about *uMunthu* being the centre of youth learning, many youth had questions about what *uMunthu* entails. However it seems that the youth were already demonstrating the characteristics of *uMunthu* through their emphasis on collectivity over individualism in describing activities they do in "their" favourite places. The qualities of *uMunthu* seem to be already inherently embedded in the practices of the youth.

Youth's favourite places provided them with a sense of belonging and community, as is similarly shown in the existing research literature. Youth talked of their favourite places as places for socialising, relating to each other and helping each other with academics. Similarly, students in Gannon's (2009) study stressed a community spirit that they recognized as characteristic of their place: "Here we respect our communities, have time for others and help each other out" (p. 616). In another study on service learning as a third space in pre-service teacher education, Gannon (2010) describes how the students developed relationships by working together. She summarises that, "by the end of the process it was clear that new relationships had been formed and students had found better ways to work with other people" (p.25). The same could be said about the JFFLS youth—particularly the 14 who worked with me on a daily basis.

Closely related to the concept of *uMunthu* is the issue of support systems. In discussing Chinduzi place historically, Elders mentioned the various farming support systems that have existed at the community level. They explained that people used to take care of each other and look out for one another. People shared seeds as well as

supported each other with labor in the fields, be it with planting, weeding, or harvesting.

Elder Mussa describes these issues in the following way:

> *Timapanga chipereganyu…akabvutika munthu akadwala anthu pa mudzi amachoka kukamthandiza kukalima ku munda kwake kuti azakololebe. Anthu amathandizana cholinga kuti ku derako kusapezeke munda wofera…Koma masiku ano ndizobvuta chifukwa aliyense akuyang'ana banja lake. Pali anthu ochepa omwe akupangabe chipereganyu. Kuthandiza kongathandiza kunatha…munthu ukapempha achinyamata kuti akuthandize kumunda, ambiri amafuna kulipidwa, pamene kalelo ana amaphunzitsidwa kuthandiza akulu-akulu kapena odwala ndi ntchito zapakhomo monga kutunga madzi, kukonola.* (We used to do labour reciprocally…if one was sick people in the village used to help him/her in the garden so that he/she should harvest something. People in the community used to help each other ensuring that all gardens were tended…but it is more difficult these days because everyone looks after their own family. There are few people that still practice *chipereganyu*. Helping for the sake of helping is no longer practiced…if one asks the youth to help in the garden, most want to be paid, while in the past children were taught to help Elders or the sick with household chores such as drawing water, *kukonola* (maize pounding)) (Third conversation).

As this Elder suggests, the strength of *uMunthu* as a common fabric that holds communities together seems to be weathering. Instead, more people appear to gravitate toward individualism, focusing on their immediate families. Elders would like the sense

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of community to return and suggest that youth should be learning this sense of reciprocity.

Teaching methods.

In their vision for youth learning in Chinduzi as it relates to environmental sustainability, Elders are of the view that teaching methods need to be diversified to include the expertise from the community. Thus, in teaching IK and agriculture, facilitators need to request that community members with expertise in a particular topic help teach the youth. In addition, lessons need not only take place in the youth garden at school, but in homes of experts in the community, or community "historical spaces." These historical spaces are associated with beliefs and taboos as explained above. Elders suggested having lessons within these historical spaces, such as under certain trees associated with a history of the community, and asking the Elder or a member of the community with the appropriate history to teach the youth the history behind such resources. Indeed, Elders participating in teaching the youth would provide positive intergenerational exchanges. Elders are an invaluable readily available resource to enhance and enrich the teaching of both agriculture-related IK as well as local culture.

Elders desired facilitators do more by informing the community about the JFFLS program: "*Pologalamuyi yangoyamba kumene ndiye chingakhale chinthu chabwino kuti anthu ammudzi adziwe.*" ("This program has just started and it will be good that people in the community are aware of it") (Elder Mlauzi, second conversation).

Youth

Youth participants made recommendations for engaging with environmental sustainability in the JFFLS program. They talked about establishing a youth group to discuss environmental sustainability within the JFFLS as illustrated in this excerpt from the last focus group:

> Jean: *Monga inu asungwana ndi anyamata a JFFLS, mungapange chani kuthandizira kutetedza chilengedwe mu pologalamu ya JFFLS?* (As JFFLS youth, what can you do to help sustain the environment in the JFFLS program?)
>
> Yusuf: *Achinyamata tiyenera kugwirizana tipange kagulu kathu tizikamba zosamalira chilengedwe.* (We the youth should work together to establish a club where we should be discussing issues of environmental sustainability.)
>
> Jean: *Nzeru yapamwamba.* (That is a great idea). *Ungapeleke zitsanzo za zinthu zomwe muzikambilana mu club imeneyi?* (Can you give examples of issues you would be discussing in this club?)
>
> Yusufu: *Tiphunzitsane zosamala za chilengedwe chifukwa china chiri chonse chimadalira chilengedwe…Kusasamala chilengedwe kumabweretsa chipalamba.* (We should teach each other to take care of the environment because everything depends on the environment [human beings are part of the environment]…not taking care of the environment brings drought.)

Enelesi: Eya, tiphunzitsane kuipa kodula mitengo mwachisawawa. (We should teach other the dangers of cutting down trees carelessly.)

Dalitso: Komanso tiwaphunzitse anzathu zomwe taphunzira mukafuku-fukuyi. (We should also teach our friends what we have learned in the study.)

Spiwe: Monga zomwe akulu-akulu atiuza zakapangidwe ka manyowa. (Like what the Elders have taught us how to make manure.)

Yusufu: Inde, komanso zolosedzela nyengo. (Yes, also weather fore-telling signs.)

Jean: These are very good ideas. Through the club you could encourage each other but also suggest to the facilitators what you would like to grow or do. Your facilitators would be happy to have your suggestions. I just want to encourage you to be active, you can develop this program further—it can be a huge success. You can even hold shows invite others such as the District Education Manager and FAO officials to come and see what you are doing.

Apart from establishing a club, youth discussed practicing environmentally friendly behaviours in the JFFLS and elsewhere, and encouraging others to do the same. The most common environmentally friendly behaviour youth mentioned was "not littering" (*osatayila zinyalala pali ponse*). However, observational data revealed littering was common among the youth. Many littered thoughtlessly, particularly on our way to Elders' homes. Most youth would throw green maize leaves along the wayside. I had to keep reminding them to be cautious about littering. As time went by, many seemed to get

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better at remembering not to litter, and if they forgot and threw garbage on the ground, they would quickly realize it and pick it up. It is not clear if the youth are continuing to avoid littering. Littering was not only observed with the youth in the study, but the entire school as a whole. The school has a rubbish pit, but rather than throwing the garbage *in* the pit, most of it is thrown *around* the pit.

In conclusion to this section on participants' vision for engaging environmental sustainability in the Chinduzi JFFLS program in the future, Elders recommended that the curriculum need to include agriculture-related Indigenous knowledge and practice for maintaining soil fertility, weather fore-telling signs, and beliefs and taboos. In addition, they felt that the lifeskills curriculum should address aspects of *uMunthu*. Youth participants recommended establishing an environmental sustainability youth group as well as practicing environmentally friendly behaviours. Building on this theme, the next section addresses research participants' visions for environmental sustainability in the broader Chinduzi community.

Theme Five: Moving Forward: Engaging Environmental Sustainability in Chinduzi Community

Throughout the study, participants acknowledged the difficulties they are experiencing in terms of environmental sustainability of their community. They made recommendations to help alleviate the problem, with a specific focus on youth learning and community actions (both collective and individual).

Youth learning has been highlighted by participating Elders as a crucial feature in achieving environmental sustainability in the Chinduzi community. The Elders are of the view that all youth in the community (JFFLS and the general primary school) should

learn both Indigenous and non-Indigenous knowledge and practices of the community in order to further environmental sustainability of the community. As Elder Mlauzi says: *"Anyamata ndi asungwanawa ayenera kuphunzira nzeru zamakolo zoteteza chilengedwe maka-maka zokhuzana ndi ulimi… chifukwa iwowa amazitengera zinthu… akadziwa nzeru imeneyi akhoza kutengeka kuipititsa patsogolo…zinthu zikhoza kukhala bwino."* ("The youth should learn Indigenous ways of protecting the environment in particular concerning agriculture…because the youth tend to take an activist approach to issues…if they learn this knowledge [Indigenous] they will promote it…therefore things will be better") (Second Elder conversation).

Elder Mussa also points out the importance of youth learning Indigenous knowledge and practice and passing it to future generations: *"Nzeru ya makolo yosamalira chilengedwe yiphunzitsidwe kwa achimata onse ku sukulu…achinyamata ndi atsogoleri a mawa. Ayenera kuphunzira nzeru imeneyi kuti azaphunzitse mibadwa yamawa."* ("Local knowledge and practice of taking care of nature should be taught to youth in school…the youth are leaders of tomorrow. They need to learn this knowledge so they can pass it on to future generations") (Third conversation).

Another point made by Elders regarding youth learning and impacts on environment sustainability in the community focused on school lessons. Participating Elders would like to see lessons in the JFFLS program and in the general primary curriculum, focus on environmental sustainability issues in the community. As Elder Dzinyemba says: "*Kuti maphunziro akhale a phindu kukhuzana ndi zotetedza chilengedwe, ana aphunzitsidwe zochitika mdera lathu lino…nzeru yamakolo yopezeka*

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mdera lathu…aphunzire momwe makolo kalelo amatetedzela chilengedwe…ndikofunika kuti zimenezi ziphunzitsidwe ku sukulu." ("For lessons to be meaningful in terms of protecting the environment, children should be taught what goes on in our community…they should learn how our ancestors used to protect the environment…it is important that such knowledge and practice is taught in school") (Second conversation).

Apart from youth learning, participants made additional recommendations with respect to the role of community actions (collective and individual) in achieving environmental sustainability in the community. For example participants spoke of the community engaging in actions such as the project on planting more trees in the community (afforestation) being supported by the Income Generation Public Works and contributing to educating others on measures to ensure environmental sustainability. Elder Mpando talks about the afforestation project in this way:

> *Tonse, mafumu, akulu-akulu, achinyamata, amayi ndi abambo; tayenera kutenga mbali kutetedza chilengedwe mdera lathu…tilimbikire kudzala mitengo monga a bungwe la income generation public works akutilangizira. Ndi njira yokhayo yingatipulumutse.* (All of us, chiefs, Elders, youth, ladies and gentlemen; should take part to ensure our resources are protected…We should work hard on the afforestation initiative as promoted by the income generation public works. It is our only hope) (Elder Mpando, second conversation.)

Educating others on environmental sustainability strategies was expressed by both youth and Elder participants:

Tayenera kuphunzitsa anzathu zakufunika kosamalira mitengo komanso osataya zinyalala wamba. (We should teach fellow youth the importance of taking care of our trees and not littering) (Dalitso, last youth focus group discussion.)

Tikapeza wina akuononga chilengedwe monga kudula mitengo kapena kuotcha makala tikanene kwa mfumu kapena akulu-akulu. (When we see one engaging in destructive practices such as cutting trees carelessly and charcoal burning, we should report them to the chief or Elders) (Strategy given by Elders and youth.)

In addition to collective and individual strategies, the data reveal expectations for Government and others to help the community in its efforts to achieve environmental sustainability.

"Ngati boma silitithandiza, pofika zaka 7, olo nkhuni yomwe sitizaipeza." ("If the government doesn't do anything to help us within the next seven years, we will not be able to find a single stick for firewood") (Elder Wenzulo, second conversation).

"People need to be given something to do to earn a living; otherwise, they'll continue cutting down trees for charcoal selling" (Mrs. Sankhulani, facilitator focus group discussion number 3).

Participants' visions for engaging environmental sustainability in the community include youth learning both Indigenous and non-Indigenous knowledge and practices of the community, as well as the community performing sustainable actions at both collective and individual levels.

Theme Six: Inconsistencies in Policy, Practice and Communication

This last theme of findings does not specifically correspond with a research question; however, it informs implications for implementing a JFFLS, as well as teaching and learning in a JFFLS program. This theme shares inconsistencies I perceived based on my comparison of observational and other forms of data collected. Through participant observation, and in discussions and conversations with participants, I noticed some conflicting norms and messages. I have grouped these inconsistencies into three categories: alignment of policy and practice, alignment of word and practice, and communication.

Alignment of policy and practice.

I present policy and practice alignment under two headings: the role of youth in the JFFLS and JFFLS participant selection.

Youth role in JFFLS.

Unlike "formal" education programs which tend to follow a curriculum developed by top officials, JFFLS requires active participation of children, youth, and the community at large in developing the program content as well as in program monitoring. Youth are supposed to play a leading role in JFFLS by actively participating in determining what they want to learn. Kachale (2007b) puts it this way: "The curriculum should be designed to facilitate learning relevant to the life of the participants. It should respond to the needs, interests and ambitions *expressed by the children"* (p. 5. emphasis added). Similarly, the community needs to be fully involved: "Consultation should be done with the community when developing the curriculum and training needs" (Kachale, 2007b, p. 5). For monitoring and evaluation (M & E), participating children "should be

given a chance to check whether the project is moving on the right track …and discuss on the way forward" (Kachale, 2007b, p. 8).

It is clear that the JFFLS aims for actively involving the participants in both determining content as well as monitoring the impact of the program. However, I did not observe most of these policies in practice. As I have presented under the third theme above, in most cases youth did not know the lesson of the day. They were not consulted on what they would have liked to grow that season. Facilitators made the decisions on the choice of crops, soil-fertility measures to employ, and the teaching methods used. In addition, youth were not involved in the M & E of the program as required. In my description of the Chinduzi JFFLS in chapter three, I have mentioned that there is a team of community members monitoring the distribution of animals (pigs, doves, and guinea fowl) to the youth. According to the description of the JFFLS program, the youth involved should be members of the team, but they are not. One of the guiding principles of a JFFLS is "participation," as I have discussed in the introductory chapter. The Convention on the Rights of the Child (1990) which is the basis for JFFLS guiding principles, recommends that children have a right to help make the decisions that affect them, and to have their opinions taken into account. It appears this is not the case with the youth at Chinduzi JFFLS.

Based on the observations described above, one could place the blame on the Chinduzi JFFLS for not implementing the policy in the appropriate manner. While that might be true, I see the irony in the policy makers' inability to implement the policies they so aptly elaborate. I illustrate the point with this example: the FAO Malawi was one of the partners that helped establish a JFFLS at Chinduzi as described in the introductory

chapter. The quotes above are from an FAO Malawi document. However when the FAO came to establish the JFFLS at Chinduzi, they brought vegetable seed for the youth. Facilitators say they were not consulted on the type of vegetables they wanted to grow, however, they were appreciative of the support and did not seem to view this as a problem. I should mention that this was one of the many times I felt conflicted between standing aside, watching and listening, and encouraging participants to question and challenge the structures that perpetuate "token" empowerment and ownership. I found it hard to raise the consciousness of the participants without appearing to impose my own views onto them.

On the surface, this program looks and sounds like a well conceived bottom-up, empowering approach. However, analyzing it with a critical lens revealed that there is more (or less) going on with the program than what initially appears. I should point out that I am not against the FAO supporting the program with seed, to the contrary. My concern is the contradiction between what the policy says and the actions of those that are introducing or promoting it. I believe that policies meant to empower local level decision-making and ownership should be introduced and promoted through the local level decision-making and ownership by those who are introducing or promoting these policies. Otherwise, these policies tend to promote dependence, rather than empowerment and ownership. In this way, advocates of the policies risk perpetuating the very model that they purport to oppose. I argue that this type of practice may contribute to mismatches in expectations. Thus, it was not surprising that Chinduzi JFFLS was expecting the on-going support from the FAO and was frustrated when the support did not come in. Facilitators Sankhulani and Lapukeni explain:

Mrs. Sankhulani: Kumayambiliro a pologalamuyi zinthu zimayenda bwino kwambiri…a FAO amatiyendera pafupi-pafupi, samasowa…kutibweletsera chithandizo monga mbeu, zida monga makasu, makeni…koma masiku ano sitikuwaonanso…anabwela chaka chatha mu January [2009] pamene anatibweletsera ufa ndi nandolo kuchoka apo sitinawaonenso. (Things were going very well at the beginning of the program…FAO staff used to visit us frequently, they were ever present, bringing us support such as seed, equipment like hoes, watering canes…but these days we do not see them anymore…the last time they visited us was January last year [2009] when they brought us maize flour and pigeon pea [food for the youth].

Mr. Lapukeni: Ife timaganiza kuti chithandizo anatipatsa poyambilira chipitilira chaka ndi chaka komanso azitiyendera chaka ndi chaka…kutiyendera kumapangitsa kuti tikhale ndi chidwi. (We thought the support they gave us in the beginning would continue every year but also they would visit us every year…being visited by the officials motivates us) (First focus group discussion).

Perhaps the JFFLS coordinators at the FAO should have consulted the facilitators on the type of vegetables and crops that would have been best for the area instead of making assumptions, regardless of how accurate the assumptions might have been. Also the coordinators should have been explicit on the roles of all stakeholders: FAO, facilitators, the community, and the education ministry. I discuss the issue of roles under communication later in this chapter.

Looking at the actions of the FAO, one might extrapolate that it is not surprising

for the facilitators not to involve the youth in both determining program content and M &

E. In most cases, curriculum development and M & E in Malawi rarely involve learners'

views. In my view, learning would be more effective if JFFLS youth are involved in

making decisions about what to plant and why, how to organize the work, and what to do

with the produce. Besides learning the specific agricultural skills, youth will learn many

life skills such as decision-making, planning, team-work, and entrepreneurial skills.

Apart from the inconsistency in the role of youth in the JFFLS, another inconsisteny I

observed concerns selection of JFFLS participants.

JFFLS participant selection.

As I have stated earlier, JFFLS aims at empowering orphan and vulnerable

children. Communities implementing JFFLS are encouraged to define vulnerability in

their own terms based on their specific conditions (FAO and WFP, 2007). Thus,

Chinduzi community has its own definition: according to facilitators, vulnerability in

Chinduzi is defined as "*Ana obvutikitsa amasiye kapena ayi.*" ("Children who are

extremely poor whether they are orphans or not.") Despite having the community define

vulnerability using its own terms, the process of selecting JFFLS partcipants cannot be

described as unproblematic. Facilitators explained that the JFFLS youth in the first two

cohorts (2008 and 2009) were selected by facilitators with the help of chiefs. However,

the selection procedure was modified with the third cohort (2010) to involve the School

Committee. According to the facilitators, the modification was necessary because it was

observed that some of the youth selected for the program were not truly "vulnerable."

Facilitators talked about how some chiefs selected their own children or children of their

relatives. They also did not adhere to the lower age limit. According to the JFFLS guidelines, participants need to be within 12-18 years age range.

I worked with the third cohort and I am not sure both of the concerns raised were addressed. One of the reasons for my concern is because there was a youth who is both a daughter of a chief and a sister of a school teacher. Others in the program (facilitators and youth participants) questioned the "vulnerability" of this youth. It seems she had resources that others in the cohort did not have. For example, she was the only youth who wore covered shoes when she came to the garden. In addition to the "vulnerability" of at least one of the youth being called into question, the guidelines for the age range was not enforced; the youngest participant was 9 years old. When I asked how this came to be, facilitators explained that bringing in the School Committee did not help because it is not easy to challenge decisions made by chiefs within the culture. It should be noted that the chief's daughter dropped out of the program on her own accord after a month.

Alignment of words and practice.

The other inconsisteny observed was between what was said and what was actually done. I illustrate this with three examples. First, in discussing the teaching of IK in the program, facilitators strongly emphasized they do not teach it themselves, but they use resource persons from the community, such as Elders. However, my observations revealed otherwise. Through the entire period I was at the site, I did not see any other person come in to teach the youth. Parents and guardians came in on the first day to help with the manual work of bed-making in making *Gliricidia* manure as explained under the third theme above: "current status - environmental sustainability and knowledge and practice in the JFFLS program." In addition, youth in the first two cohorts said all the

lessons were taught by facilitators. I should point out that I do not question facilitators'

expertise. These are very knowledgeable members of the community without a doubt,

and are very passionate about teaching the youth. However, Elders would like to be

involved in the teaching of the youth as I have outlined in the fourth theme: "moving

forward – engaging environmental sustainability in the JFFLS program." Facilitators

could make use of such readily available resources. It was interesting that facilitators

themselves suggested using resource persons from the community to teach life skills.

They gave an example of a retired police officer in the community. I wonder why they

did not ask him to help teach the lesson on human rights.

The making of local pesticide from grasshoppers to control grasshopper attack is

another example of the mismatch between talk and practice. Youth planted mustard

vegetables which did not grow to maturity because they were eaten by grasshoppers.

They replanted more than three times without success. Each time the youth replanted the

mustard, facilitators went over describing the procedure of making the pesticide

(presented under the third theme above), and promised they were going to make it, but

never did!

The third example of an inconsistency in terms of "words and practice," concerns

the contradiction between youth visions for environmental sustainability and their

actions. As I have explained in the fourth theme regarding engaging environmental

sustainability in the JFFLS program, the most common environmentally friendly

behaviour youth mentioned was not littering. However, observational data revealed that

this behaviour was not practiced: They littered. In addition, although the school has a

rubbish pit; garbage is thrown around the pit instead of actually in the pit. Driskell and

Chawla (2009) observed similar contradictions between what people say and what they do. In an action research project involving youth in documenting where they lived and how they used and valued the places around them, the authors found that while many youth identified litter and "dirty places" as major issues of concern, they acknowledged that they and their friends were often the sources of the litter.

Communication.

Another form of inconsistency the data reveal, concerns communication. While some of the issues presented in this section have already been discussed, the focus here is on the communication of the issues. It appears roles and responsibilities of Chinduzi JFFLS and the officials (the FAO national office and the Ministry of Education Science and Technology) might not have been properly communicated at the onset of the program. According to facilitators, the Chinduzi JFFLS expects continued support and guidance from the FAO. The FAO on the other hand, expects the community to take control and own the program (Kumwenda, 2010, personal communication). Furthermore, Chinduzi JFFLS would like to interact and network with other JFFLS to learn from each other. However, facilitators want this to be done through a third party who would help facilitate or connect them. When asked why not to take the initiative themselves by connecting with other JFFLS in the district and inviting the FAO, the Ministry of Education Science and Technology (MOEST), and WFP officials, facilitators said they were expecting instructions from the officials.

According to FAO national staff, the community should have *known* that the FAO's responsibility is to help establish a JFFLS after which it hands the school over to MOEST (Kumwenda, 2010, personal communication). However, facilitators say they

were not aware that the FAO was there to only help them get started. The point is not to prove who is right and who is wrong, but to highlight the importance of clear communication and the clarification of roles and responsibilities of officials and communities. Could it be that the manner in which the program was introduced at Chinduzi was problematic? As I have described earlier, officials from various ministries and UN organizations (FAO, WFP) brought the JFFLS concept to Chinduzi community.

While the benefits of the JFFLS to the youth as well as the Chinduzi community cannot be questioned, I am concerned for its long-term sustainability. I wonder whether this is one of the many well-meaning programs or projects intended to help the locals, but because responsibility is passed off from officials to locals without procedures for developing local ownership, the locals do not have any actual ownership of the program/project. Facilitators did not appear to fully own the program. For example, when discussing a point, they would phrase it in such a way to emphasize that it is the FAO's idea as illustrated in statements such as *"Monga iwo a FAO, amanenesa kuti anawa tiwaphunzitse zinthu zopezeka mwa lokale."* ("The FAO emphasises that we teach the children about things that are locally available.") Also, the headmaster used to refer to the JFFLS youth as *"Ana a project ya FAO."* ("Children of the FAO project").

Although it is expected that the MOEST should take over after the initial establishment, it seems the MOEST has other priorities (those of general primary education) rather than the JFFLS. I got this sense from both the headmaster and staff of Chinduzi primary school (home of the JFFLS). For example, I did not think the headmaster and his staff were very supportive of the JFFLS activities. Neither came to see what the youth had done in the garden during the time I was at the site. Also, the staff

understood the JFFLS as one of the "clubs" at the school (Mtauchila, 2010). The point about JFFLS not being a priority for MOEST is confirmed in my followup telephone conversation with two of the facilitators, Mr. Sabwelera and Mr. Lapukeni (February, 2012). I have learned that Chinduzi JFFLS has not selected another cohort following the third one. The main reason is because of the new MOEST policy that all learning has to be done inside a classroom. Because Chinduzi primary school does not have enough classrooms, they have decided to implement a double shift, meaning some classes (standard 4 and 5) have lessons later in the day after the younger children (standards 1-3) have completed their lessons. Those that come later are in school until around 4pm. Considering that youth from all classes attend JFFLS, it means the lessons will have to start after 4pm, which would be too late. Facilitators said they are discussing possible solutions with the Primary Education Advisor (PEA) of the area as well as the Parent-Teacher Association (PTA).

This last theme has revealed contradictions between policy and practice in the areas of youth role in the JFFLS, and JFFLS participant selection. Other inconsistencies were between what was said and what was done; as well as in communication between JFFLS officials and the Chinduzi JFFLS.

Chapter Summary

The findings of this chapter have suggested that while there is general consensus among the participants supporting youth learning IK in school, others are of the view that such a move would be a mistake because they consider IK to be inferior because it does not enable one to develop and "get ahead." It has also been revealed that there is some

contention between Elders on the origins of certain knowledge and practice, and what is Indigenous and what is non-Indigenous.

In considering place and environmental sustainability in relation to the knowledge and practice of Chinduzi village, the findings of this study have revealed that participating Elders describe their sense of place in terms of historical agriculture-related knowledge and practice, including knowledge of soils, soil fertility practices, weather fore-telling practices, and beliefs and taboos regarding protection of the environment. On the other hand, participating youth express their sense of place in the drawings of their favourite places. The drawings revealed that Chinduzi JFFLS youth are largely rooted in their social-cultural interactions within their community, but also, they are influenced by global culture. This type of identification and orientation was not only evident in the drawings of their imagined places but also in the type of clothing they wore, their views, and their perspectives on the IK of the area. Thus, these youth operate in a "hybrid third space" (Bhabha, 1994), whether in their imaginations or in reality. Their drawings included aspects of both the Indigenous and non-Indigenous.

The study results show that the Chinduzi JFFLS curriculum includes both Indigenous and non-Indigenous knowledge and practice in both agriculture-related and life skills lessons. All lessons are taught by facilitators.

In addition, the findings show that participants in the study acknowledge that their community is facing many problems, but they are not treating the situation in a self-pitying or pathologizing manner. Instead, they are using their situation to find solutions to their predicament. To achieve environmental sustainability in the community, participants recommended all youth in the community (in JFFLS and in general

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education) learn local IK and practices for protecting the environment. In addition, it was suggested that the community should engage in both collective and individual actions. Furthermore, Elders have recommended the diversification of teaching methods to include experts from within the community as well as the utilization of historical places.

The findings have also unveiled inconsistencies between: policy and practice; what is said and what is done; and communication between JFFLS officials and the Chinduzi JFFLS. Indeed community-based programs such as JFFLS are not void of short comings or complexities.

CHAPTER FIVE: DISCUSSION

This chapter further discusses the research findings by focusing on the main issues that came out of the six themes presented in the previous chapter and relating them back to the existing literature. The discussion is centred on three main topics in relation to the JFFLS and related educational contexts: the possibilities of hybrid third space for learning, the impacts of colonialism in the JFFLS, and the notion of *uMunthu* in the pursuit of environmental sustainability in the JFFLS and education more broadly. Following the discussion of the findings, I include implications of the research for policy and practice, and implications of the research for future studies. I end with my personal reflections on the process of conducting this study.

Hybrid Third Space

As outlined in the introductory chapter, this study acknowledges the complexity that arises in dichotomising issues in "either-or" scenarios (e.g., Glasson, Mhango, Phiri, & Lanier, 2010; Massey, 1994; McKenzie, 2012). Instead, the study aligns with scholars promoting "and-both" views of learning, or in other words, hybrid third spaces (Bhabha, 1994). Findings of the study revealed that participants valued hybridity in the areas of youth sense of place and knowledge and practice.

Youth sense of place and hybridity.

While it is clear that the JFFLS youth in Chinduzi are largely rooted in their social-cultural interactions with friends, families, knowledge, and practices within their community, they are also influenced by global culture. This hybridity is not only evident in their drawings depicting characteristics of places – both real and imagined – that they see as meaningful and significant to them, but also in the type of clothing they wear, their

views, and their perspectives on the Indigenous knowledge of the area. For example, a couple of boys wore renowned international soccer teams t-shirts, such as Arsenal and Manchester United. Additionally, as presented in the previous chapter, a number of youth envisioned living in their community and being able to practice both Indigenous and Western ways. This type of exposure and acceptance of global culture is consistent with Massey's (1994) observation that the infusion of global culture into local contexts is a common characteristic of "modern" life and responsible for contributing to global place making, even in the remotest places of the world. Indeed, local attachments to place are influenced by Western values and perspectives (Appadurai, 2000; Wasserman & Jacobs, 2003). Thus, Chinduzi youth operate in a "hybrid third space" (Bhabha, 1994), whether it is in their imaginations or real situations.

Youth operating in a hybrid third space are not unique to this study. In a study examining the use of place-based activities to enhance youth engagement with local environments, Farrington (2008) found that while the youth are influenced by global media and ideologies, they are also grounded by their social and embodied interactions within their communities, families, and peer groups. She argues that youth in South Africa are "not the passive victims of the structural forces of globalisation, but are actively engaged in the world and with the circumstances and conditions that surround them" (p. 203). Indeed, children's worlds of meaning are "at one and the same time global and local, made through 'local' cultures which are in part shaped by their interconnections with the wider world" (Holloway & Valentine 2000, p. 769). Thus Chinduzi youth are situated in the community with its knowledge and practice, but at the same time are influenced by global Western knowledge and practice. Hybridity in this

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study was not only revealed in youth sense of place, but in knowledge and practice as well.

Knowledge and practice and hybridity.

Hybridity is evident in the knowledge and practice in the JFFLS program particularly in relation to agricultural practices. JFFLS youth learn both Indigenous and non-Indigenous knowledge and practices in relation to soil fertility management (SFM) and pest and disease control. Non-Indigenous SFM measures include legume intensification practices such as *Gliricidia* agroforestry trees and green manures (Ajayi, 2007; Ajayi, Akinnifesi, Sileshi, & Chakeredza, 2007). Examples of Indigenous measures include growing crops under *Mkonda chau* trees and burying of crop residues (*kuojeka.*) Another form of hybrid integration of Indigenous and non-Indigenous agricultural knowledges and practices was observed in the measures for controlling pests and diseases in the JFFLS. Non-Indigenous measures include companion planting and the control of diamondblack moths and aphids together with grasshoppers. According to Kachale (2008b), companion planting involves planting strong smelling plants such as onions, garlic, and marigolds in between other vegetables (mustard, rape, cabbage, and tomato) to repel pests. It is argued that garlic roots release fungicidal chemicals into the soil, thus helping to control soil-borne diseases (Kachale, 2008b). The only Indigenous practice observed was a description of the procedure of making a pesticide from grasshoppers (*anunkhadala*) to control grasshopper attack. Apart from observing hybridity in the JFFLS program, youth learning an integration of Indigenous and non-Indigenous agriculture-related knowledges and practices was recommended by Elders as

one of the solutions to achieving environmental sustainability not only in the JFFLS but the broader Chinduzi community.

Hybridity and third space in agriculture are not unique to this study. Other scholars have explored these concepts in Malawi (Glasson et al., 2010; Moyo, 2009). For example, in a study investigating the Indigenous agricultural practices of Malawian Elders, Glasson et al. (2010) also evoke these concepts. Glasson et al. discuss how integrating worldviews and hybridized knowledge and languages can be leveraged to create a third space for dialogue and curriculum development. They suggest that the local Indigenous culture provides meaning and identity to community members in a "first space," while Western ideas (e.g., Eurocentric science) provide a "second space" for learning in schools, often in non-Indigenous languages. However, the authors suggest that students and community members must function in a third space to negotiate meanings and understandings of the intersections of knowledge, practices, and languages from merging cultures. According to Glasson et al. (2010) in the context of connecting Indigenous ways of living with Eurocentric science, the goal of learning in the third space is to facilitate the reconstruction of the learner's everyday beliefs and experiences about the natural world to develop a more robust scientific worldview. However, Malawian Elders in Glasson et al.'s study rejected the third space and chose to continue operating in their first space by practicing Indigenous ways of living with nature because they found this to be both more economically and environmentally sustainable. In contrast, the majority of Elders in this research study advocated for youth learning in a hybrid third space, inclusive of both Indigenous and non-Indigenous knowledges and practices.

Impacts of Colonialism in the JFFLS

In addition to the role of hybrid third space in learning in the JFFLS program, another main issue revealed in the study findings involves the impacts of colonialism in the JFFLS. As overviewed in chapter one, Malawi was colonized by Britain in 1891 and received independence in 1964. Despite its independence, the impacts of colonialism are ever present in Malawi, just as in many formerly colonized nations, as described in the second chapter. Findings of this study revealed three impacts which can be attributed to the effects of colonialism. These areas include privileging non-Indigenous knowledge over Indigenous, the cultural relevancy of the JFFLS curriculum, and knowledge appropriation. I will discuss each of these in turn.

Privileging non-Indigenous knowledge over Indigenous knowledge.

Evident in this study is the issue of Indigenous populations seeing themselves and their ways of being and knowing as inferior and accepting their knowledge and capabilities as being of lesser value. These notions are revealed in statements such as:

> "*Nzeru yamakolo ndiyotsalira siingampitse mwana patsogolo…tisachedwe ndi nzeru yamakolo.*" (Indigenous knowledge is inferior cannot help a child develop and excel… we should not waste time with Indigenous knowledge") (Elder Wenzulo).
>
> "*[N]dilibe nazochidwi [nzeru zamakolo]."(*"I don't have interest in it [IK]") (Felix, youth participant).

In contrast, participants appeared to elevate Western knowledge in statements such as "*Nzeru yachizungu ndiyapamwamba…imatukula mwana ndikumpititsa patsogolo…yothandiza.*" ("Western knowledge is superior…makes a child develop and

excel and get ahead…is useful") (Elder Wenzulo). Such findings are supported by the existing research literature. For example, Masuku Van Damme & Neluvhalani (2004) illustrate how Indigenous communities in southern Africa are drawn into undermining long-held communal knowledge, as "modern" ways are introduced into their societies. They posit:

> We now seem to have (paradoxically and ironically) become active
>
> participants in the subjugation of our own local ways of knowing
>
> as we participate in 'transformative' post-colonial/post-apartheid
>
> processes of educational and social reform in broader modernizing
>
> and globalizing contexts. (p. 356)

Another form of elevating Western knowledge over Indigenous knowledge was demonstrated by some youth viewing their life in the community, along with its embedded Indigenous knowledge and practices, as not progressive enough. Thus, they aspire to move to the city where they hope to have opportunity to enjoy a Western lifestyle. Similarly, in their study examining factors associated with whether rural youth return or stay in their home communities, Looker and Naylor (2009) found that although rural youth felt satisfied with their personal and family life and saw home and family as important, many frame their rurality and their choice to live in their home communities as failures, either in relation to education and/or to occupation and career. This relates to the JFFLS program, as it is these understandings and attitudes that students, facilitators, and Elders bring to their participation in the program.

JFFLS curriculum: Cultural relevance.

Another impact of colonialism in the JFFLS could be seen in the curriculum documents. When the Chinduzi JFFLS was established, facilitators were provided with a manual on gardening production and life skills. The manual is only meant to be a reference because the JFFLS emphasizes being locally appropriate and integrating locally-based curricular material. The manual was produced by FAO Malawi staff with the help of other professionals from the Ministry of Agriculture (Extension services and research departments) and the Ministry of youth development and sports (Kachale, 2008b). The manual includes examples of IK and medicinal plants, all of which were suggested by the professionals (Kachale, 2010, personal communication). In addition, it includes examples of vegetables that are uncommon not only in Chinduzi community, but in Malawi. For instance beet root, fennel, chicory, radish, and turnips are not known by most Malawians. It is not clear how much consultation was done with local communities on the manual, if any.

Furthermore, the manual is written in English. When asked how easy the facilitators find it to use, they said they only use it as a guide and if there is anything the facilitators (particularly from the community) do not understand, they usually ask the help of the other facilitator (the school teacher). However, facilitators are of the view that it would have been much better if the manual was in the local language of Chichewa. This finding raises the question "whose interests does the manual serve?" While the study cannot answer the question, it considers the possible influence of a colonial mentality. The study speculates whether the JFFLS is like many other well-meaning programs meant to support the underprivileged. Unfortunately, many of these programs

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may have underlying ideologies rooted predominantly in Western culture and an imperial

mentality. Lack of cultural relevancy in the JFFLS curriculum at Chinduzi School could

be attributed to colonialism/neocolonialism.

Knowledge appropriation: Soil fertility management practices.

Finally, a third impact of colonialization on the JFFLS is suggested in the issue of

knowledge appropriation. It is argued that much of local IK has been taken up by

scientists and re-appropriated and promoted in mainstream science as novel ideas (e.g.,

Morgan, 2003; O'Donoghue & Neluvhalani, 2002; Shiva, 2000; Tupper, 2009). This

study revealed this in relation to the soil fertility management (SFM) practices in the

JFFLS, which are those currently being promoted more broadly by researchers and

scientists in the country. For example, researchers in Malawi are urging smallholder

farmers to adopt integrated soil fertility management (ISFM), which is defined as

involving the incorporation of grain legumes and inorganic fertilizer into maize

production systems (Bekunda et al., 2010; Sanginga & Woomer, 2009; Sauer, Tchale &

Wobst, 2006).

Although the practice of intercropping maize and legumes is being promoted by

scientists, it is not a new practice according to Elders in this study. As discussed in

chapter four, in their historical account of Chinduzi place in relation to agriculture-related

knowledge and practice and environmental sustainability, participating Elders talked

about the farming practices their ancestors applied to maintain soil fertility and

environmental sustainability in their community. Intercropping maize with a variety of

legumes (beans, cow pea, groundnuts, and pigeon pea) was one of the practices they

used. While the ancestors might not have known the science of nitrogen fixing bacteria in

the nodules of leguminous plants, they knew that intercropping maize with legumes improved their yield and did not deplete soil nutrients, but instead replenished them. Elders passed this knowledge and practice onto younger generations. The practice of intercropping maize with pigeon pea continues today with many farmers in the community, including one of the facilitators, Mr. Sabwelera. However, it appears the same knowledge and practice has been taken up by scientists and re-appropriated into mainstream science and is now being promoted as if it is a novel idea. Yet, it is a long standing practice within the community. For example, Mr. Sabwelera's explanation that maize-pigeon pea intercropping reduces the need for chemical fertilizer in the following growing season, as well as reducing the damage done by pest and disease, is supported in mainstream scientific literature (Bekunda et al., 2010; Sakala, Cadisch & Giller, 2000; Sileshi & Mafongoya, 2003). Just like other IK that have been re-appropriated into mainstream science, the practice of intercropping maize with pigeon pea is represented in the literature as science, and not as learned from, or pre-existing in, IK.

Another example that can be considered knowledge appropriation concerns the process of manure making. The findings in this study suggest that there is some contention between Elders on whether manure making is an Indigenous or Western practice. I argue that Indigenous knowledge and practice, such as manure-making and maize-legume intercropping, may appear as foreign concepts in the community of Chinduzi because of the manner in which they are promoted. Information about the practices are being propagated through agricultural extension workers, radio, and the use of print-based flyers and because these methods of teaching and learning are more Western, the agricultural practices are also perceived as Western when they may in fact

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be Indigenous. However, it is also possible that the Elder who contends that manure making is a Western practice, could be right. When something new is practiced for a long time it becomes natural, and after several generations, people may not realize it was non-Indigenous. A case in point is the use of maize in sub-Saharan Africa. Maize is not an Indigenous crop in Africa, but because it has been in use for many generations, we tend to think it is Indigenous. Maize actually originates from South America (McCann, 2005).

Another possible form of appropriation I observed through the study is the practice of planting without making ridges. This is an Indigenous practice of the people of Chinduzi, as Elder Wenzulo described in the previous chapter. However, it is now being promoted as a "new" and "novel" in the area under the term "undisturbed farming," and people are encouraged to put it into implementation. Because an idea is being promoted by a "white" person, as is the case with undisturbed farming, my observations suggested that people often take it as new and novel (*njira yamakono*), but that is not always the case.

The issue of the appropriation of Indigenous knowledge is not unique to this study. Indeed, it seems that much IK originally viewed as folklore, or myth, has now ended up being regarded as the "science" (Bonneuil, 2000; O'Donoghue & Neluvhalani, 2002; O'Donoghue & Janse van Rensburg, 1999). An example where a "myth" was appropriated into science can be found in Southern African understandings of the relationship between cattle, wildlife, the tsetse fly, and transmission of sleeping sickness. According to O'Donoghue and Neluvhalani (2002), Indigenous people of Zululand understood the relationship between cattle, wildlife, the tsetse fly, and transmission of sleeping sickness, and knew what to do to protect their cattle from catching the disease.

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The scientific understanding of this relationship was established just before the turn of the century. This "new" knowledge, O'Donoghue and Neluvhalani argue:

> [w]as sequestrated from daily life and appropriated into the colonial administration to be set up against earlier indigenous myths. Now confident of knowing more and better than "the Other" (the local populace), it successively took up the role of educating indigenous people. (p.125)

This example demonstrates how the local IK of the people of Zululand regarding the transmission of sleeping sickness was appropriated into institutional settings in Southern Africa. This study suggests the ongoing impacts of colonialism in the JFFLS in three aspects: privileging non-Indigenous knowledge over Indigenous knowledge, JFFLS curricular cultural relevancy, and knowledge appropriation. Another main discussion topic emerging from the study concerns the possibilities of *uMunthu* in postcolonial education.

uMunthu and postcolonial education in a "third space."

According to participating Elders, *uMunthu* concerns respect and nurturing relationships between people and between people and nature. Thus, as a measure to encourage environmental sustainability in Chinduzi, Elders recommend that *uMunthu* be taught in school (JFFLS and general primary). This study suggests the possibilities that could be enabled if *uMunthu* were to be (re)established at the centre of education as a "third space" (Bhabha, 1994) in forms of education.

Postcolonial theory enables the creation of hybrid third spaces as described earlier in the review of the literature in the second chapter. These third spaces are spaces of

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inclusion, promoting "and/both" instead of "either/or" or "us/them" ideologies. Thus, in these spaces, subjugated knowledge systems, such as Indigenous knowledge, and the notions of *uMunthu* and *Sankofa*, are honoured and given a platform.

As previously discussed, formerly colonized nations around the globe continue to wrestle with colonialism and neocolonialism (through globalization) to make better futures (Masuku Van Damme & Neluvhalani, 2004; Verran, 2001). To decentre the dominant discourses embedded in colonialism, many scholars in formerly colonized nations are working with counter-hegemonic strategies. This study joins this work— particularly the work of those framing their work in postcolonial theory. In what follows I discuss how a postcolonial theoretical framing might (re)create spaces for invoking the *uMunthu* concept in environmental education.

Having a space that gives prominence to *uMunthu* to be (re)established at the centre of environment-related education, or education in general, is advantageous in two main ways. First, it can promote ethical behaviour, including the nurturing of interpersonal relationships and relationships between people and the biophysical world. This is because the main essence of *uMunthu* is in the interconnectedness of beings, whereby a person views themselves in relation to other humans and nature (Le Grange 2011, 2012; Murove, 2009; Opuku, 1993; Sindima, 1995). Second, it could encourage educators and learners to work together to resist the dominant, hegemonic systems of reasoning and practices that are a result of colonialism and neocolonialism. As Teffo (1999) argues, in *Ubuntu* "we can draw sustenance from our diversity, honoring our rich and varied traditions and culture, and act together for the development, protection and benefit of us all" (pp. 34-35). Thus, it could mean educators and learners constantly

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recognizing and critically engaging with the often taken-for-granted hegemonic assumptions embedded in education / environmental education /global mandates. While such mandates may be well meaning, they can have underlying ideologies rooted in Western culture and colonial mentality (e.g., Breidlid, 2009, 2013; McKenzie, 2012; McKenzie, Kayira, & Wals, 2009). This point is closely related to the impacts of colonialism as discussed previously.

In addition, the creation of third spaces would be responding to the call by many African scholars to build on the ancient, historic strengths of many African cultures in education (e.g., Dei, 2012; Musopole, 1994; Njoroge, 2004; Odora-Hoppers, 2000; Sindima, 1999, 1995; wa Thiong'o, 2009). It is indeed important to reach back and gather the best of what our past has to teach us so that we can achieve our full potential as we move forward, or in other words, to apply *Sankofa*. As outlined in chapter 2, the focus on *Sankofa* is not the mere gathering of everything about the past, or a nostalgic return to old ways of being and doing, but rather a drawing on the "best" that could help us in the contemporary world. This reaching to the past could be combined with on-going engagement of questions such as: "What happened here?; What is happening here now and in what direction is this place headed?; and What should happen here?" (Greenwood, 2013, p. 97).

Having discussed the three main contributions of the study to understandings of the possibilities of hybridity and third space for learning, the impacts of colonialism evident in the JFFLS, and *uMunthu* and postcolonial education in the pursuit of environmental sustainability in the JFFLS and education more broadly, I now discuss the implications more specifically for policy, practice, and research.

Implications for Policy and Practice

In this section, recommendations for policy and practice are presented along with brief explanatory rationales from the data. The study results suggest that in order to achieve environmental sustainability in Chinduzi community:

- All youth and children in the community (JFFLS as well as the general primary school) should learn both Indigenous and non-Indigenous knowledge and practices.

  - In addition to the WK youth and children currently learn, they should also learn Indigenous ways of protecting the environment, in particular concerning agriculture. Examples recommended include SFM, weather fore-telling signs, and beliefs and taboos.

  - While implementing changes to the JFFLS curriculum is fairy straight forward as the curriculum is meant to be locally relevant, the same cannot be said about the general primary school curricula. Implementing changes to the latter would need to go through approval processes at the Malawi Ministry of Education Science and Technology (MOEST). This study is recommending that MOEST consider including the IK of local communities in the primary school curricula. Recognizing that different communities have different IK, it is recommended that the curricula should be flexible enough for teachers to include the relevant IK from the local communities.

- Learning should be grounded in the notion of *uMunthu* to enable youth and children to develop cultural virtues for character building and to instill morals.

Grounding learning in *uMunthu* can teach youth and children the interconnectedness and interdependence of beings, enabling students to understand themselves in relation to other humans and other non-human entities, including nature.

- Policies aimed at being locally relevant and empowering local decision making should exhibit these characteristics during formulation, introduction, and implementation.
    - This recommendation arose because while the JFFLS program description seems to empower the communities, particularly youth, as well as to promote local decision-making and ownership, the study suggests this may be operating only at a token level.
    - The benefits of the JFFLS to the youth and community are undisputed. However, there are concerns about its long-term sustainability. As I have explained in the previous chapter, the Chinduzi JFFLS has not had another cohort of the youth following the one I worked with. While there could be many reasons for the lapse, one can only speculate what role the process of program establishment played. Was this a really intended to be a bottom-up empowering program or was it meant to serve other purposes? Finding answers to such questions would require a different study.

Implications for Future Research

As pointed out in the introductory chapter, research in Malawi related to education concerned with sustainability is limited, especially where the roles of IK and youth perspectives have been considered. Most studies that have addressed IK in the

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school curriculum in Malawi have focused on the primary school science curriculum (e.g., Glasson et al., 2010; 2006; Phiri, 2008) and early childhood (Phiri, M, 2004). While research addressing IK and sustainability in primary and early childhood education is sparse, there is little or no research on these issues in non-formal/informal school settings such as the JFFLS. There is a strong need for further research in this area. Based on the research findings, the study suggests further research on the following:

- As the literature review has shown, there are 41 JFFLS sites in Malawi and this research project addresses only one of these sites. The first area for further research should be the investigation of more JFFLS sites in order to expand the findings. This could be followed by a comparative study investigating IK in the various JFFLS sites, and its role in moving toward environmental sustainability.

- The study suggested that youth learn and operate in a hybrid third space. There is need for more research on the hybrid third space as a collaborative space for Indigenous and non-Indigenous knowledges and practices in the pursuit of environmental sustainability. One possibility would be to explore this by implementing the recommendations participants made on how environmental sustainability should be engaged in the JFFLS program. Since JFFLS is supposed to be community driven and locally relevant, the recommendations do not need to be submitted to a higher authority for approval. The study could be an action research project, working with the JFFLS facilitators. For example, it could involve the youth in deciding which crops to grow, identifying which soil fertility management and soil-water conservation measures to employ, and utilizing local expertise in delivering the lessons.

- The contribution of IK to working toward environmental sustainability seems clear. The study has revealed that there are some conflicting views regarding whether some knowledge and practice is Indigenous or non-Indigenous. Since much of Indigenous knowledge and practice in Malawi is not documented and could soon become extinct with the passing of the older generation, the study suggests further research documenting relevant Malawian Indigenous knowledge and practice related to environmental sustainability. It also suggests that such knowledge and practice be authentically represented in the curriculum of formal education (e.g., primary and secondary) and informal education programs (e.g., JFFLS). Such knowledge and practice should be taught in a variety of ways, including utilizing expertise from the community.

- There is need for more studies exploring the role of the concept of *uMunthu* in education for environmental sustainability. Elders in the study emphasised that school lessons should be based on *uMunthu,* that a human being (*munthu*) is part of nature and therefore should respect nature. More studies exploring how *uMunthu* can provide a framework for engaging with the environmental sustainability of communities in Malawi are required. Other studies could investigate integration of *uMunthu* in the curriculum and pedagogical practices of formal and informal education settings.

- Elaborating youth orientations to place and sustainability through drawings is another area that would benefit from further research.
  - Drawings of the favourite places of youth required a nuanced analysis. As pointed out in the methodology chapter, one of the limitations of the

study was inadequate time allocated to discussions of the drawings with the youth. While youth participants talked about the drawings of their favourite places during two focus group discussions, this was not adequate time for the youth to clarify and elaborate their ideas.

- o Examples that needed more illumination and perhaps one-on-one conversation, instead of a focus group discussion, include: a drawing of a person with only one hand carrying a book, drawings that had gendered features, and the inclusion of features such as buses.

- This study explored participants' understanding of place and environmental sustainability in relation to knowledge and practice, future studies could focus on identity, culture, place, as they link with sustainability.

- o For example, a future research project could examine how youth identify with culture and place and how those identifications affect youth orientations to sustainability.

- o In addition, my study was conducted at a JFFLS; future studies could include primary as well as secondary schools. There could be comparison studies to find out how youth in different primary and secondary settings, identify with culture, place, and environmental sustainability: for example between urban and rural schools; public and private schools; and single sex and co-education schools. Another comparison for secondary schools particularly, would be between day and boarding schools.

Personal Reflections

     In this section I present my reflections on the process of conducting the study

under two headings: whether I acted as 1) an activist and 2) an observer.

I went into the community to learn from the participants. However, there were times I

found it difficult to stand aside, to watch, and to listen. Remembering my study was *with*

and not *on* the participants, I talked, I raised questions, I discussed, I encouraged, I made

suggestions; but also, I watched and waited. As I reflect on my role, I am conflicted:

when was it approoriate to act as an activist and/or as an observer? In what follows I give

four examples; three concern where I felt I might have overstepped my level of comfort

for participation as a researcher (acting as an activist), and one where I feel I should have

done more (thus acting more as an observer).

     Activist?

     Apart from field lessons in the youth garden, I attended one in-class lesson on

human rights. The lesson was lively and interspaced with songs, drama, and dance. There

were a few issues I found problematic with the lesson. First, one facilitator wrote quite a

bit on the board, which he expected (and encouraged) the youth to copy. Considering that

this program is mixed-grade (with youth from standard one to eight), I wondered about

the ability of youth in the lower classes, who had not mastered the art of writing yet, to

comply with his expectation. Secondly, in discussing children's rights in Malawi, the

facilitators talked about the Malawian Constitution[22] and asked the youth if they had seen

one before. When no one said they had, they were encouraged to ask their chiefs to see

the Constitution. I wondered about how facilitators expected the youth to approach a

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[22] Malawi has one Constitution.

chief. In addition, I noticed that the way the facilitators interpreted some information in the manual was not very clear. For example they talked about there being two types of life skills: those of "survival" and those of "talent." They defined survival skills as "requiring the help of others," while talent skills as those "you do on your own." However the manual lists many examples of life skills, including these two, and does not define these particular ones. Perhaps these skills were not defined in the manual because the manual's authors assumed the facilitators would know what the skills entail.

After the lesson I decided to discuss my observations with the facilitators. Bearing in mind that I was not there to evaluate their teaching, I was cautious in my approach. I made sure I was clear that my desire to discuss the lesson was meant to understand the process or concepts addressed in the lessons, and not to evaluate the teaching. I commended them for the enthusiasm and variety of engaging teaching methods. On the issue of copying notes, facilitators said they understand that some youth cannot write, so they use other methods such as repetition and recapping the previous lesson to help them remember. I suggested also having the information on charts which they could hang in the classroom during the lesson. On the matter of youth approaching chiefs asking to see the Constitution, they acknowledged that it would be difficult for some youth to do that. I suggested they bring the Constitution to class and show it to the youth. Fortunately, the Constitution has been translated into the local language of Chichewa. Regarding the life skills covered in the lesson, I asked facilitators about the JFFLS manual and their ease of understanding it. As I have explained in the previous chapter, facilitators indicated that for the most part, they do not have problems understanding it although it is in English. If they find some content that is difficult to

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understand, the other facilitator who is a school teacher helps with the interpretation. However, they mentioned that it would have been much easier if the manual was written in Chichewa. I also asked facilitators what they thought of the manual including examples of vegetables that are uncommon not only in Chinduzi community, but across Malawi. They appeared not to be bothered by this and did not realize the manual had those vegetables. I should note that the school had only one manual which was kept by one of the facilitators: the school teacher.

A second example of where I feel I may have overstepped my role as researcher involved a discussion of the establishment of the JFFLS. I asked facilitators what they thought of FAO providing seed without consultation on the type of seed. They said they appreciated the support but indicated it would have been better if they were asked for suggestions.

A third example concerns my encounters with youth participants. In my daily interactions with them, such as walking to Elder's homes, I tried promoting sustainable behaviours, such as not littering. Was I trying to indoctrinate the youth? And are there some forms of indoctrination that could be considered "good"? I grapple with the issue of balancing good teaching without falling into indoctrination. Where is the border line? I was mindful of Wals (2011) warning that "one must be careful about using education as a tool to influence human behavior in a particular direction because doing so contradicts the essence of education" (p. 178). I had to keep this idea in mind through my interaction with the youth, because I felt I was there primarily as a learner and an observer.

Observer?

The second focus of my reflections concerns when I acted more as an observer, and in retrospect wonder if I should have taken a more active role. As described in the previous chapter, at the beginning of the program, the youth planted mustard vegetable, which unfortunately, never grew to maturity because it was eaten by grasshoppers. Facilitators went over describing the procedure of making the pesticide and promised they were going to make it but never did. I noted frustration among the youth for working so hard tending to the vegetables, which never grew to maturity. I wonder if I should have stepped in more in this instance. I could have suggested that we make the pesticide together. We could have asked the youth to catch the grasshoppers, facilitators could have demonstrated how to crush them, and we could have soaked them in water. If I did that, would I have been "meddling" too much? I had already made some suggestions before, such as holding a lesson at a facilitator's home. I kept reminding myself that my study was to "learn" from the participants and not "teach" or "evaluate." However, perhaps my study should have had a more active focus on "facilitating with the facilitators?" To conclude this section, my reflections on conducting the study reveal instances where I acted as an activist instead of only as a observer, and other instances where I acted as an observer instead of a more active participant.

In the last chapter of my dissertation I have discussed the main topics that came out of the themes and related them back to the existing literature. I have also offered suggestions for policy and practice, and for future research in the JFFLS and related educational contexts. I have ended with my personal reflections on the process of conducting this study.

Concluding Remarks

This study was guided by the idea of "moving the center" (wa Thiong'o, 1993) in Malawi from a singular, Eurocentric model to one that is multicentred and reflects the Malawian culture and local contexts, as well as *appropriate* global culture. To elaborate this notion in conjuction with the study data, I borrowed Bhabha's (1994) terms of "hybridity" and "third space." I described this multicentred centre as a "third space" where neither Western nor IK is privileged, and instead a "hybrid" approach to education is developed. Such a framing opens up spaces for environmental education, and education more broadly, in Malawi to be grounded in the ancient African traditions of *uMunthu* and *Sankofa*. The study acknowledges "there could never be one center from which to view the world but that different people in the world [have] their culture and environment as the center" (wa Thiong'o, 1993, p.9). Thus this "new" third space is a liminal space where both Indigenous and non-Indigenous epistemologies co-exist in a way that does not privilege one over the other. In this space, non-Indigenous epistemologies and practices (which tend to be dominant) are not uncritically accepted; instead they may be resisted, appropriated, translated, and read anew (Bhabha, 1994).

The study has suggested that the Chinduzi JFFLS youth operate in a hybrid third space. Youth learn both Indigenous and non-Indigenous knowledges and practices. This hybridity is not only in their JFFLS lessons but also in their understandings of their favourite places, in the clothes they wear, and in their general views on knowledge and practice. In order to move toward environmental sustainability in the Chinduzi community, Elders recommended that youth need to learn more Indigenous knowledge and practice addressing soil fertility management, weather fore-telling signs, and beliefs

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and taboos. Lessons should focus on environmental sustainability issues in the community. In addition, according to Elders, *uMunthu* should form the base of education of the youth in the community.

The study has also indicated the continued impact of colonialism in the Chinduzi JFFLS in three areas: privileging Western knowledge over Indigenous knowledge; JFFLS curriculum relevancy; and knowledge appropriation. These implications of the study speak to the importance of engaging with counter-hegemonic approaches as frames of analysis. Considering that colonialism is still present in the area, it is crucial that issues of coloniality and education be rigorously engaged from critical orientations that challenge the status quo. This study thus applied a postcolonial theoretical framework.

Another important area of implication of the study involves examining the consistencies between policy and practice. Even though the JFFLS program is meant to be locally relevant and to empower local decision making, it does not appear to exhibit those characteristics, particularly at Chinduzi JFFLS.

This research investigated how environmental sustainability is taken up in the forms of knowledge and practice (both Indigenous and non-Indigenous) in the Malawian education system. The research makes a significant contribution to the existing literature in general, as well as contributes to the future of environment-related educational practice in Malawi.

REFERENCES

Abdi, A. A. (2005). African philosophies of education: Counter-colonial criticisms. In A. A. Abdi, & A. Cleghorn (Eds.), *Issues in African education: Sociological perspectives* (pp. 25-41). New York: Palgrave.

Abdi, A.A. (2006). Culture of education, social development and globalization: Historical and current analyses of Africa. In A. A. Abdi, K. P. Puplampu, & G. J. S. Dei (Eds.), *African education and globalization: Critical perspectives* (pp. 13-30). Lanham, MD: Lexington Books.

Abdi, A.A. (2011). African philosophies of education: Deconstructing the colonial and reconstructing the Indigenous. In G.J. S. Dei (Ed.), *Indigenous philosophies and critical education: A reader* (pp. 80-91). New York: Peter Lang.

Abdullah, J. & Stringer, E. (1999). Indigenous knowledge, indigenous learning, indigenous research. In L. M. Semali and J. L. Kincheloe, (Eds.), *What is indigenous knowledge? Voices from the academy* (pp. 143-155). New York: Falmer.

Adu Boahen, A. (1971). *The horizon: History of Africa.* New York: American Heritage Pub. Co.

Agyeman, J. (2003). "Under-participation" and ethnocentrism in environmental education research: Developing "culturally sensitive research approaches." *Canadian Journal of Environmental Education*, *3*, 80–94.

Ajayi, O. C. (2007): User acceptability of sustainable soil fertility technologies: Lessons from farmers' knowledge, attitude and practice in southern Africa, *Journal of Sustainable Agriculture, 30 (3),* 21-40.

Ajayi, O. C., Akinnifesi, F.K., Sileshi, G., & Chakeredza, S. (2007). Adoption of
renewable soil fertility replenishment technologies in the southern African region:
Lessons learnt and the way forward. *Natural Resources Forum, 31*, 306–317.

Akom, A. A. (2009). Critical race theory meets participatory action research. In W.
Ayers, T. Quinn, & D. Stovall (Eds.), *Handbook of social justice in education*
(pp. 508-521). New York: Routledge.

Appadurai, A. (2000). Grassroots globalization and the research imagination. *Public
Culture 12*(1), 1-19.

Ashcroft, B., Griffiths, G., & Tiffin, H. (Eds.). (2006). *The post-colonial studies reader*.
New York: Routledge.

Banda, K. (1982). *A brief history of education in Malawi*. Blantyre, Malawi: Dzuka
Publishing Company Ltd.

Bandyopadhyay, S., Shyamsundar, P., & Baccini, A. (2011). Forests, biomass use and
poverty in Malawi. *Ecological Economics 70 (12),* 2461-2471. DOI:
10.1016/j.ecolecon.2011.08.003.

Battiste, M. (Ed.). (2000). *Reclaiming Indigenous voice and vision*. Vancouver: UBC
Press.

Battiste, M. (2004). *Animating sites of postcolonial education: Indigenous knowledge
and the humanities.* Plenary address to the Canadian Society for Studies in
Education. May, 29, 2004: Manitoba, Canada.

Battiste, M. (2008 a). The decolonization of aboriginal education: Dialogue, reflection,
and action. In P. R. Dasen & A. Akkari (Eds.), *Educational theories and practices
from the majority world* (pp. 168-195). London: Sage.

Battiste, M. (2008 b). The struggle and renaissance of Indigenous knowledge in

    Eurocentric education. In M. Villegas, S. R. Neugebauer, & K. R. Venegas (Eds.),

    Indigenous knowledge and education: Sites of struggle, strength, and survivance

    (pp. 85-92). *Harvard Educational Review* Reprint Series No. 44. Cambridge,

    MA: Harvard Education Press.

Battiste, M. (2008 c). Research ethics for protecting Indigenous knowledge and heritage:

    Institutional and researcher responsibilities. In N. K. Denzin, Y. S. Lincoln, & L.

    Tuhiwai Smith (Eds.), *Handbook of critical and Indigenous methodologies* (pp.

    497-509). Thousand Oaks, California: Sage.

Battiste, M. & Youngblood Henderson, J. (2000). *Protecting Indigenous knowledge and*

    heritage: A global challenge. Saskatoon, SK: Purich.

Bekunda, M. Sanginga, N. & Woomer, P. L. (2010). Restoring soil fertility in

    Sub-Sahara Africa. *Advances in Agronomy*, *108*, 183-236. DOI: 10.1016/S0065-

    2113(10)08004-1.

Bell, R. H. (2002). *Understanding African philosophy: A cross-cultural approach to*

    classical and contemporary issues. New York: Routledge.

Béneker, T., Sanders, R., Tani, S., & Taylor, L. (2010). Picturing the city:

    Young people's representations of urban environments. *Children's Geographies, 8*

    (2), 123-140.

Berg, B. L. (2004). *Qualitative research methods for the social sciences, 5th ed*. Boston:

    Pearson.

Bhabha, H. (1994). *The location of culture*. London: Routledge.

Bhabha, H. (1996). Culture's in-between. In S. Hall & du Gay (Eds.), *Questions of*

cultural identity (pp. 53-60). London: Sage Publications.

Biakolo, E. (1998). Categories of cross-cultural cognition and the African condition. In

P.H.Coetzee & A.P.J. Roux (Eds.), *Philosophy from Africa: A text with readings*

(pp. 1-14). Johannesburg: International Thomson Publishing (Southern Africa)

(Pty) Ltd.

Bishop, R. (1998). Freeing ourselves from neo-colonial domination in research: A Maori

approach to creating knowledge. *Qualitative Studies in Education, 11(2),* 199-

219.

Bonneuil, C. (2000). Development as experiment: Science and state building in late

colonial and postcolonial Africa, 1930-1970. *Osiris*, *15*, 258-281.

Bourdieu, P. (1980). *The logic of practice.* Stanford, CA: Stanford University Press.

Brayboy, B. McKJ., & Maughan, E. (2009). Indigenous knowledges and the story of the

bean. *Harvard Education Review*, *79 (1*), 1-21.

Breidlid, A. (2009). Culture, indigenous knowledge systems and sustainable

development: A critical view of education in an African context. *International*

Journal of Educational Development, 29, 140-148.

Breidlid, A. (2013). *Education, Indigenous knowledges, and development in the global*

south: Contesting knowledges for a sustainable future. New York: Routledge.

Brown, L. & Strega, S. (2005). Introduction: Transgressive possibilities. In Brown, L. &

Strega, S. (Eds.), *Research as resistance: Critical, Indigenous, and anti-*

oppressive approaches (pp. 1-17). Toronto: Canadian Scholars Press.

Burnard, P. (2002). Using image-based techniques in researching pupil perspectives.

Communicating, *5*, 2-3.

Burke, C. (2005). "Play in focus": Children researching their own spaces and places for

play. *Children, Youth and Environments, 15 (1),* 27-53.

Busia, K.A. (1964). *Purposeful education for Africa*. London: Mouton.

Cahill, C. (2007a). Afterword: Well positioned? Locating participation in theory and

practice. *Environment and Planning A, 39* (*12*), 2861-2865.

Cahill, C. (2007b). The personal is political: Developing new subjectivities through

participatory action research. *Gender, Place and Culture, 14 (3),* 267–292.

Cahill, C., Rios-Moore, I., & Threatts, T. (2008). Different eyes/open eyes: Community-

based participatory action research. In J. Cammarota, & M. Fine (Eds.),

Revolutionizing education: Youth participatory action research in motion (pp. 89-

124). London: Routledge.

Cajete, G. (1994). *Look to the mountain: An ecology of indigenous education*. NC:

Kivaki Press.

Chilisa, B. (2012). *Indigenous research methodologies*. Los Angeles: Sage Publication.

Chossudovsky, M. (2003). *The globalization of poverty and the new world order*.

Pincourt, Quebec, Canada: Global Research.

Clark-Ibanez, M. (2004). Framing the social world and photo-elicitation interviews.

American Behavioural Scientist, *477 (12),* 1507-1527.

Cleary, S. (1989). Structural adjustment in Africa. *Trocaie Development Review*, 41-59.

Cloete, E. L. (2011). Going to the bush: Language, power and the conserved environment

in Southern Africa. *Environmental Education Research, 17 (1),* 35–51.

Cohen, L., Manion L. & Morrison, K. (2000). *Research methods in education fifth

edition*. London: Routledge.

Collier, J. and Collier, M., (1986). *Visual anthropology: Photography as a research*

method. Alberquerque: University of New Mexico Press.

Convention on the Rights of the Child. (1990). UN General Assembly resolution 44/25
of 20 November 1989. Accessed on August 29, 2011 from
www.unhchr.ch/html/menu3/b/k2crc.htm

Cooke, B. & Kothari, U. (2001). The case for participation as tyranny. In B. Cooke & U.
Kothari (Eds.), *Participation: The new tyranny?* (pp. 1-15). London: Zed Books.

Cornwall, A. (2004). Spaces for transformation? Reflections on issues of power and
difference in participation in development. In S. Hickey & G. Mohan (Eds.),
Participation: From tyranny to transformation? (pp. 75-91). London: Zed Books.

Corsiglia, J. & Snively, G. (1997). Knowing home: NisGa'a traditional knowledge and
wisdom improve environmental decision making. *Alternatives, 23* (3).

Cromwell, E., Kambewa, P., Mwanza, R., Chirwa, & KWERA Development Centre.
(2001). Impact assessment using participatory approaches: 'Starter pack' and
sustainable agriculture in Malawi. *AgREN, 112*, 1-11.

Crossley, M. & Tikly, L. (2004). Postcolonial perspectives and comparative and
international research ineducation: A critical introduction. *Comparative
Education*, *40 (2),* 147-156.

Curtin, D. (2005). *Environmental ethics for a postcolonial world.* Lanham, MD:
Rowman and Littlefield.

Dalla Valle, F. (2009). *Junior farmer field and life schools inventory*. Food and
Agriculture Organization of the United Nations (FAO).

Davidson, A. B. (1968). African resistance and rebellion against the imposition of

colonial rule. In T. O. Ranger (Ed.), *Emerging themes of African history: Proceedings of the International Congress of African Historians held at University College, Dar es Salaam, October1965* (pp. 177-188). London: Heinemann.

Davidson, K. (2011). Reporting systems for sustainability: What are they measuring? *Social Indicators Research, 100*, 351-365. DOI 10.1007/s11205-010-9634-3

Davis, M. (2011). "I live somewhere else but I've never left here": Indigenous knowledge, history, and place. In G.S. Dei, (Ed.), *Indigenous philosophies and critical education: A reader* (pp. 114-126). New York: Peter Lang.

Dei, G. J. S. (2000). African development: The relevance and implications of 'indigenousness.' In G. J. S. Dei, B. L. Hall, and D. G. Rosenberg (Eds.), *Indigenous knowledges in global contexts: Multiple readings of our world* (pp. 70-86). Toronto: University of Toronto.

Dei, G. J. S. (2005). C*ritical issues in anti-racist methodologies*. New York: Peter Lang.

Dei, G. J. S. (2011). *Indigenous philosophies and critical education: A reader*. New York: Peter Lang.

Dei, G. J. S. (2012). Reclaiming our Africanness in the disaporized context: The challenge of asserting a critical African personality. *The Journal of Pan African Studies, 4 (10),* 42-57.

Dei, G. J. S., Hall, D. L., & Rosenberg, D.G. (2000). Introduction. In G. J. S. Dei, B. L. Hall, and D. G. Rosenberg (Eds.), *Indigenous knowledges in global contexts: Multiple readings of our world* (pp. 3-17). Toronto: University of Toronto.

Dei, G. J. S., & Asgharzadeh, A. (2006). Indigenous knowledges and globalization: An African perspective. In A. A. Abdi, K. P. Puplampu, & G. J. S. Dei (Eds.), *African education and globalization: Critical perspectives* (pp. 53-78). Lanham, MD: Lexington Books.

Diouf, M. (2000). The Senegalese Murid trade diaspora and the making of a vernacular cosmopolitanism. *Public Culture, 12* (3), 679-702.

Dorward, A. & Chirwa, E. (2011). The Malawi agricultural input subsidy programme: 2005/06 to 2008/09. *International Journal of Agricultural Sustainability, 9* (1), 232–247. DOI: 10.3763/ijas.2010.0567.

Dresner, S. (2008). *The principles of sustainablity*. Sterling, Virginia: Earthscan Publications Ltd.

Driskell, D., & Chawla, L. (2009). Learning by doing. In Corcoran, P. B., & Osano, P. M. (Eds.), *Young people, education and sustainable development*. Wageningen, The Netherlands: Wageningen Academic Press.

Egg, P., Schratz-Hadwin, B., Trubwasser, G., & Walker, R. (2004). *Seeing beyond violence: Children as researchers.* Accessed on April 19, 2012 from: http://www.sos-childrensvillages.org/about-us/library/reports-studies/documents/20070122_1558_664_seeing_beyond_violence_en.pdf

Elabor-Idemudia, P. (2002). Participatory research: A tool in the production of knowledge in development discourse. In K. Saunders (Ed.), *Feminist post-development thought: Rethinking modernity, post-colonialism and representation* (pp. 227-242). London: Zed Books.

Epstein, I. (2009). Globalization and youth: Evolving understandings. *Comparative Education Review*, *53* (2), 285-293.

Escobar, A. (1995). Power and visibility: Tales of peasants, women, and the environment. In A. Escobar, *Encountering development: The making and unmaking of the third world* (pp. 154-211). Princeton: Princeton University Press.

Escobar, A. (2001). Culture sits in places: Reflections on globalism and subaltern strategies of localization. *Political Geography, 20*, 139-174.

Esteva, G., Stuchul, D., & Prakash, M. S. (2005). From a pedagogy for liberation to liberation from pedagogy. In C. A. Bowers & F. Apffel-Marglin, (Eds.), *Rethinking Freire: Globalization and the environmental crisis* (pp. 13-30). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Fals Borda, O. (2001). Participatory action research in social theory. In P. Reason & H. Bradbury (Eds.), *Handbook of action research* (pp. 27–37). London: SAGE.

FAO. (2010). *Case Studies series # 1: Promoting employment and entrepreneurship for vulnerable youths in West Bank and Gaza Strip*. Accessed on April 9, 2011 from: http://www.fao.org/docrep/012/i1450e/i1450e00.pdf

FAO. (2008). *Sharing junior farmer field and life school experiences, challenges and innovations.* Accessed September 30, 2009 from: ftp://ftp.fao.org/docrep/fao/011/i0379e/i0379e.pdf

FAO & WFP. (2007). *Getting started! Running a junior farmer field and life school.* Accessed October 12, 2008 from: http://archive.k4health.org/sites/default/files/GettingStarted.pdf

Farrington, K. (2008). Exploring place in a changing social context. In D. Wiley (Ed.), *Toxic belonging* (pp. 179-205). Cambridge: Cambridge Scholars Press.

Fien, J. (2000). Education for the environment: A critique – an analysis. *Environmental Education Research*, *6* (2), 179-192.

Fine, M., & Torre, M. E. (2006). Participatory action research in prison. *Action Research*, *4* (3), 253–269.

Fine, M. (2008). An epilogue, of sorts. In J. Cammarota, & M. Fine. (Eds.), *Revolutionizing education: Youth participatory action research in motion* (pp. 213-234). London: Routledge.

Fine, M., Tuck, E., & Zeller-Berkman, S. (2008). Do you believe in Geneva? Methods and ethics at the global local nexus. In N. K. Denzin, Y. S. Lincoln, & L. Tuhiwai Smith (Eds.), *Handbook of critical and Indigenous methodologies* (pp. 157-180). Thousand Oaks, California: Sage.

Franck, T. M. (1960). *Race and nationalism: The struggle for power in Rhodesia – Nyasaland*. New York: Foldham University.

Frankenberger, T., Luther, K., Fox, K, & Mazzeo, J. (2003). *Livelihood erosion through time: Macro and micro factors that influenced livelihood trends in Malawi over the last 30 years.* TANGO International, Inc., CARE Southern and Western Africa Regional Management Unit.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Continuum.

Fujimoto, T. (2009). Wild plants as agricultural indicators: Linking ethnobotany with

traditional ecological knowledge. In S. Heckler (Ed.), *Landscape, process and power: Re-evaluating traditional environmental knowledge* (pp.156-182). New York: Berghahn Books.

Glasson, G. E., Frykholm, J. A., Mhango, N. A., & Phiri, A. D. (2006). Understanding the earth systems of Malawi: Ecological sustainability, culture, and place-based education. *Science Education, 90* (4), 660-680.

Glasson, G. E., Mhango, N., Phiri, A. & Lanier, M. (2010). Sustainability science education in Africa: Negotiating Indigenous ways of living with nature in the third space. *International Journal of Science Education, 32* (1), 125-141.

Gannon, S. (2010). Service learning as a third space in pre-service teacher education. *Issues in Educational Research, 20 (1),* 21-28.

Gannon, S. (2009). Rewriting "the road to nowhere": Place pedagogies in western Sydney.*Urban Education*, *44* (5), 608-624. DOI: 10.1177/0042085909339377.

GOM. (2011). *Education statistics 2011*. Lilongwe, Malawi: Education Management Information System Section of the Department of Education Planning, Ministry of Education, Science and Technology.

Government of Malawi and The World Bank, (2006). *Malawi poverty and vulnerability assessment: Investing in our future.* Accessed on March 29, 2013 from: http://fsg.afre.msu.edu/mgt/caadp/malawi_pva_draft_052606_final_draft.pdf

Grant, J., Nelson, G., and Mitchell, T. (2008). Negotiating the challenges of participatory action research: Relationships, power, participation, change and credibility. In P. Reason, and H. Bradbury (Eds.), *The SAGE handbook of action research*

*participative inquiry and practice 2nd Ed. (*pp 589-601). Thousand Oaks,

California: SAGE.

Greenwood, D. A. (2013). A critical theory of place-conscious education. In R.B.

Stevenson, M. Brody, J. Dillon, & A.E.J. Wals (Eds.), *International handbook on*

environmental education research (pp 93-100). New York: Routledge.

Grenier, L. (1998). *Working with Indigenous knowledge: A guide for researchers.*

Ottawa: International Development Research Centre. Accessed on October 6,

2009 from: http://hdrnet.org/214/1/Working_with_indigenous_knowledge.pdf

Gruenewald, D. A. (2003). The best of both worlds: A critical pedagogy of place.

Educational Researcher, 32 (4), 3-12.

Hallam, E. & Prescott, A. (Eds.). (1999). *The British inheritance: A treasury of historic*

documents. Berkeley: University of California Press.

Hall, B. (2005). *In from the cold? Reflections on participatory research from 1979-2005*.

Inaugural Professorial Lecture, University of Victoria (pp. 1-28).

Hammersley, M. & Atkinson, P. (1995). *Ethnography: Principles in practice.* New York:

Routledge Taylor and Francis group.

Harrigan, J. (2003). U-turns and full circles: Two decades of agricultural reform in

Malawi 1981–2000. *World Development, 31* (5), 847–863.

Heckler, S. (2009). Introduction. In S. Heckler (Ed.), *Landscape, process and power:*

Re-evaluating traditional environmental knowledge (pp.1-15). New York:

Berghahn Books.

Herr, K., & Anderson, G. L. (2005). *The action research dissertation*. Thousand Oaks,

California: Sage.

Heyneman, S. T. (1972). The formal school as a traditional institution in an

> underdeveloped society: The case of northern Malawi. *Paedagogica Historica,*
> *12* (2), 460 – 472.

Hobart, M. (1993). Introduction: The growth of ignorance? In M. Hobart (Ed.), *An*

> *anthropological critique of development: The growth of ignorance* (pp. 1-30).
> London: Routledge.

Holloway, S.L. & Valentine, G., (2000). Corked hats and Coronation Street: Children's

> imaginative geographies. *Childhood*, *7 (3),* 335–357.

hooks, b. (1990). *Yearning: Race, gender and cultural politics.* Boston: South End Press.

Huggan, G. (2006). The postcolonial exotic. In B. Ashcroft, G. Griffiths, & H. Tiffin, H.

> (Eds.), *The post-colonial studies reader* (pp. 421-424). New York: Routledge.

IMF (2012). Malawi: Report for selected countries and subjects. Accessed on April 7,

> 2013 from:
>
> http://www.imf.org/external/pubs/ft/weo/2012/01/weodata/weorept.aspx?pr.x=74
> &pr.y=16&sy=2009&ey=2012&scsm=1&ssd=1&sort=country&ds=.&br=1&c=6
> 76&s=NGDPD%2CNGDPDPC%2CPPPGDP%2CPPPPC%2CLP&grp=0&a=

Inglis, J. (1993). *Traditional ecological knowledge: Concepts and cases.* Ottawa:

> International Program on Traditional Ecological Knowledge and International
> Development Research Centre.

Israel, B. A., Schulz, A. J., Parker, E. A., Becker, A. B., Allen III, A. J. & Guzman, J. R.

> (2003). Critical issues in developing and following community based
> participatory research principles. In M. Minkler & N. Wallerstein (Eds.),

Community based participatory research for health (pp. 53-76). San Francisco, CA: Jossey-Bass.

IRIN (2006). East Africa: Deforestation exacerbates droughts, floods. Accessed on May 22, 2013 from: http://www.irinnews.org/Report/61528/EAST-AFRICA-Deforestation-exacerbates-droughts-floods

IUCN. (1980). *The world conservation strategy*. Accessed on March 18, 2010 from: http://data.iucn.org/dbtw-wpd/edocs/WCS-004.pdf

Jegede, O. J. & Aikenhead, G. (1999). Transcending cultural borders: Implications for science teaching. *Research in Science and Technology Education, 17 (1),* 45-66.

Jickling, B. (1992). Why I don't want my children to be educated for sustainable development. *Journal of Environmental Education*, *23 (4),* 5-8.

Kachale, C. (2007a). *Enhancing food and nutrition security for the most vulnerable communities in Malawi through agriculture and livelihood diversification: Junior farmer field and life skills schools (JFFLS) in Malawi*. A presentation at the farmer field school workshop Malawi Institute of Management 24th – 25th April, 2007. Lilongwe: Malawi. Accessed on June 26, 2010 from: http://www.fao.org/fileadmin/templates/tc/tce/pdf/Malawi_MIM_presentation.pdf4

Kachale, C. (2007b). *Junior farmer field and life skills (JFFLS) Malawi: Preliminary implementation facts*. Lilongwe: FAO Malawi.

Kachale, C. (Ed.). (2008a). *Enhancing food and nutrition security for the most vulnerable communities in Malawi through agriculture and livelihood diversification: Junior*

farmer field and life skills schools (JFFLS) joint Malawi government, FAO,

UNFPA, UNICEF and WFP project. Lilongwe: FAO Malawi.

Kachale, C. (Ed.). (2008b). *Junior farmer field and life skills school (JFFLS): After-*

training reference handbook for failitators. Lilongwe: FAO Malawi.

Kachale, C. (2009). Junior farmer field and life skills school project sites.

Kanu, Y. (2007). Tradition and educational reconstruction in Africa in postcolonial and

global times: The case for Sierra Leone. *African Studies Quarterly 9* (3), 65-84.

Kaplan, I., & Howes, A. (2004). 'Seeing with difference eyes': Exploring the value of

participative research using images in schools. *Cambridge Journal of Education*,

34 (2), 143-155.

Kapoor, I. (2008). Capitalism, culture and agency: Dependency versus postcolonial

theory. In I. Kapoor, *The postcolonial politics of development* (pp. 3-18). London:

Routledge.

Kapoor, D. & Jordan, S. (Eds.). (2009). *Education, participatory action research, and*

social change: International perspectives. New York: Palgrave Macmillan.

Kates, R. W., Parris, T. M., & Leiserowitz, A. A. (2005). What is sustainable

development? Goals, indicators, values, and practice. *Environment, 47* (3), 8-21.

Kelly, J.G., Mock, L.O., & Tandon, S.D. (2001). Collaborative inquiry with

African-American community leaders: Comments on a participatory action

research process. In P. Reason, & H. Bradbury (Eds), *Handbook of Action*

Research (pp. 348-355). London: Sage.

Kemmis, S. & McTaggart, R. (2000). Participatory action research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research 2nd Ed.* (pp. 567 – 605). Thousand Oaks, California: SAGE.

Kemmis, S. & McTaggart, R. (2005). Participatory action research: Communicative action and the public sphere. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research 3rd Ed.* (pp. 559 – 603). Thousand Oaks, California: SAGE.

Kesby, M. (2005). Retheorizing empowerment-through-participation as a performance in space: Beyond tyranny to transformation. *Signs: Journal of Women in Culture and Society, 30* (4), 2039-2065.

Kilburn, M. (1996). Glossary of key terms in the work of Gayatri Chakravorty Spivak. *Emory University: Postcolonial studies*. Accessed on August 5, 2013 from: http://www.english.emory.edu/Bahri/Glossary.html.

Kim, N. (2010). A mission to the "Graveyard of Empires"? Neocolonialism and the contemporary evangelical missions of the Global South. *Mission Studies, 27, 3–23.*

Kindon, S., Pain, R., & Kesby, M. (Eds.). (2007). *Participatory action research and methods: Connecting people, participation and place.* London: Routledge.

King, A. D. (2003). Cultures and spaces of postcolonial knowledges. In K. Anderson, M. Domosh, S. Pile, & N. Thrift (Eds.), *Handbook of cultural geography* (pp. 381-397). London: Sage.

Ki-Zerbo, J. (1989). African linguistic classification and the language map of Africa. In J.

Ki-Zerbo (Ed.), *General history of Africa, I: Methodology and African prehistory* (abridged ed., pp. 113-121). London: James Currey with UNESCO.

Kothari, U. (2001). Power, knowledge and social control in participatory development. In B. Cooke & U. Kothari (Eds.), *Participation: The new tyranny?* (pp. 139-152). London: Zed Books.

Kovach, M. (2009). *Indigenous methodologies: Characteristics, conversations, and the contexts*. Toronto: University of Toronto Press.

Kovach, M. (2005). Emerging from the margins: Indigenous methodologies. In L. Brown & S. Strega (Eds.), *Research as resistance: Critical, Indigenous, and anti-oppressive approaches* (pp. 19-36). Toronto: Canadian Scholars Press.

Kwesiga, F.R., Franzel, S., Place, F., Phiri, D., & Simwanza, C. P. (1999). *Sesbania sesban* improved fallow in eastern Zambia: Their inception, development and farmer enthusiasm. *Agroforestry Systems, 47,* 49-66. DOI:10.1023/A:1006256323647.

Lamba, I. C. (2010). *Contradictions in post-war education policy formulation and application in colonial Malawi 1945-1961: A historical study of the dynamics of colonial survival*. Zomba, Malawi: Kachere Series.

Lather, P. (2004). Critical inquiry in qualitative research: Feminist and poststructural perspectives: Science "after truth". In K. deMarrais & D. Lapan (Eds.), *Foundations for research: Methods of inquiry in education and the social sciences* (pp. 203-215). Mahwah, New Jersey: Lawrence Erlbaum Associates.

Laurance, W.F. & Williamson, G.B. (2001). Positive feedbacks among forest

fragmentation, drought, and climate change in the Amazon. *Conservation Biology 15* (6), 1529-1535.

Lavia, J. (2007). Repositioning pedagogies and postcolonialism: Theories, contradictions and possibilities. *International Journal of Inclusive Education*, *11* (3), 283-300.

Lee, J. & Abbot, R. (2009). Physical activity and rural young people's sense of place. *Children's Geographies*, *7* (2), 191–208.

Leitch, R. & Mitchell, S. (2007). Caged birds and cloning machines: How student imagery 'speaks' to us about cultures of schooling. *Improving Schools*, *10 (1),* 53-71.

Le Grange, L. (2007). Integrating western and indigenous knowledge systems: The basis for effective science education in South Africa? *International Review of education*, *53* (5-6), 577-591.

Le Grange, L. (2001). Challenges for participatory action research and indigenous knowledge in Africa. *Acta Academica*, *33* (3), 136-150.

Le Grange, L. (2012). *Ubuntu*, ukama, environment and moral education. *Journal of Moral Education, 41*(3), 329-340.

Le Grange, L. (2011). *Ubuntu*, ukama and the healing of nature, self and society. *Educational Philosophy and Theory, 44*(S2), 56-67 (Special issue on Africa, September).

Leonardo, Z. (2005). *Critical pedagogy and race*. Malden, MA: Blackwell Publishing.

Lillejord, S. & Soreide, G. E. (2003). Tell me your story: Using narratives from interviews to understand indigenous knowledge. *Indilinga: African Journal of Indigenous Knowledge Systems, 2* (1), 89-97.

Lincoln, Y.S. & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, California: Sage.

Lincoln, Y. S. & Guba, E. G. (1994). Competing paradigms in qualitative research. In

    N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-

    117). London: Sage.

Lincoln, Y. S. & Guba, E. G. (2000). Paradigmatic controversies, contradictions, and

    emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The handbook of*

    qualitative research (2nd ed) (pp. 163-188). Thousand Oaks, CA: Sage.

Lopez, A. J. (2001). *Posts and pasts: A theory of postcolonialism.* Albany, NY: State

    University of New York Press.

Looker, E.D. & Naylor, T.D. (2009). 'At risk' of being rural? The experience of rural

    youth in a risk society. *Journal of Rural and Community Development, 4* (2), 39–

    64.

Lukasi, R.B.C. (2011). Chinduzi 1986 land use map.

Lunga, V.B. (2008). Postcolonial theory: A language for a critique of globalization?

    Perspectives on Global Development and Technology, 7, 191-199.

Lwango-Lunyiigo, S. & Vansina, J. (1992). The Bantu-speaking peoples and their

    expansion. In I. Hrbek (Ed.), *General history of Africa, III: Africa from the*

    seventh to the eleventh country (abridged ed., pp. 75-85). London: James Currey;

    Paris: UNESCO.

Mapara, J. (2009). Indigenous knowledge systems in Zimbabwe: Juxtaposing

    postcolonial theory. *The Journal of Pan African Studies*, *3* (1), 139-155.

Manchur, W. A. (1997). *From thirsty soils to spirit hills: A case study of Indigenous*

    natural resource management for sustainable agriculture in Malawi.

Unpublished Master's thesis, Dalhousie University, Halifax, Nova Scotia, Canada.

Massey, D. (1994). *Space, place and gender*. Minneapolis: University of Minnesota Press.

Masuku Van Damme, S. & Neluvhalani, E. F. (2004). Indigenous knowledge in environmental education processes: Perspectives on a growing research arena. *Environmental Education Research*, *10* (3), 353-370.

Maurial, M. (1999). Indigenous knowledge and schooling: A continuum between conflict and dialogue. In L. M. Semali & J. L. Kincheloe, (Eds.), *What is indigenous knowledge? Voices from the academy.* New York: Falmer.

Mayiki, I. A. (2010). Progress on the implementation of NEPAD. Working for Africa's prosperity presentation at the briefing to UN Member States on the New Partnership for Africa's Development (NEPAD): 65th UN General Assembly, 11 October 2010. Accessed August 25, 2013 from: http://www.un.org/africa/osaa/reports/2010_Mayaki_nepad_presentation.pdf

Mbiti, J. S. (1969). *African religions and philosophy*. New York: Praeger.

McCann J. C. (2005). *Maize and grace: Africa's encounter with a new world crop, 1500–2000*. Cambridge, MA: Harvard University Press.

McKenzie, M. (2012). Education for y'all: Global neoliberalism and the case for a politics of scale in sustainability education policy. *Policy Futures in Education, 10* (2), 165-177. http://dx.doi.org/10.2304/pfie.2012.10.2.165.

McKenzie, M., Hart, P., Bai, H., & Jickling, B. (Eds.). (2009). *Fields of green: Restorying culture, environment, and education*. Cresskill, NJ: Hampton Press.

McKenzie, M., Kayira, J., & Wals, A. (2009, May). *ESD for all? The paradox of global prescriptions for local development/participation*. World Environmental Education Congress, Montreal, Quebec.

McKeown, R. & Hopkins, C. (2007). Moving beyond the EE and ESD disciplinary debate in formal education. *Journal of Education for Sustainable Development, 1*, 17-26.

McLaughlin, M. W. (1993). What matters most in teachers' workplace context? In J. W. Little & M. W. McLaughlin (Eds.), *Teachers' work: Individuals, colleagues, and contexts* (pp. 79-103). New York: Teachers College Press.

Mebratu, D. (1998). Sustainability and sustainable development. *Environmental Impact Assessment Review, 18*, 493-520.

Menzies, C. R. (2001). Reflections on research with, for, and among Indigenous peoples. *Canadian Journal of Native Education*, *25* (1), 19-36.

Merriam, S. B. (1988). *Case study research in education: A qualitative approach.* San Francisco: Jossey-Bass.

MIE. (2008 a). *Science and technology curriculum: Pupils text*. Malawi Institute of Education: Zomba, Malawi.

MIE. (2008 b). *Science and technology curriculum: Teachers guide*. Malawi Institute of Education: Zomba, Malawi.

MIE. (2008 c). *Social and environmental sciences curriculum: Pupils text*. Malawi Institute of Education: Zomba, Malawi.

MIE. (2008 d). *Social and environmental sciences curriculum: Syllabus*. Malawi Institute of Education: Zomba, Malawi.

MIE. (2008 e). *Social and environmental sciences curriculum: Teachers guide*. Malawi
      Institute of Education: Zomba, Malawi.

Minh-ha, T. T. (1991). *When the moon waxes red: Representation, gender, and cultural
      politics*. New York: Routledge.

Mkandawire, T. (1999). *Agriculture, employment and poverty in Malawi*. Geneva,
      Switzerland: International Labour Organization.

Mkosi, N. (2005). Surveying Indigenous knowledge, the curriculum, and development in
      Africa: A critical African viewpoint. In A. A. Abdi & A. Cleghorn (Eds.), *Issues
      in African education: Sociological perspectives* (pp. 85-99). New York: Palgrave
      Macmillan.

MOEST. (2008). *Primary curriculum and assessment reform (PCAR): Implementation
      Plan 2007-2010*. Lilongwe, Malawi.

Mohan, G. (2001). Beyond participation: Strategies for deeper empowerment.
      Participation: The new tyranny? (pp. 153 – 167) London: Zed Books.

Morgan, D.L. (2003). Appropriation, appreciation, accommodation: Indigenous wisdoms
      and knowledges in higher education. *International Review of Education 49*(1–2),
      35–49.

Moore, J. (2004). Living in the basement of the ivory tower: A graduate student's
      perspective of participatory action research within institutions, *Educational
      Action Research*, *12* (1), 145-162.

Morrison, K. (1993). *Planning and accomplishing school-centred evaluation*. Norfolk:
      Peter Francis Publishers.

Moss, J., Deppler, J., Astley, L., & Pattison, K. (2007). Student researchers in the middle:

Using visual images to make sense of inclusive education. *Journal of Research in Special Educational Needs*, *7* (1), 46-54.

Moyo, B.H.Z. (2009). Indigenous knowledge-based farming practices: A setting for the contestation of modernity, development and progress. *Scottish Geographical Journal, 125* (3/4), 353-360.

Mtauchila, B. (2010). Chinduzi full primary school, Malawi, Africa. Unpublished report.

Mudimbe, V. Y. (1994). *The idea of Africa*. Bloomington: Indiana University Press.

Mueller, M. P. & Bentley, M. L. (2009). Environmental and science education in developing nations: A Ghanaian approach to renewing and revitalizing the local community and ecosystems. *Summer, 40* (4), 53-63.

Mulenga, D. C. (2001). Mwalimu Julius Nyerere: A critical review of his contributions to adult education and postcolonialism. *International Journal of Lifelong Education*, *20* (6), 446-470.

Musopole, A. (1994). *Being human in Africa: Toward an African Christian anthropology*. New York: Peter Lang.

Mungazi, D.A. (1991). *Colonial education for Africans: George Stark's policy in Zimbabwe*. New York: Praeger.

Mungazi, D.A. & Walker, L.K. (1997). *Education reform and the transformation of Southern Africa*. Westport, Connecticut: Praeger.

Murove, M.F. (2009). An African environmental ethic based on the concepts of Ukama and *Ubuntu*. In M.F. Murove (Ed.), *African ethics: An anthology of comparative and applied ethics* (pp. 315-331). Pietermaritzburg: University of Kwazulu-Natal Press.

Muwanga-Zake, J. W. F. (2009). Building bridges across knowledge systems: Ubuntu and participative research paradigms in Bantu communities. *Discourse: Studies in the Cultural Politics of Education, 30* (4), 413-426.

Mwadime, R.K. (1999). Indigenous knowledge systems for an alternative culture in science: The role of nutritionists in Africa. In. L. M. Semali and J. L. Kincheloe (Eds.), *What is indigenous knowledge? Voices from the academy* (pp. 269-283). New York: Falmer Press.

National Research Council of the National Academies. (2002). *Down to earth: Geographic information for sustainable development in Africa.* Washington DC: The National Academies Press.

National Statistical Office (NSO) and ICF Macro. (2011). *Malawi demographic and health survey 2010.* Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.

Ndoye, M. (1997). Globalization, endogenous development and education in Africa. *Prospects, 27* (1), 79-84.

Neluvhalani, E. F. (2007). Enabling a global imperative of sustainable development through Indigenous (local) ways of knowing: A case of southern African. *Tribes and Tribals Special Volume, 1*, 157-165.

Ngoh, V. J. (1995). Anglo-French rivalry over the Misselele plantations, 1916-1920: A case study in the economic motives for the partition of Africa. *Journal of Third World Studies, XII* (2), 273-299.

Nilan, P. (2006). The reflexive youth culture of devout Muslim youth in Indonesia. In P. Nilan & C. Feixa (Eds.), *Global youth? Hybrid identities, plural worlds* (pp. 91-110). London: Routledge.

Njoroge, R. J. (2004). *Education for renaissance in Africa*. Worcester, Massachusetts: Trafford.

NSO. (2010). *Housing and census 2008 report*. National Statistical Office (NSO), Malawi. Accessed on June 27, 2010 from: http://www.nso.malawi.net

Ntuli, P. P. (2002). Indigenous knowledge systems the African renaissance. In C.A. Odora Hoppers, (Ed.), *Indigenous knowledge and the integration of knowledge systems: Towards a philosophy of articulation* (pp. 53–67). Claremont, Cape Town: New Africa Books.

Nyerere, J. K. (1967). *Freedom and unity/Uhuru na umoja.* London: Oxford University Press.

Ocitti, J. P. (1973). *African indigenous education*. Nairobi, Kenya: East African Literature Bureau.

O'Donoghue, R. & Janse van Rensburg, E. (1999). *Indigenous myth, story and knowledge in/as environmental education processes*. In EEASA Monograph No.3: Indigenous knowledge in/as environmental education processes. EEASA, SADC REEP and WESSA. Howick, South Africa: Share-Net.

O'Donoghue, R. & Neluvhalani, E. (2002). Indigenous knowledge and the school curriculum. In J. Hattingh, H. Lotz-Sisitka, & R. O'Donoghue (Eds.), *Environmental education, ethics & action in Southern Africa*. South Africa: HRSC.

Odora Hoppers, C. A. (2002). *Indigenous knowledge and the integration of knowledge systems: Towards a philosophy of articulation*. Claremont, Cape Town: New Africa Books.

Omolewa, M. (2007). Traditional African modes of education: Their relevance in the modern world. *International Review of Education*, *53*, 593-612.

Opuku, K. A. (1993). African traditional religion: An enduring heritage. In J. Olupona & S. Nyang. (Eds.), *Essays in honor of John S. Mbiti* (pp. 67-82). New York: Mouton de Gruyter.

Osai, O. J. (2010). On the mindset of imperialism: A contemporary review of the works of Edmund Burke. *Journal of Alternative Perspectives in the Social Sciences, 2* (2), 593-613.

PACE. (n.d.) *Gliricidia sepium*: Action sheet 54. Accessed October 13, 2011 from: http://www.paceproject.net/UserFiles/File/Forests/gliricidia%20sepium.pdf

Parpart, J. (2002). Lessons from the field: Rethinking empowerment, gender and development from a post-(post-?) development perspective. In K. Saunders (Ed.), *Feminist post-development thought* (pp. 41-56). New York: Zed Books.

Pashby, K. (2012). Questions for global citizenship education in the context of 'new imperialism': For whom, by whom? In V. Andreotti, V. & L.M. de Souza (Eds.), *Postcolonial perspectives on global citizenship education*, (pp. 9-26). New York: Routledge.

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. 2nd edition. Newbury Park: Longman.

Patton, M. Q. (2002). *Qualitative research and evaluation methods*. 3rd edition.

    Thousand Oaks, California: Sage.

Phiri, A. D. K. (2008). *Exploring the integration of Indigenous science in primary school*

    science curriculum. Unpublished PhD Dissertation, Virginia Polytechnic Institute

    and State University.

Phiri, G. R. (2009). Prospects for and constraints to effective implementation of

    environmental education in Malawi. In N. Taylor, M. Littledyke, C. Eames, & R.

    K. Coll (Eds.), *Environmental education in context: An international perspective*

    on the development of environmental education (pp. 195-202). Rotterdam, The

    Netherlands: Sense Publishers.

Phiri, D.D. (2004). *History of Malawi from the earliest times to the year 1915*. Blantyre,

    Malawi: CLAIM.

Phiri, M. (2004). *Using indigenous material for ECCD curriculum in Malawi*.

    Unpublished bachelor's major project report, University of Victoria, Victoria,

    British Columbia, Canada.

Pontius, J., Dilts, R., & Bartlett, A. (2002). *From farmer field school to community*

    IPM: Ten years of IPM training in Asia. Rome, Italy: FAO.

Rahnema, M. (1990). Participatory action research: The "last temptation of saint"

    development. *Alternatives*, *15* (2), 199-226.

Ramose, M.B. (2009). Ecology *through* Ubuntu. In M.F. Murove (Ed.), *African ethics:*

    An anthology of comparative and applied ethics (pp. 308-314). Pietermaritzburg:

    University of Kwazulu-Natal Press.

Reason, P. (Ed.). (1994). *Participation in human inquiry*. Thousand Oaks, California: Sage.

Rest, A. (2002). From "environmental education" to "education for sustainable development." *Environmental Policy & Law*, *32* (2), 79.

Rigney, L. (1999). Internationalization of an Indigenous anticolonial cultural critique of research methodologies: A guide to Indigenist research methodology and its principles. *Wicazo Sa Review*, *14* (2), 109-121.

Rodney, W. (1982). *How Europe underdeveloped Africa*. Washington, D.C: Howard University Press.

Rutherford, J. (1990). The third space: Interview with Homi Bhabha. *Identity, community, culture, difference* (pp. 207–221). London: Lawrence and Wishart.

Rwomire, A. (1998). Education and development: African perspectives. In J. Nwomonoh (Ed.), *Education and development in Africa* (pp. 3-23). San Francisco: International Scholars Publications.

Sachs, W. (Ed.). (1993). *Global ecology: A new arena of political conflict*. London: Zed Books.

Said, E. W. (1978). *Orientalism*. New York: Pantheon Books.

Sakala, W. D., Cadisch, G., & Giller, K. E. (2000). Interactions between residues of maize and pigeonpea and mineral N fertilizer during decomposition and N mineralization. *Soil Biol. Biochem, 32*, 699–706.

Sanginga, N. & Woomer, P. L. (2009). *Integrated soil fertility management in Africa: Principles, practices and developmental process*. Nairobi : Tropical Soil Biology and Fertility Institute of the International Centre for Tropical Agriculture.

Sauer, J.,Tchale, H., & Wobst, P. (2007): Alternative soil fertility management options
in Malawi: An economic analysis. *Journal of Sustainable Agriculture, 29* (3), 29-
53.

Sauvé, L. (1997). Environmental education and sustainable development: Further
appraisal. *Canadian Journal of Environmental Education*, *1*, 7–34.

Scharff, X. (2007). Primary school is not enough: Proposal for safe and affordable
secondary school for girls in Malawi. *Africa Policy Journal*, *3*, 1-23.

SDNP. (2010). Primary education in Malawi. Accessed on September 12, 2011 from:
http://www.sdnp.org.mw/Education2010/primary.html

Semali L. M. & Kincheloe, J. L. (Eds.). (1999). *What is indigenous knowledge: Voices
from the academy.* New York: Falmer.

Senanayake, R. (2011). *Right to food: Ecologically base agriculture*. Accessed on June
24, 2011 from: http://tkbulletin.wordpress.com/2011/06/22/this-week-in-review-
%E2%80%A6-article-discusses-ecologically-based-agriculture-and-
farmers%E2%80%99-rights-vs-industrial-production-of-food/

Settee, P. (2007). *Pimatisiwin: Indigenous knowledge systems, our time has come*.
Unpublished PhD dissertation, University of Saskatchewan.

Sharra, S. (2007). *Teaching lives: Autobiography, uMunthu, peace and social justice
education in Malawi*. Unpublished PhD dissertation, Michigan State University,
USA.

Shava, S. (2008). *Indigenous knowledges: A genealogy of representations and
applications in developing contexts of environmental education and development*

in Southern Africa. Unpublished PhD thesis, Rhodes University, Grahamstown, South Africa.

Shava, S. (2005). Research on indigenous knowledge and its application: A case of wild food plants of Zimbabwe. *Southern African Journal of Environmental Education, 22*, 73-86.

Shiva, V. (2000). Foreword: Cultural diversity and the politics of knowledge. In G. J. S. Dei, B. L. Hall, & D. G. Rosenberg (Eds.), *Indigenous knowledges in global contexts: Multiple readings of our world* (pp. vii-x). Toronto: University of Toronto.

Shiva, V. (2005). *Earth democracy: Justice, sustainability, and peace*. Cambridge, Massachusetts: South End Press.

Shizha, E. (2005). Reclaiming our memories: The education dilemma in postcolonial African school curricula. In A. A. Abdi & A. Cleghorn (Eds.), *Issues in African education: Sociological perspectives* (pp. 65-84). New York: Palgrave Macmillan.

Sileshi, G. & Mafongoya, P. L. (2003). Effect of rotational fallows on abundance of soil insects and weeds in maize crop in Eastern Zambia. *Applied Soil Ecology, 23*, 211–222.

Sillitoe, P. (2002). Participant observation to participatory development: Making anthropology work. In P. Sillitoe, A. Bickler and J. Pottier, (Eds.), *Participating in development: Approaches to Indigenous knowledge* (pp. 1-23). London: Routledge.

Sillitoe, P., Dixon, P. & Barr, J. (2005*). Indigenous knowledge enquiries: A methodologies manual for development programs and projects*. Rugby: ITDG Publishing.

Sindima, H. (1990). Liberalism and African culture. *Journal of Black Studies, 21* (2), 190-209.

Sindima, H. (1995). *Africa's agenda: The legacy of liberalism and colonialism in the crisis of African values* (p. 173). Westport, CT: Greenwood Press.

Smith, L. T. (1999). *Decolonizing methodologies*. New York: Zed Books.

Smith, L. T. (2005). On tricky ground: Researching the Native in the age of uncertainty. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed.) (pp. 85-107). London: sage.

Smyth, J. (1995). Environment and education: A view of a changing scene. *Environmental Education Research*, *1* (1), 3-120.

Spivak, G. C. (2006). Can the subaltern speak? In B. Ashcroft, G. Griffiths, & H. Tiffin (Eds.), *The post-colonial studies reader* (pp. 28-37). New York: Routledge.

Spivak, G.C. (1993). *Outside in the teaching machine.* New York: Routledge.

Subedi, B., & Daza, S. L. (2008). The possibilities of postcolonial praxis in education. *Race Ethnicity and Education, 11* (1), 1-10.

Sumner, J. (2005). *Sustainability and the civil commons: Rural communities in the age of globalization*. Toronto: University of Toronto Press.

Swanson, D. M. (2009). Where have all the fishes gone? Living ubuntu as an ethics of research and pedagogical engagement. In D. M. Caracciolo and A. M. Mungai

(Eds, *In the spirit of Ubuntu: Stories of teaching and research* (pp. 3-21).

Rotterdam, The Netherlands: Sense Publishers.

Swantz, M. L. (2008). Participatory action research as practice. In P. Reason, & H.

Bradbury (Eds.), *The SAGE handbook of action research: Participative inquiry*

and practice 2ⁿᵈ Ed. (pp 31-48). Thousand Oaks, California.: SAGE.

Tandon, R. (Ed.). (2002). *Participatory research revisiting the roots*. New Delhi: Mosaic

Books.

Taylor, E., Gilborn, D., & Ladson-Billings, G. (2009). *Foundations of critical race*

theory in education. London: Routledge.

Tedla, E. (1995). *Sankofa: African thought and education.* New York: Peter Lang.

Teran, G. (2005). Vernacular education for cultural regeneration: An alternative to Paulo

Freire's vision of emancipation. In C. A. Bowers & F. Apffel-Marglin (Eds.),

Rethinking Freire: Globalization and the environmental crisis (pp. 69-82).

Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Thomas, D.R. (2006). A general inductive approach for analyzing qualitative evaluation

data. *American Journal of Evaluation, 27,* 237-246. DOI:

10.1177/1098214005283748.

Thomson, P. (2008). *Doing visual research with young people*. London: Routledge.

Tilbury, D. (1995). Environmental education for sustainability: Defining the new focus of

environmental education in the 1990s. *Environmental Education Research, 1* (2),

195–212.

Truman, H. S. (1949). Inaugural address. Accessed on August 25, 2012 from:

http://www.presidency.ucsb.edu/ws/?pid=13282#axzz2gKiJt900

Tuck, E. (2009). Re-visioning action: Participatory action research and Indigenous theories of change. *Urban Review, 41*, 47-65.

Tuck, E., Allen, J., Bacha, M., Morales, A., Quinter, S., Thompson, J., & Fine, M. (2008). PAR Praxes for now and future change: The collective of researchers on educational disappointment and desire. In J. Cammarota & M. Fine. (Eds.), *Revolutionizing education: Youth participatory action research in motion* (pp. 49-83). London: Routledge.

Tupper, K.W. (2009). Ayahuasca healing beyond the Amazon: The globalization of a traditional indigenous entheogenic practice. *Global Networks 9* (1), 117-136.

Turner, B. (Ed.). (2009). *The statesman's yearbook online*. New York: Palgrave Macmillan. Accessed on June 15, 2010 from: http://www.statesmansyearbook.com/welcome/entry?entry=countries_mw.KEY_HISTORICAL_EVENTS

Tutu, D. (1999). *No future without forgiveness*. New York: Doubleday.

UNAIDS/UNICEF/USAID. (2004). *Children on the brink 2004: A joint report of new orphan estimates and a framework for action.* Washington, DC: United States Agency for International Development (USAID). Accessed on September 15, 2011 from: http://data.unaids.org/publications/External-Documents/unicef_childrenonthebrink2004_en.pdf

UNCED. (1992). *Agenda 21*. Retrieved October 6, 2009 from: http://www.un.org/esa/sustdev/documents/agenda21/english/Agenda21.pdf

UNDP. (2012). *Human development report 2012.* Accessed on March 29, 2013 from: http://hdrstats.undp.org/en/countries/profiles/MWI.html

UNDRIP (2008). United Nations Declaration on the Rights of Indigenous Peoples.

Accessed on October 25, 2009 from:

http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

UNESCO. (1978). The Tbilisi Declaration 3. *Connect*, 2.

UNESCO. (2005a). *United Nations decade of education for sustainable development*

(2005-2014): International implementation scheme. Accessed on March 20, 2010

from: http://unesdoc.unesco.org/images/0014/001486/148654e.pdf

UNESCO. (2005b). *United Nations decade of education for sustainable development:*

Links between the global initiatives in education: Education for sustainable

development in action technical paper n°1. Accessed on March 30, 2010 from:

http://unesdoc.unesco.org/images/0014/001408/140848m.pdf

UNESCO. (2008). *Education for sustainable development: United Nations decade 2005-*

2014. Accessed on March 30, 2010 from:

http://www.desd.org/DESDhighlights+MARCH08.pdf

United Nations permanent forum on Indigenous peoples. Accessed on February 12, 2010

from: www.un.org/esa/socdev/unpfii/en/sowip.html

United Nations secretary-general's high-level panel on global sustainability (2012).

Resilient people, resilient planet: A future worth choosing. New York: United

Nations. Accessed on December 18, 2012 from:

http://www.un.org/gsp/sites/default/files/attachments/GSP_Report_web_final.pdf

Universal declaration of human rights (1948). Accessed on March 29, 2013 from:

http://www.un.org/en/documents/udhr/

Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry, 6* (3), 205 – 218.

Verran, H. (2001). *Science and an African logic*. Chicago and London: University of Chicago Press.

Vidich, A. J. (1955). Participant observation and the collection and interpretation of data. *American Journal of Sociology, 60* (4), 354 - 360.

Villegas, M., Neugebauer, S. R., & Venegas, K. R. (Eds.). (2008). *Indigenous knowledge and education: Sites of struggle, strength, and survivance.* Cambridge, MA: Harvard Education Press.

wa Thiong'o, N. (1986). *Decolonizing the mind: The politics of language in African literature*. London: James Currey.

wa Thiong'o, N. (1993). *Moving the centre: The struggle for cultural freedoms*. London: James Currey.

wa Thiongo, N. (2005). Europhone or African memory: The challenge of the pan Africanist intellectual in the era of globalization. In T. Mkandawire (Ed.), *African intellectuals: Rethinking politics, language, gender and development* (pp. 115-164). London: Zed.

wa Thiong'o (2009). *Re-membering Africa*. Nairobi: East African Educational Publishers Ltd.

Wals, A. E. J. (2009). *Learning for a sustainable world: Review of contexts and structures for education for sustainable development*. Paris: UNESCO. Accessed on April 2, 2010 from:
http://www.unesco.org/education/justpublished_desd2009.pdf

Wals, A. E. J. (2011). Learning our way to sustainability. *Journal of Education for Sustainable Development, 5*, 177-186. DOI: 10.1177/097340821100500208.

Wane, N. N. (2000). Indigenous knowledge: Lessons from the Elders – a Kenyan case study. In G. J. S. Dei, B. L. Hall, and D. G. Rosenberg (Eds.), *Indigenous knowledges in global contexts: Multiple readings of our world* (pp. 54-69). Toronto: University of Toronto.

Wane, N. N. (2005). African Indigenous knowledge: Claiming, writing, storying and sharing the discourse. *Journal of Thought, 40 (2)*, 27-46.

Wasserman, H. & Jacobs, S. (2003). *Shifting selves: Post-apartheid essays on mass media, culture, and identity*. Kwela Books.

Watts, R. (2010). Responding to children's drawings. *Education 3-13*, *38 (2)*, 137-153.

WCED. (1987). *Report of the World Commission on Environment and Development, General Assembly Resolution 42/187, 11 December 1987*. Also known as the Brundtland Commission Report. Accessed on October 12, 2009 from: http://www.un-documents.net/a42r187.htm

Weaver, J. (2000). Indigenousness and identity. In H. Schwartz & R. Sangeeta (Eds.), *A companion to postcolonial studies* (pp. 221–235). Malden, MA: Blackwell Publishers.

Weber, S. & Mitchell, C. (1995). *That's funny, you don't look like a teache*r. London: Falmer.

Weber-Pillwax, C. (1999). Indigenous research methodology: Exploratory discussion of an elusive subject. *Journal of Educational Thought*, *33* (1), 31-45.

Weber-Pillwax, C. (2001). Coming to an understanding: A panel presentation. What is

    Indigenous research? *Canadian Journal of Native Education*, *25* (2), 166-174.

Wesseling, H. L. (1996). *Divide and rule: The partition of Africa, 1880 – 1914 / H. L.*

    Wesseling; Translated by Arnold J. Pomerans. Westport, Connecticut: Praeger.

Wilkinson, K.M., Clark, S.G., & Burch, W.R. (2007). *Other voices, other ways, better*

    practices: Bridging local and professional environmental knowledge. Yale

    School of Forestry & Environmental Studies, Report No. 14. Accessed on

    February 28, 2010 from: http://environment.yale.edu/publication-

    series/environmental_politics_and_management/5335

Wilson, S. (2001). What is an Indigenous research methodology? *Canadian Journal of*

    Native Education, *25*(2), 175-179.

Wilson, S. (2008). *Research is ceremony: Indigenous research methods*. Halifax:

    Fernwood.

WIPO (2012). *Intellectual property and genetic resources, traditional knowledge and*

    traditional cultural expressions. Geneva: World Intellectual Property

    Organization. Accessed on July 25, 2012 from:

    http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf

Yeoh, B. A. A. (2003). Postcolonial geographies of place and migration. In K. Anderson,

    M. Domosh, S. Pile, & N. Thrift (Eds.), *Handbook of cultural geography* (pp.

    369-380). London: Sage.

Yin, R. K. (1994). *Case study research: Design and methods* (2nd Ed). Thousand Oaks,

    California: Sage.

APPENDIX A: LETTER TO THE MINISTRY OF EDUCATION SCIENCE AND TECHNOLOGY MALAWI SEEKING PERMISSION TO CONDUCT STUDY

THE UNIVERSITY OF SASKATCHEWAN

School of Environment and Sustainability

August 6, 2010

The Secretary for Education Science & Technology
P/Bag 328
Lilongwe 3
Malawi

Through Karsten Liber, Ph.D., Executive Director
School of Environment and Sustainability
University of Saskatchewan
Room 323, Kirk Hall
117 Science Place
Saskatoon, SK S7N 5C8
Canada

Dear Sir/Madam

Permission to Conduct Research at Chinduzi Junior Farmer Field and Life Skills School

I write to seek permission to conduct academic research at Chinduzi Junior Farmer Field and Life Skills School (JFFLS) in Machinga district between the months of October and December 2010.

I am a Malawian citizen currently pursuing doctoral studies in environment and sustainability at the University of Saskatchewan, under the supervision of Dr. Marcia McKenzie.

The title of my study is *'Exploring Indigenous Knowledge in a Junior Farmer Field and Life Skills School in Malawi'*. I am interested in investigating the current experiences of students and facilitators in the JFFLS, and how the Indigenous Knowledge (IK) of the people in the surrounding area of Chinduzi is or is not being integrated in those experiences. Data collection methods will include interviews with elders in the community, focus group discussions with facilitators and students, and observing a practical and a theoretical lesson.

I would like to assure you that my study adheres to research ethics as stipulated by the University of Saskatchewan Behavioural Research Ethics Board. I am attaching consent forms for facilitators, student guardians, and elders.

Your support is highly appreciated.

Sincerely,

Jean Kayira,

APPENDIX B: APPROVAL FROM THE MINISTRY OF EDUCATION SCIENCE AND TECHNOLOGY MALAWI

Ministry of Education Science and Technology
The Secretary for Education Science and Technology
P/Bag 328
Lilongwe 3
Malawi

Jean Kayira
Through Karsten Liber, Ph. D., Executive Director
School of Environment and sustainability
University of Saskatchewan
Room 323, Kirk Hall
117 Science Place
Saskatoon, SK S7N 5C8
Canada

August 9, 2010

Dear Sir/Madam

Re: Permission to Conduct Research at Chinduzi Junior Farmer Field and Life Skills School

I write to inform you that permission has been granted for you to conduct research at Chinduzi Junior Farmer field in life skills in Machinga district between the months of October and December 2010 as per your request on the letter dated August 6, 2010.

I wish you all the best in your studies and please do not forget to share your final report with this ministry.

Yours sincerely,

Signed

John L. Khozi

For: The Secretary for Education Science and Technology

APPENDIX C: INVITATION LETTER FOR FACILITATORS

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

Dear Sir/Madam

You are being invited to participate in a research study for a doctoral dissertation. The research will be conducted between the months of October and December 2010 at Chinduzi Junior Farmer Field and Life Skills School (JFFLS).

The purpose of the study is to explore how environmental sustainability in the JFFLS program is taken up in forms of knowledge and practice (both Indigenous and non-Indigenous) embedded in the local culture of Chinduzi village. Should you agree to be involved in the study, your participation will involve being part of a focus group discussion with other facilitators. There will be at least two focus groups. The first one will aim at learning your experiences and perspectives of the JFFLS program and is estimated to be two hours long maximum. The objective of the second discussion will be to get your feedback on the information gathered during the first discussion and seek any clarification. This meeting is expected to be an hour long. These meetings will take place in a location that is convenient to you. The discussions will be tape-recorded but if you prefer your voice not to be recorded, notes will be taken instead.

Participation will also involve observation of two of class periods with you and your students (in the classroom and on the field—garden) from which observational and field notes will be taken. Please note that I am not coming in to evaluate or judge your knowledge or teaching strategies, I am purely interested in learning about the program. You will also be requested to participate in a discussion with students in which they will share their findings after their conversation with the Elders.

All the data collected from the study will be securely stored by my supervisor, Dr. Marcia McKenzie for a minimum of five years and will then be destroyed. To assure confidentiality of your participation in the research, all names will be replaced by pseudonyms in the dissertation and any publications. You will have the opportunity to choose your own pseudonym should you wish.

I would like to assure you that my study adheres to research ethics and has been approved by the University of Saskatchewan Behavioural Research Ethics Board. I am attaching a copy of the approval letter.

Your participation is voluntary, and you may withdraw from the study anytime you wish. Withdrawal will not jeopardize you in any way whatsoever.

If you are interested in learning more about this study, please contact me or my supervisor at the address below and more details will be provided.

I will be meeting you in the near future after you have had the chance to consider my request. Thank you for considering being involved in this study.

Sincerely,

Jean Kayira

Contact Information

Researcher:
Jean Kayira,
School of Environment and Sustainability
University of Saskatchewan
Room 323, Kirk Hall
117 Science Place
Saskatoon, SK S7N 5C8
Canada
Tel: + 001 306 370 5821, Fax: + 001 306 966 2298
Email: jean.kayira@usask.ca; jeankayira@yahoo.com

Address in Malawi
C/O Mrs Ettah Chirwa
Malawi SDNP
P O Box 31762
Chichiri, Blantyre 3
Malawi
Tel: + 265 099 174 1544

Supervisor:
Marcia McKenzie, Ph.D.
Department of Educational Foundations & School of Environment and Sustainability
University of Saskatchewan
28 Campus Drive, Saskatoon, SK
Canada, S7N 0X1,
Tel: + 001 306 966 7551
Email: marcia.mckenzie@usask.ca

APPENDIX D: INTRODUCTION TO PARTICIPANTS

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

I used this part to introduce myself to the participants: Elders, facilitators and youth.

My name is Jean Kayira. I am a Ph.D. student at the University of Saskatchewan in Canada. I am interested to learn about the JFFLS program—particularly the teaching and learning of IK.

I would like to sit down and have a conversation with you about the program *(Questions in Appendices: E—facilitators, F—youth, and G—Elders).* Please note that I am here to learn from you and not evaluate or judge you as such there are no right or wrong answers.

I would like to record our conversation but if you are uncomfortable to have your voice recorded, please feel free to say so. All information provided during our discussions will be kept strictly confidential and all names will be replaced with pseudonyms for publication. You may choose your own pseudonym if you so desire.

I will also be observing the lessons (field and classroom) and will take notes. Again this is not an evaluation but a learning process for me so act normal and ignore my presence. *(This will be for Facilitators and Youth)*

For youth—I want to learn your their views and perspectives on the current JFFLS program particularly the knowledge and practice (Indigenous/non-Indigenous) as well as your understanding of place and environmental sustainability in relation to knowledge and practice in the community. At the end of the discussion of place and sustainability, we will do an activity.
.
- *This was the place-mapping exercise. I asked them to draw pictures of their favourite place(s) in their community and include a narrative why. We discussed their drawings during two focus group meetings.*

Once the study is complete, I will make the findings available to you as research participants; Chinduzi JFFLS school committee; Ministry of Education, Science and Technology; and Food and Agricultural Organization (FAO)—Malawi office. I will also publish the findings in academic journals.

Participation in the study is completely voluntary. Please note that your participation may be withdrawn at any time during the study without providing reasons for doing so if you so wish. Withdrawal will not jeopardize you in any way whatsoever.

If you would like to participate in the study, I will ask you to read and sign a consent form.
- *for Elders, I had a verbal consent. I read it to them and signed it*
- *for youth, I had parent/guardian consent form. I visited every parent/guardian of the youth who volunteered to participate. I read it to them and signed it.*

Do you have any questions?

APPENDIX E: FOCUS GROUP DISCUSSIONS QUESTIONS WITH FACILITATORS

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

Number of Participants: **Female:**   **Male:**

Date:

A. CURRENT PRACTICES

1. Does the JFFLS program address IK? If so, in what ways?
2. What is your understanding of IK? (process, implicit and embedded in social habitus of people or objectified knowledge?)
3. How is IK understood in the JFFLS program?
4. Who decides what is considered appropriate IK for the program? (Elders, facilitators, community leaders, Ministry officials?)
5. What role do the youth/students play in determining program content?
6. How do you teach IK?
7. Are you free to choose any pedagogical tool you see fit or do you follow a set standard?
8. How about Western knowledge? Does the program address it?
9. Are IK and Western knowledges addressed equally?
    -   If not, which form is prioritized?
    -   What are your thoughts on this?
10. How involved is the local community in the program?
    -   Do Elders participate in co-facilitating?
    -   Are Elders and community leaders members of the school committee?

B. DESIRABLE PRACTICES

11. What set of values and beliefs do you think the youth in the JFFLS program should learn and practice?
12. Do you think the youth in the JFFLS should learn the IK of the people of Chinduzi village? Explain.
13. How should IK be incorporated in the JFFLS program?
14. Please suggest ways how IK in the JFFLS should be taught and learned.
15. Would you support efforts that aim at making effective use of local expertise, especially Elders as co-teachers when teaching IK in the JFFLS program?

16. What do you think of Western knowledge? Do you think the youth in the JFFLS should be learning Western knowledge? Explain.
17. Are there issues in the environment in relation to place that affect your life both personally and as a facilitator, or that of the community; or that you think might affect either in the future? (prompts e.g., Climate change; drought; low crop yield; deforestation; disease—Malaria, water-borne, HIV/AIDS)
    - What do you think should be done to address these issues?
    - Any suggestions on what you could do with the students/youth?
    - Do you see the local IK as playing a role in addressing the issues? Explain.
18. What challenges do you face in facilitating the program?
19. What would you like to be changed in order to improve the program?

**APPENDIX F: FOCUS GROUP DISCUSSIONS QUESTIONS
WITH YOUTH**

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

Number of Participants: **Female:**   **Male:**

Date:

A. CURRENT PRACTICES (FGD 1)

1. What role do you play in determining the content of the JFFLS program?
2. What do local IK and practices mean to you?
3. Do you think the program teaches more local IK or Western knowledge?
4. What are your views on this?
5. What about in your lives at home – to what extent do you think your home lives are influenced by local IK? What about Western knowledge and practices?
6. How is IK taught in the program?

B. ORIENTATION TO ENVIRONMENTAL SUSTAINABILITY
    Part A (FGD 2)
7. What is your understanding of environmental sustainability (ES)?
8. Do you think the way we relate to place affects ES? Explain
9. Let us talk of places in our community. (talk about their favourite places, discuss why. Ask them to draw pictures of the places and include a short narrative—these will be discussed during the next FGD).
10. Are there issues in the environment in relation to place that affect your life, or that of the community; or that you think might affect either in the future? (prompts e.g., Climate change; drought; low crop yield; deforestation, disease—Malaria, water-borne, HIV/AIDS)
11. What do you think should be done to help address these issues?
12. What actions do you personally perform to help address the issues?
13. Do you see the local IK as playing a role in addressing these issues? Explain.

Part B: Place mapping (FGD 3)
14. What do your pictures represent?
15. Why did you choose the particular place(s)?
16. What culture is depicted in your pictures? (local IK and/or Western) Why?
17. Thinking about our discussion on ES the other day, how do the pictures address ES?

C. DESIRABLE PRACTICES (FGD 3)

18. Do you think you should be learning the local IK? Why or why not?
19. If your answer to question 18 is yes, how would you like to learn IK?
20. What do you think of Western knowledge? Do you think you should learn
    Western knowledge? Explain.
21. What would you like to learn in the JFFLS program?

APPENDIX G: CONVERSATION QUESTIONS WITH ELDERS

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

Name: **Gender:**   **Date:**

A. CURRENT PRACTICES

1. What roles do Elders and other local leaders play in the JFFLS program?
   - E.g., invited to facilitate lessons (practical in the field or classroom), participate in determining curriculum content, members of the school committee (if these are not mentioned, be sure to ask)
2. Are you aware of what the youth are learning in the JFFLS program?
   - Do you know if they are learning the local IK and or Western knowledge?
   - If they are learning both, which form of knowledge do you think is held in high esteem?
   - What are your views on this?
3. Do you think it is important for you or the community of Chinduzi to know what the youth are learning in the JFFLS program? Explain.

B. DESIRABLE PRACTICES

4. What set of values and beliefs do you think the youth in the JFFLS program should learn and practice? (If IK is not mentioned, ask question 5)
5. Do you think the youth in the JFFLS should learn the IK of the people of Chinduzi
    village? Explain.
6. How should IK be incorporated in the JFFLS program?
7. Please suggest ways how IK in the JFFLS should be taught and learned.
8. What role do you think Elders like yourself and other local leaders should play in the JFFLS program?
9. Would you support efforts that aim at making effective use of local expertise, especially Elders as co-teachers when teaching IK in the JFFLS program?
10. What do you think of Western knowledge? Do you think the youth in the JFFLS should be learning Western knowledge? Explain.
11. Are there issues in the environment in relation to place that affect your life, or that of the community; or that you think might affect either in the future? (prompts e.g., Climate change; drought; low crop yield; deforestation; disease—Malaria, water-borne, HIV/AIDS)

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12. What do you think should be done to help address these issues?
13. Do you see the local IK as playing a role in addressing these issues? Explain

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

General Observation

Look who is present in the school (facilitators, youth, guardians, Elders, officials?)

If Elders and/or guardians are present, what are they doing? (help with teaching, field work etc?)

How does the physical surrounding look? (clean, rubbish pit available, littering). Check the rubbish pit for recyclable materials. Watch if people are cautious about littering.

Interactions among youth, facilitators, community members

Where does most teaching and learning take place? (classroom, field—garden, community)

Class Observation

What is today's topic?

What is the general mood of the class? (relaxed, lively, serious. Youth talking freely with facilitator)

What pedagogical tools are employed? (lecture, stories, dance, poem, role play, games, debate, guest speaker etc)

To what extent are youth involved? (listening, questioning, telling, discussing, demonstrating) Are they encouraged to participate?

Describe facilitator's actions (instructing, explaining, questioning, demonstrating, challenging).

Pay attention if there is a deliberate link of the topic to local community. Where are examples drawn from? (community or somewhere else)

Is IK or practice addressed? If it is, pay attention how it is conveyed (objectified, implicit in the cultural practices, in comparison with Western knowledge). How much time is spent on it? Is it romanticised or dismissed as backward?

Watch if environmental issues are discussed in today's topic.

Field Observation

Again, what is the topic?

Do the youth look excited to be in the field? Are they keen to dig, plant etc? How about the facilitator?

Who is demonstrating techniques? (facilitator all the time, youth). Who else is here besides facilitator and youth (Elders, guardians, officials, etc)

Pay attention to the techniques being carried out. Are they Western, local IK or a combination? Are they communicated as IK (e.g., this is how our ancestors used to make ridges) or Western (e.g., science tells us that the best way to control aphids on our vegetables is to spray with insecticides such as malathion)

Watch if discussions are linked to environmental sustainability (e.g., climate change affecting weather patterns—what does this mean for them? Do they talk about what they could do to address the effects?)

Relationships between environmental issues and social issues in daily lives

Conversation and Focus Group

Pay attention to nonverbal expressions.

Can you infer what is really being said? How about what is left unsaid?

Are participants giving each other chance to speak? Who is talking the most?

Watch those who are silent (who are they? can you read their nonverbal expressions?) Find respectful ways to encourage them to participate.

Watch for power dynamics. If you have to intervene, do it respectfully. Remember *uMunthu* is central in all interactions.

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

CONSENT FORM FOR FACILITATOR

You are invited to participate in a research study entitled **Re-learning our Roots: Youth Participatory Research, Indigenous Knowledge, and Sustainability through Agriculture**

Please read this form carefully, and feel free to ask questions you might have.

Researcher:
Jean Kayira, School of Environment and Sustainability, University of Saskatchewan, Room 323, Kirk Hall, 117 Science Place, Saskatoon, SK S7N 5C8, Canada
Tel: 001 306 370 5821, Fax: 011 306 966 2298
Email: jean.kayira@usask.ca; jeankayira@yahoo.com

Address in Malawi
C/O Mrs Ettah Chirwa, Malawi SDNP, P O Box 31762, Chichiri, Blantyre 3, Malawi
Tel: 265 888 368 582

Supervisor:
Dr. Marcia McKenzie, Department of Educational Foundations & School of Environment and Sustainability, University of Saskatchewan, 28 Campus Drive, Saskatoon, SK S7N 0X1 Canada
Tel: 001 306.966.7551, Email: marcia.mckenzie@usask.ca

Purpose:
The purpose of the study is to to explore how environmental sustainability in the JFFLS program is taken up in forms of knowledge and practice (both Indigenous and non-Indigenous) embedded in the local culture of Chinduzi village. The research will be conducted between the months of October and December 2010.

Study Procedures:
Should you agree to be involved in the study, your participation will involve being part of a focus group discussion with other facilitators. There will be at least two focus group discussions. The first one will aim at learning your experiences and perspectives of the JFFLS program and is estimated to be two hours long maximum. The objective of the

second discussion will be to get your feedback on the information gathered during the first discussion and seek any clarification. This meeting is expected to be an hour long. These meetings will take place in a location that is convenient to you. The discussions will be tape-recorded but if you are uncomfortable to have your voice recorded, you are free to decline and notes will be taken instead.

Participation will also involve observation of two of class periods with you and your students (in the classroom and on the field—garden) from which observational and field notes will be taken. Please note that the observations will not aim at evaluating or judging your knowledge or teaching strategies, the researcher is purely interested in learning about the program. You will also be requested to participate in a focus group discussion with students in which they will share their findings after their conversation with the Elders. Photographs of discussions and interactions may be taken as well.

Direct quotations from the discussions may be used in the research representation with all references to names, locations, or other identifying features removed. Once the study is complete, the researcher will make the findings available to the Chinduzi JFFLS school committee, Ministry of Education, and Food and Agricultural Organization (FAO)—Malawi office. Hopefully the findings will contribute to program enhancement. The findings will also be published in academic journals.

Potential Benefits:
While your participation in the study may not benefit you personally, findings of the research may enhance teaching and learning in the JFFLS program in your community.

Potential Risks:
There are no known or foreseeable risks associated with your participation in the study.

Confidentiality:
To assure confidentiality of your participation in the research, all names will be replaced by pseudonyms in the dissertation and any publications. You may choose your own pseudonym should you wish. All taped recordings and transcripts will be analyzed only by the researcher. Although all efforts will be taken to keep your identity confidential, full confidentiality cannot be guaranteed. Original copies of research data will be securely stored by the researcher's supervisor for a minimum of five years and then destroyed.

As a member of a focus group discussion, you are expected to protect the integrity and confidentiality of what others in the group have said during discussions.

If you would like to choose your own pseudonym, write it here_____

Right to Withdraw:
Your participation is voluntary, and you can respond to only those questions that you are comfortable with. You may withdraw from the research project for any reason, at any time, without penalty of any sort. If you withdraw from the research project at any time,

any data that you have contributed will be destroyed at your request. Please note that your right to withdraw data from the study will apply until July 1, 2011. After this it is possible that some form of research dissemination will have already occurred and it may not be possible to withdraw your data.

Contact for Information about the Study:
If you have any questions or wish further information with respect to this study, you may contact the researcher, Jean Kayira or her supervisor, Dr. Marcia McKenzie using the above contact information.

Contact for Concerns about the Rights of Research Subjects:
This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on September 15, 2010. If you have any questions regarding your rights as a participant, feel free to contact the Research Ethics Office, University of Saskatchewan, Box 5000 RPO University, Saskatoon, SK S7N 4J8, Canada; Tel: 001 306 966-2084; Email: ethics.office@usask.ca.

Consent to Participate:
I have read and understood the description provided; I have had an opportunity to ask questions and my questions have been answered. I consent to participate in the research project, understanding that I may withdraw my consent at any time. A copy of this Consent Form has been given to me for my records.

_____   _____
(Name of Participant)   (Date)

_____   _____
(Signature of Participant)   (Signature of Researcher)

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

CHILOLEZO CHA PA KAMWA KUCHOKERA KWA AKULU-AKULU

Muyitanidwa kuti mupange nawo kafukufuku wakhudza kuphunzira za "nzeru za makolo, nzeru za azungu, malimidwe ndi kakhalidwe" pa sukulu ya Chinduzi JFFLS.

Poyamba ndilongosola zimene tichite. Muli ndi ufulu kufunsa mafunso.

Mfufuzi:
Jean Kayira,
Keyala ku Canada
School of Environment and Sustainability, University of Saskatchewan, Room 323, Kirk Hall, 117 Science Place, Saskatoon, SK S7N 5C8, Canada
Telefoni: 001 306 370 5821, Kalata ya lamya: jean.kayira@usask.ca;
jeankayira@yahoo.com

Keyala ku Malawi
C/O Mrs Ettah Chirwa, Malawi SDNP, P O Box 31762, Chichiri, Blantyre 3, Malawi
Telefoni: 265 888 368 582

Mlangizi:
Dr. Marcia McKenzie, Department of Educational Foundations & School of Environment and Sustainability, University of Saskatchewan, 28 Campus Drive, Saskatoon, SK S7N 0X1 Canada
Telefoni: 001 306.966.7551, Kalata ya lamya: marcia.mckenzie@usask.ca

Cholinga:
Cholinga cha kafukufukuyu ndi kufufuza maphunziro pa sukulu ya JFFLS, maka-maka nzeru za makolo mdera lino la Chinduzi, komanso nzeru za azungu. Ndikufuna ndidziwe ngati ana a pa JFFLS amaphunzira nzeru za makolo kuchokela mdera lino komanso nzeru za azungu. Kafukufuku ameneyu achitika pakati pa miyezi ya Oktobala ndi Disembala chaka chino cha 2010.

Dongosolo la kafukufuku:
Ngati mungalore kukhala nawo mukafukufukuyu, ndikupemphani kuti ndicheze nanu. Kucheza kwathu kuchitika kawili. Poyamba ndifuna ndiziwe maganizo anu pa sukulu ya JFFLS, makamaka mmene nzeru za makolo zimaphunzitsidwa, komanso mmene zingaphunzitsidwe. Kukambilana kwathu ndiyesa kutenga ma ola awili. Ndizafuna kuti tichezenso kachiwili kuti tiwone zimene tinakambilana ulendo woyamba. Kucheza kwa chiwiliku kuzatenga ola limodzi. Ana a sukulu ya JFFLS nawonso akhale nawo pa

kucheza kwathu kuti amve maganizo anu. Ndikupemphani kuti musankhe malo omwe mungakonde komanso nthawi yomwe mungafune kuti tikumane. Ndipemphaninso kuti zokambilana zathu zijambulidwe pa kaseti. Koma ngati simukufuna kuti mau anu ajambulidwe, muli ndi ufulu kukana, m'malo mojambula mau, ndizalemba zokambilana zathu. Ndizajambulanso zithunzi nthawi yimene tizizacheza.

Polemba zotsatira za kafukufukuyu, dzina lanu lidzasinthidwa kutetedza dzina lanu. Pakutha pa kafukufukuyu, mudziwitsidwa zotsatira zake. Ndidzalemba lipoti limene ndidzatumiza ku Chinduzi sukulu komiti, ku boma ku Machinga, komanso ku likulu ku Lilongwe.

Ubwino wochita nawo kafukufuku:
Pali chikhulupiliro kuti zotsatila za kafukufukuyu zithandiza maphunziro a JFFLS mu dela lanu la Chinduzi.

Kusunga chinsinsi:
Zokambilana zathu zonse zidzakhala mu chinsinsi. Sindidzaulula kwa wina liyense kuti bamboo uje, kapena mayi uje andiuza zotero. Potetedza dzina lanu mu kafukufukuyu, dzina lanu lidzasinthidwa polemba zotsatira za kafukufuku. Palibe wina aliyense adzamvele zimene takambilana pakucheza kwathu. Ndidzayesesa kuti dzina lanu lisatulukire ku gulu ndipo kuti musadziwike kuti mwachita nawo kafukufukuyu. Pakutha pa kafukufukuyu, makaseti onse komanso notes zonse zidzasungidwa ndi alangizi anga kwa dzaka zisanu, kuchokera apo zidzawonengedwa ndikutayidwa.

Ufulu wosapitiliza ndi kafukufuku:
Muli ndi ufulu kusankha kukhala nawo mu kafukufukuyu, mosakakamizidwa. Muli ndi ufulu kuyankha mafunso omwe mungafune. Komanso dziwani kuti ngakhale mutavomela pano, muli ndi ufulu wosintha maganizo nthawi ina ili yonse. Ngati mwasankha kusapitiliza kukhala nawo mu kafukufukuyu, zimene takambilana zizachotsedwa mwakufuna kwanu. Koma dziwani kuti mukhoza kusintha maganizo kusiya kupitiliza kukhala mu kafukufukuyu mpaka pa 1 Julaye 2011. Kupyola tsiku limeneli zotsatila za kafukufukuyu zizakhala kuti zalembedwa ndiye pazakhala pobvuta kuti zimene takambilana zichotsedwe.

Kupeza mfufuzi wa kafukufuku:
Ngati muli ndi mafunso okhudzana ndi kafukufukuyu, mukhoza kufunsa nthawi yina yili yonse. Mukhoza kufunsa ine kapena alangizi anga pogwiritsa ntchito keyala yalembedwa pamwamba.

Kupeza wa wamkulu wa bungwe loyang'ana zamchitidwe wa kafukufuku:
Kafukufukuyu wabvomerezedwa ndi bungwe loyang'ana zamchitidwe wa kafufuku ku University ya Saskatchewan patsiku la 15 Septembala chaka cha 2010. Ngati muli ndi mafunso okhudza chitetezo chanu pa kafukufukuyu, mukhoza kulemba kalata kwa Research Ethics Office, University of Saskatchewan, Box 5000 RPO University, Saskatoon, SK S7N 4J8, Canada; kapena kuchita telefoni : 001 306 966-2084; kapena kalata ya lamya: ethics.office@usask.ca.

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Chilolezo cha pakamwa:

Ndisanapatsidwe chilolezo, ndawelenga ndikulongosola zalembedwa mu kalatayi kwa (mayi kapena bamboo uje). Ndipo anawonetsa kuti amvetsa zimene takambilana.

_____   _____
(Dzina la a mayi kapena bambo)   (Date)

_____
(Siginetcha ya mfufuzi)

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

CHILOLEZO CHA PAKAMWA KUCHOKERA KWA MAKOLO

Mwana wana wayitanidwa kuti apange nawo kafukufuku wakhudza kuphunzira za "nzeru za makolo, nzeru za azungu, malimidwe ndi kakhalidwe" pa sukulu ya Chinduzi JFFLS.

Poyamba ndilongosola zimene tichite. Muli ndi ufulu kufunsa mafunso.

Mfufuzi:
Jean Kayira,
Keyala ku Canada
School of Environment and Sustainability, University of Saskatchewan, Room 323, Kirk Hall, 117 Science Place, Saskatoon, SK S7N 5C8, Canada
Telefoni: 001 306 370 5821, Kalata ya lamya: jean.kayira@usask.ca;
jeankayira@yahoo.com

Keyala ku Malawi
C/O Mrs Ettah Chirwa, Malawi SDNP, P O Box 31762, Chichiri, Blantyre 3, Malawi
Telefoni: 265 888 368 582

Mlangizi:
Dr. Marcia McKenzie, Department of Educational Foundations & School of Environment and Sustainability, University of Saskatchewan, 28 Campus Drive, Saskatoon, SK S7N 0X1 Canada
Telefoni: 001 306.966.7551, Kalata ya lamya: marcia.mckenzie@usask.ca

Cholinga:
Cholinga cha kafukufukuyu ndi kufufuza maphunziro pa sukulu ya JFFLS, maka-maka nzeru za makolo mdera lino la Chinduzi, komanso nzeru za a zungu. Ndikufuna ndidziwe ngati ana a pa JFFLS amaphunzira nzeru za makolo kuchokela mdera lino komanso nzeru za azungu. Kafukufuku ameneyu achitika pakati pa miyezi ya Oktobala ndi Disembala chaka chino cha 2010.

Dongosolo la kafukufuku:
Ngati mungalore kuti mwana wanu akhale nawo mukafukufukuyu, mfufuzi azakhala nawo mu kalasi la mwana wanu kuti awone m'mene maphunziro akuyendela. Komanso mfufuzi azacheza ndi mwana wanu pamodzi ndi anzake kuti amve maganizo awo pa sukulu ya JFFLS, makamaka mmene nzeru za makolo zimaphunzitsidwa, komanso mmene zingaphunzitsidwe. Mwana wanu azakhala mu gulu la ana a sukulu omwe

atakachedze ndi akulu-akulu mu dera lino la Chinduzi kuti akamve maganizo awo pa sukulu ya JFFLS. Komanso, mwana wanu pamodzi ndi anzake ndi mfufufzi, akakambilana ndi aphunzitsi awo zomwe akamve kwa akulu-akulu a ku dera lino la Chinduzi. Ndipempha kuti zokambilana zathu ndi mwana wanu zijambulidwe pa kaseti. Koma ngati simukufuna kuti mau a mwana wanu ajambulidwe, muli ndi ufulu kukana, m'malo mojambula mau, ndizalemba zokambilana zathu. Ndizajambulanso zithunzi nthawi yimene tizizacheza.

Polemba zotsatira za kafukufukuyu, dzina la mwana wanu lidzasinthidwa kutetedza dzina lake. Pakutha pa kafukufukuyu, mudziwitsidwa zotsatira zake. Ndidzalemba lipoti limene ndidzatumiza ku Chinduzi sukulu komiti, ku boma ku Machinga, komanso ku likulu ku Lilongwe.

Kusunga chinsinsi:
Zokambilana zathu zonse zidzakhala mu chinsinsi. Sindidzaulula kwa wina liyense kuti wakuti anena zotero. Potetedza dzina la mwana wanu mu kafukufukuyu, dzina la mwana wanu lidzasinthidwa polemba zotsatira za kafukufuku. Palibe wina aliyense adzamvele zimene takambilana pakucheza kwathu. Ndidzayesesa kuti dzina la mwana wanu lisatulukire ku gulu ndipo kuti asadziwike kuti wachita nawo kafukufukuyu. Pakutha pa kafukufukuyu, makaseti onse komanso notes zonse zidzasungidwa ndi alangizi anga kwa dzaka zisanu, kuchokera apo zidzawonengedwa ndikutayidwa.

Ufulu wosapitiliza ndi kafukufuku:
Muli ndi ufulu kusankha kuti mwana wanu akhale nawo mu kafukufukuyu, mosakakamizidwa. Komanso dziwani kuti ngakhale mutavomela pano, inu ndi mwana wanu muli ndi ufulu wosintha maganizo nthawi ina ili yonse. Ngati mwasankha kusapitiliza kukhala nawo mu kafukufukuyu, zimene takambilana ndi mwana wanu zizachotsedwa mwakufuna kwanu. Koma dziwani kuti mukhoza kusintha maganizo kusiya kupitiliza kukhala mu kafukufukuyu mpaka pa 1 Julaye 2011. Kupyola tsiku limeneli zotsatila za kafukufukuyu zizakhala kuti zalembedwa ndiye pazakhala pobvuta kuti zimene takambilana zichotsedwe.

Chonde sankhani njira zomwe mwana wanu angakhale nawo mukafukufukuyu:

☐ Ndikupeleka chilolezo kuti mwana wanga awonedwe mukalasi.

☐ Ndikupeleka chilolezo kuti mwana wanga ajambulidwe chithunzi.

☐ Ndikupeleka chilolezo kuti mwana wanga ajambulidwe pa kaseti.

☐ Ndikupeleka chilolezo kuti mwana wanga akhale nawo pocheza ndi akulu-akulu a m'mudzi muno.

Kupeza mfufuzi wa kafukufuku:

Ngati muli ndi mafunso okhudzana ndi kafukufukuyu, mukhoza kufunsa nthawi yina yili yonse. Mukhoza kufunsa ine kapena alangizi anga pogwiritsa ntchito keyala yalembedwa pamwamba.

Kupeza wa wamkulu wa bungwe loyang'ana zamchitidwe wa kafukufuku:

Kafukufukuyu wabvomerezedwa ndi bungwe loyang'ana zamchitidwe wa kafufuku ku University ya Saskatchewan patsiku la 15 Septembala chaka cha 2010. Ngati muli ndi mafunso okhudza chitetezo chanu pa kafukufukuyu, mukhoza kulemba kalata kwa Research Ethics Office, University of Saskatchewan, Box 5000 RPO University, Saskatoon, SK S7N 4J8, Canada; kapena kuchita telefoni : 001 306 966-2084;kapena kalata ya lamya: ethics.office@usask.ca.

Chilolezo cha pakamwa:

Ndisanapatsidwe chilolezo, ndawelenga ndikulongosola zalembedwa mu kalatayi kwa (mayi kapena bamboo uje). Ndipo anawonetsa kuti amvetsa zimene takambilana.

_____   _____

(Dzina la a mayi kapena bambo)   (Date)

_____

Dzina la mwana

_____

(Siginetcha ya mfufuzi)

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APPENDIX L: ELDER TRANSCRIPT RELEASE

THE UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability

CHILOLEZO CHA PAKAMWA KUCHOKERA KWA AKULU-AKULU

Kuphunzira nzeru zamakolo, nzeru za azungu, pa zamalimidwe ndi kakhalidwe

Ndiwelenga ndikulongosola kalatayi. Ngati muli ndifunso, chonde funsani.

Ine,_____, ndapatsidwa mwayi kuwona zomwe ndinanene pa kucheza mu kafukufukuyu. Ndikubvomereza kuti zomwe ndaona zikutsimikidza zimene ndinanena panthawi ya kucheza kwanga ndi Jean Kayira. Ine ndipatsidwa kope la chilolezo chimenechi.

Chilolezo cha pa kamwa
Ndisanapatsidwe chilolezo, ndawelenga ndikulongosola zalembedwa mu kalatayi kwa (mayi kapena bamboo uje). Ndipo anawonetsa kuti amvetsa zimene takambilana.

_____ _____
(Dzina la a mayi kapena bambo)   (Date)

_____
(Siginetcha ya mfufuzi)