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The Deforestation of Tholeni:

the environmental legacies of Apartheid underdevelopment

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Abstract

This research report considers deforestation of Tholeni Forest in the context of rural poverty and underdevelopment. According to the Food and Agricultural Organisation (FAO) 2007, close to 13 million hectares of forests are deforested each year. This has led to the reduced economic viability of forests and lower investment in the management of forests as a whole. Most of the international literature, however, focusses on indigenous forest resources, with little focus on the economic and environmental sustainability of former plantation forests beyond the assumption of the environmental impact of mono-culture industrial agriculture. In the Eastern Cape, Tholeni in particular, local (primarily rural) communities rely upon former industrial plantations for as part of their livelihood – including collecting firewood for fuel. Meanwhile, despite its questionable environmental benefit, the Eastern Cape provincial government has declared the forest a protected environmental resource. This creates tension between longer-term traditional ways of life and increasingly urban expectations.

While such traditional rural practices may be one of a number of proximate (or immediate) causes of deforestation, this research has attempted to account for the ultimate (or distal) causes of environmental pressures in the Tholeni area. The history of rural areas such as Tholeni have shaped a major part of the way in which the environment is treated and understood in rural South Africa and for this reason underdevelopment has been the result. In doing so, this research also attempts to understand the relationship between traditional rural livelihood practices, broader social and political impacts on the area, and the possible role of environmental education in creating sustainable futures.

The research has adopted a qualitative research method, including: a literature review to describe the changing dynamics of the Tholeni area over the years; interviews with local residents to understand changing community dynamics over the years and to track the impacts of deforestation on livelihoods; focus group discussions to establish the relationship between the community and its leaders and the relationship between the two power structures that are supposed to sustain and manage natural resources and participant observation undertaken on environmental education sessions with local political leaders and communities.

The study has revealed that the possibilities for sustainable futures in areas like Tholeni are hindered by factors such as history, current state of social and environmental indicators which are affecting many South African rural communities.

Chapter 1- Introduction

Tholeni is a small community in Butterworth, Eastern Cape, and forms part of what used to be called Transkei, part of the many rural South African areas that were homelands to the then apartheid government. These homelands were designed to control the flow of black South Africans in and around the country. Many of these 'rural ghettos' are faced with severe environmental problems as a result of apartheid under-development policies (Durning, 1990). Today, rural areas fall under a complex intersection of traditional, localand provincial government authority; this over-lapping power structure causes conflict when decisions which affect the local people, land and the environment in the community have to be made. The development of rural areas (through housing and commercial farming) is on the rise as an effort to promote social growth in such communities (Gopaul, 2006). This may be done at the further expense of already unsustainable environmental exploitation.

In Tholeni, there are several power structures that intersect to govern the area and its functionality. At the local level there is municipal structures both local and district (political), as well as traditional authority structures made up of the local chief and his advisors. Both these structures are defined in terms of the local government act of 1994, although in practice some of their areas of jurisdiction overlap. The natural environment, and in particular the forest resources, is mostly governed through national and provincial legislation, and at the provincial level of government.

At the local level, it is recognised that municipal and traditional structures could play a significant role in ensuring, combating and solving environmental issues (Middleton et al, 2011). This is so because each of the power structures has its own strength which when combined could yield positive environmental results and sustainability. Their strengths combined focus on different aspects of the Tholeni community that are important in reaching the goals that this thesis will address. For example, experiments conducted by the local forestry department in parts of Eastern Cape where traditional leaders were in given meaningful participation in managing forestry researves have proved to be more successful than programmes where traditional authorities were excluded (Paqula, 2016). The department would like to see a situation where, the community and both political and traditional leaders in areas such as Tholeni could be working together to ensure a decreased level of deforestation without threatening the livelihoods of the community members who are dependent on the forest resources e.g. for firewood or for building materials.. However, the

case of the deforestation of the Tholeni forest suggests that this is not being done at the moment, and this thesis will document some of the barriers to achieving the balance between power structures and achieving sustainable futures in rural South Africa

1.1 Problem Statement

In this thesis, Tholeni Forest will be used as a case study to investigate the possibilities and barriers to developing sustainable communities and sustainable futures in a context of historical environmental degradation. Tholeni forest is not an indigenous forest; it forms part of the many fragments of industrial forest and woodlots that were established initially under apartheid as part of the industrial decentralisation strategy, but more recently have been recognised as albeit inadequate means for decreasing environmental degradation and natural resource over-use in these rural ghetto areas. These once-industrial forests have become the subject of attempts to imagine possible environmental futures in places more conventionally characterised by environmental unsustainability. How can we think of sustainable futures not in terms of preservation but in a post-degradation context? In order to answer this question, I will use the example of Tholeni forest as a case study. This forest itself is not an indigenous forest, which raises a number of issues with regards to the possibilities of seeing it as a vehicle for sustainable futures. Nevertheless, the forest has been identified by the provincial authorities as a site for forest protection despite its uncertain environmental qualities. At the same time, the forest is seen as an economic resource for the local community which lives in a rural area that is in many ways overpopulated: the forest is a source of fire wood, cattle grazing and financial income.

This project emerges out of an attempt to understand whether or not an industrial forest can be the basis for developing sustainable futures in a rural community. The context for this is that we have the legacy of apartheid planning in this area which has been responsible for widespread environmental degradation in the area. With little economic opportunity in the area, one resource that community members have exploited is the forest. However, the forest forest is now at the intersection of community needs and a broader scale (government) policies for long term environmental resource protection. This question that this research report will pose is: what can the relationship between the Tholeni community and the forest teach us about sustainable futures in a post-apartheid rural context?

1.2 Primary Research Aim

The broad aim of this study is to interrogate the possibility of sustainable economic, political, social and environmental futures of Tholeni in the context of rural underdevelopment, continued poverty and the increasingly incompatible relationship between traditional knowledge and contemporary practices.

The **primary** and **specific aim** of this thesis is to use a case study of Tholeni Forest to illustrate the social, environmental, cultural and economic challenges as well as appropriate resource utilisation for sustainable community livelihoods and power relations in the post-apartheid context. The objectives are as follows**;**

1. To critically evaluate policy and practice vis-a-vis the forest resources in the Tholeni area in the apartheid and post-apartheid eras.

2. To understand the relationship to, and the value of, the forest to the local community members of Tholeni, especially as it does or does not contradict local and provincial government policies and practices vis-à-vis the forest.

3. To investigate how environmental justice / sustainability is perceived and understood among different stake-holders (local communities, local politicians, local business interests etc): finally we can see whether sustainable futures are obtainable in 'already unsustainable' environments.

1.4 Outline of chapters

This thesis will unfold in several chapters. Chapter two is the literature review in which I discuss the legacy of the apartheid era and what effects it had on the environment and how these effects still have some form of influence in the way sustainability is understood and practiced in rural South Africa. It will then go on to look at the post-apartheid power structures that govern the Tholeni region that being the local municipality and provincial government and the traditional authority which is more local and recognised by rural communities. The particular case of industrial forests and deforestation will be looked into as it is an example of the environmental degradation that is occurring in areas that are supposedly subjects of environmental sustainability. The literature review will also look at

the possibilities of these sustainable futures being achieved in areas that are plagued with such complex histories and diverse politics both internally and externally.

Chapter three is the methodology section which will look into the way I did this research. It took the form of a qualitative approach, based primarily around interviews and observations in the Tholeni area and taking several transect walks with local community members in the Tholeni Forest. Chapter 4 and 5 present the empirical data from the field research, highlighting the findings that were gathered during this research project. These two chapters are structured around the main objectives of the research project: Chapter four looks mostly at the internal dynamics of the Tholeni Administration Area and the scales of governance from provincial authority to the local traditional leaders. It highlights the internal conflicts of these scales and all the effects that these different hierarchies have on the achievement of sustainable futures. This chapter will also consider the demographics of the Tholeni area and how these influence environmental degradation.

Chapter 5 will look at the traditional practices that are found within the Tholeni area. It will also highlight how these former traditional communities are moving towards modern imperatives and wanting to shift towards modern economies.

1.5 Chapter conclusion

In this chapter I have attempted to make a case for undertaking a research project in the Tholeni area to investigate the relationship between apartheid-era forestry policy and post-apartheid possibilities of social and environmental sustainability. I argued that the Tholeni Forest is a useful example, primarily because it is caught between provincial government environmental protection, and local community livelihoods. I outlined the primary research aim and objectives of the study: namely, critically evaluate policy and practice vis-a-vis the forest resources in the Tholeni area in the apartheid and post-apartheid eras. The second objective is to understand the relationship to, and the value of, the forest to the local community members of Tholeni, especially as it does or does not contradict local and provincial government policies and practives vis-à-vis the forest. The third main objective is to investigate how environmental justice / sustainability is perceived and understood among different stake-holders (local communities, local politicians, local business interests etc).

In the following chapter I will locate the research project within a relevant local and international literature, and I will show that while there is significant literature on rural sustainable livelihoods, there is very little discussion on the paradoxical role of plantation forestry to contribute to rural sustainable livelihoods.

Chapter 2: Literature Review

In this chapter I will look at primarily three main sets of literature. First, I will consider a literature on rural under-development in South Africa, beginning with the environmental legacies of the apartheid Bantustan system. I will look at the legacy of apartheid underdevelopment in rural South Africa considering how this legacy has had an effect on the natural environment.

The second body of literature considers how, in the post-apartheid context, development of rural areas remains difficult because of the unclear role of traditional authorities. Their roles are unclear because the natural environment of Tholeni is managed at a provincial level and the traditional authority feel they are not given any clear role as to how they act. The contradiction lies in that the residents of Tholeni recognise their traditional leaders than the governmental officials. I will highlight the various roles that each hierarchy at different scales is supposed to play in influencing positive environmental futures and change.

The third theme will look at the particular case of industrial forests that are found in rural areas and the rates of deforestation in both industrial and indigenous forests. These industrial forests were supposed to be for rural harvesting and use but government has come to the forefront to protect them due to the fast rates of deforestation. Literature argues that industrial forests lack diversity which is why they are deemed of no value in some communities. This is the case in Tholeni as residents feel that this forest is of no value but a liability. My project has identified a gap of knowledge in that these industrial forests open up great debate towards their protection. Communities say they are of no value yet the state wants to protect them. Instead of protecting them, why not find ways to protect the environment in a way that accommodates rural communities and promotes their development in a sustainable manner. The real problem lie not with the deforestation of the forest but the way forward after it has been removed.

These issues either assist of hinder achieving sustainable futures. The history of these areas has already had some effect on slowing down environmental development therefore this thesis moves towards identifying areas that are to be carefully studied in order to achieve sustainable futures.

The above mentioned themes were chosen for this research because they speak specifically to the problem of deforestation that is currently happening in the Tholeni area. This research

needed to establish that the legacy of apartheid created spaces that needed to be reinvented. Ramutsindela (2007) however says that once space is constructed, it is difficult to transform despite the political intention to do so. Environmental development and justice are quite challenging in areas such as these apartheid waste lands as there has been no element of rehabilitation before pursuing development. Each of the themes that are set out in the literature review are a single component of the bigger picture that is required in the betterment of rural South Africa but before this is done we need to establish the history of the apartheid rural homelands and how this history has impacted the natural environment in Tholeni. Through this we can then make way for solutions that will and can assist in achieving environmental justice.

2.1 Apartheid underdevelopment and the environmental legacies of the rural ghettos

Apartheid was an oppression system that was introduced to the country in trying to control black populations and perpetuate white development. With the enactment of apartheid laws in 1948, racial discrimination was institutionalized. According to Mhlauli et al (2015), the primary law was to separate all the ethnicities in terms of services, areas they could live in and where to move in the cities. In 1951, the Bantu Authorities Act established a basis for ethnic government in African reserves, known as ``homelands." These homelands were independent states to which each African was assigned to live in and were with little to resources to use as the general black population which were densely populated (Mhlauli et al 2015). This meant that these areas were not recognised as part of South Africa and there were limited resources against a big population to use. According to Durning (1990), the nation's territory was divided between whites and black people where blacks were given 13% of the land and the 87% for whites. Since these areas were overpopulated the resources were then quickly depleted and poverty in the areas increased. The former Bantustans have typically been characterised as severely degraded due to overgrazing and overharvesting of resources often using commercial cattle farms as benchmarks for development (Giannechini et al, 2006). This all began during the 1913 land act where according to Wolpe (1972), began the segregation of the blacks and whites in South Africa. This was done because white farmers wanted better land for farming and felt that most of this land was used or taken up by the black population. Black populations were moved to these unsustainable homelands that forced the black population to seek employment in other areas. This opened up avenues of

cheap labour where Wolpe (1972) calls the whites of that time capitalists that wanted cheap labour so the black population provided this. Wolpe (1972) further states that Apartheid was nothing more than segregation under a different name. But it cannot be seen as a simple extension of segregation. “The ideology and the political practice in which it is reflected are in a complex reciprocal relationship with changing social and economic conditions” (Wolpe, 1972, 454). These complex relationships have determined whether these spaces can and cannot be changed. Pressure has been placed on policies to try and amend the consequences of not only apartheid but also segregation which aimed at the development of white areas.

Development was continuing in other areas of the country which resulted in rural homelands being left behind. According to King and McCuster (2006) state development policies were routinely oriented towards the development of urban areas. This was done to the detriment of rural spaces. The poverty in rural areas was not a characteristic of rural flaws but a systemic bias against rural areas. After the abolishment of Apartheid laws rural South Africa was left underdeveloped with a growth in the numbers of people that were dependent on natural resources found in these communities. Under development is attributed to the apartheid mode that aimed to build a first class capitalist economy to a few, leaving majority in poverty and underdeveloped. Many of these homelands now are a bare resemblance to what the rest of the country looks like. Indirectly these rural communities are going through rapid social, political, economic and cultural transitions which influence the way society interacts with the environment which in turn can cause environmental change.

King and Mccuster (2006) state that after the 1994 democratic elections, there was a wave of positivity and optimism that the social and spatial history of the Bantustans would be transformed to redress the inequalities of the apartheid era. Various development strategies and rural development programs were created as an attempt to remedy the effect of apartheid underdevelopment. These rural development programmes were set aside to make sure that rural areas are developed to a point or a level that is similar to urban areas by providing better services, better living conditions and improving transport systems. The programs were focused on economic growth and development than any other form of development which became the biggest downfall for these programmes

Of course, post-apartheid South Africa is not the only country plagued by underdevelopment in rural areas. In Nigeria for example, Ojomeni et al (2014) has shown that in the post-colonial era the focus on urban development has meant that the rural areas remain largely

under-developed. Where development has been implemented in rural parts of Nigeria, the problem has been what Ojomeni refers to as a "blanket approach" i.e. the idea that plans can be developed at the national state level, and then implemented in rural areas in a one size fits all approach. This kind of development implementation is understandable in the post-colonial context where states have huge development demands, but very limited capacity at the ground level to envisage and implement development projects (Chambers, 2014). Nevertheless it has meant that there is very little account taken of the specific conditions of each context. According to Ojonemi (2014), rural development programmes are no longer measuring or promoting development by looking solely at the economy but are now inclusive of the environment and society. Agriculture has been put forward as a way to diminish resource depletion and accelerate rural development. Agriculture was supposed to act as an agent of poverty reduction through farming practices in rural areas and then people would sell produce to make an income. In turn, there will be less deforestation and environmental degradation that is occurring in rural areas. While the borders have been erased, the residual impacts of the apartheid spaces will remain lingering in rural areas. We can only work towards trying to rectify the wrongs (King and McCuster, 2006).

In this section, I have suggested how the legacy of apartheid has created the context of an unsustainable environment in rural South Africa. The apartheid state deliberately forced the over-population of these areas and in the post- apartheid era several issues such as the lack of community engagement, have made sustainable development implementation difficult. In the next section I will consider the continuing power of traditional authorities in many rural areas, and the complex ways in which these authorities influence development.

2.2 Post-apartheid power Structures

According to Binza and George (1998) traditional leadership is one of the oldest forms of power that are responsible for community development and the needs of local communities. George and Binza further state that the preservation of people's values, cultures and customs is the responsibility of traditional leaders. Customs, history, traditions and cultural laws contain underlying information that is of benefit when formulating solutions and policies about an area. The role of traditional leaders is crucial for policy formulation and continues to be relevant in rural areas as places where most customs and laws are recognised and practiced. Together indigenous knowledge and current knowledge could be of benefit to both

community members and the environment. It is also imperative that they find or create channels to improve the lives of their community members and to know which doors to knock on when it is faced with problems (Ntsebeza, 2004). As previously mentioned initiative and will separate a great leader from the rest and is of more value to its community members.

Traditional leaders and municipalities play a significant role in the management of people, communities, natural resources and other surrounding resources (Binza and George, 1998). It is a role entrusted in these bodies by government and our constitution. Chapters 7 and 12 of the Republic of South Africa Constitution Act, 1996 (Act No.108 of 1996) was changed to ensure that the authority of Traditional leaders is not disregarded or overshadowed by the implementation of the Local Government Municipal Structures Act and other municipal policy and legislative instruments.

Section 211 (1) of the Constitution (1996) recognises traditional leadership roles as based upon customary law and practices. Each of the structures has a specific and defined role concerning how and when to handle matters handed over to them. In line with the above, particularly what is contained in Section 212 of the Constitution, the Local Government Municipal Structures Act, 1998 (Act No.117 of 1998) reflects on the participation of traditional leaders in municipal councils. It states that traditional authorities that traditionally observe a system of customary law in the area of a municipality may participate through their leaders in the proceedings of the council of a municipality. It goes on to say that such traditional leaders must be allowed to attend and participate in any meeting of the council.

According to Ramutsindela (2001) in the post-apartheid era, the question of the utilisation of traditional authorities has been a difficult one. The aim of the constitution was to incorporate them through the Congress of Traditional Leaders of South Africa (CONTRALESA). Some of the traditional leaders were made members of the parliament yet still their roles remained ambiguous. “Lack of clarity on the status of chiefs and the future of ‘tribal land’ and the government’s strategies to change society and space has combined to generate discontentment among chiefs” (Ramutsindela, 2001, 178). The future of the change of Bantustans was determined by this ambiguity and the People have a different perspective on environmental issues compared to other general issues. That is why it is hard to fulfil or implement law enforcement measures (cases) even in the court of law.

Currently, some traditional leaders participate actively in municipal councils in their individual capacities (Beall and Ngonyama, 2009). This means when participating as, they are and can be part of decision making processes in a municipality. Traditional leaders may use customs and indigenous knowledge systems and beliefs as a way of ruling and handling issues (Kapfudzaruwa, 2009). Because they use such methods, their roles have been questioned as to their effectiveness when dealing with current issues, including nature conservation or environmental protection (du Plessis and Scheepers, 1998). The Local Government Municipal Systems Act, 2000 (Act No.32 of 2000) makes provision for involvement of traditional leaders in the crafting of Integrated Development Plans (IDPs). The Act states that the process followed in this regard by a municipality to draft its IDP, including its consideration and adoption must, through appropriate mechanisms, processes and procedures established in terms of the chapter dealing with integrated development planning, allow for the organs of the state, including traditional authorities and other role players to be identified and consulted on the drafting of the IDPs.

In terms of the above and in practice, at present, whenever a municipality prepares its IDP, it is by law expected to ensure that traditional authorities are an integral part of the process (Mufunisa and Xaba, 2008). For example, during the IDP process approaches, up to the reviews thereof, municipalities are required to embark on a process of public meetings to ensure that IDPs are informed and contain development aspirations, priorities and needs of local communities. So integrated development planning is ward-based. Traditional leaders as part of communities in these wards are free to participate in the IDP process. Some municipalities have consequently adopted an approach and practice whereby they specifically invite traditional leaders in each ward, where applicable, to be part of these IDP meeting and reviews. According to Ntsebeza (2004) this means taking all measures necessary to ensure that his/her people or community members are catered for on all socio-economic activities or practices in the delivery of services. This includes action steps and initiatives to have his/her people educated on environmental conservation to ensure sustainable development. du Plessis and Scheepers (1998), state that traditional leadership institutions are out- dated because of their use of customary values.

What this notion or assertion fails to understand is that, indigenous knowledge systems allow people, municipalities and government structures to have an understanding of the historical background and knowledge about a situation before making any decisions (Binza and George, 1998). All this knowledge can be information passed down from one generation to

the next or one leader to the next. This is the type of information that municipalities may find helpful in policy formulation with the help of traditional leaders.

According to Binza and George (1998), to effectively realise the leadership potential of traditional leaders in community development and conservation value adding role of traditional leaders it is necessary to address the ongoing conflict between traditional leaders and local councils of municipalities. Binza and George (1998) argue that the role of traditional leaders should not be overshadowed by municipal structures as they are an essential part of the local government transformation process (Binza and George, 1998). Before South Africa's democratic order and dispensation, traditional leaders were already playing a crucial role and responsibility in the development and management of rural areas for the benefit of their communities (Binza and George, 1998). Their roles include presiding over cases which were based upon customs and customary law in their areas of jurisdiction, mediation over disputes and disagreements, promoting family values and encouraging food production through agriculture and serving as leaders and role models in their respective communities (Meer and Campbell, 2007). Protection of the environment, especially the flora and fauna, has historically been part of their role.

According to Binza and George (1998) using local knowledge systems, traditional leaders have been central to educating their communities about protected and prohibited plant and animal species. Increasing the knowledge of the leaders as well as the community members will be of benefit to both the environment and the community. Unfortunately, relying solely on indigenous knowledge when environmental issues and other dynamics have changed will not be of benefit to the environment.

Ntsebeza (2004) further echoes concerns regarding the role of traditional leaders. They assert that district municipalities are positioned as the main agents for rural development in South Africa, a situation which leaves traditional leadership roles not clearly defined. Whereas the Constitution recognises the important role that traditional leaders can play in local government, their powers and functions however remain a challenge. Notwithstanding this, the Traditional Leadership and Governance Framework Act 41 of 2003 recognise the following as the functions of traditional leaders:

- To advise municipalities on:

I. Customary law, traditional issues and traditional communities within municipalities.

II. Any forms of development that affects traditional communities.

III. Development of laws that govern traditional communities.

- To be active and proactive in programmes of development introduced in rural communities.

- To take part in reviewing, amending and formulating policies that affect rural communities.

Included in the roles and responsibilities of traditional authorities, should be their involvement and the responsibility towards the natural environment. According to Binza and George (1998) rural communities put much trust in their traditional leadership institutions and so support them in instances where attitude and behavioural change is needed to push forward conservation.. The institution of traditional leadership would be more successful and more pervasive towards the rural communities if appropriately utilised. Department of agriculture forestry and fisheries has successfully implemented rehabilitation programmes in some of the rural areas of the Eastern Cape. These programmes have involved traditional leaders and governmental structures. Both structures thus give valuable input and community members are willingly committed to improving their environmental sustainability. The results are still at a premature stage, they are however yielding positive results which prove that power integration is vital for the other areas. Measures are necessary to ensure that traditional leaders work harmoniously with local government structures, not only on matters of service delivery and development but also on matters of environmental conservation. People tend to develop an attitude towards unfamiliar people so the use of traditional leaders is central to the success of community education at the community level (Binza and George, 2011).

Traditional leaders can also be utilised for the introduction of state department's projects and conservation programmes in their communities. As leaders who are familiar with local circumstances and needs of their people, they stand a better chance of conveying the government's efforts aimed at conserving the nature and the environment (Binza and George, 2011). Municipalities alone cannot successfully foster growth in rural communities. They need active participation and contribution of traditional leaders in the understanding of the psychology of rural communities as part of measures to change their conservation behaviour (Meer and Campbell, 2007).

Partnerships between local municipalities and traditional councils must be strengthened through appropriate policies and legislation and other measures to improve good governance, and development in rural areas (Binza and George, 2011). Such partnerships should include joint environmental awareness and education programmes. It should be understood that balancing these powers in rural areas will be of great benefit and enable existence of sustainable communities through collective environmental protection and conservation. For municipalities to be fully functional and effective in rural areas, they need the assistance of traditional leadership (Meer and Campbell, 2007).

What I have tried to show in this section is that in the post-apartheid era, traditional leaders have an ambiguous role in rural development projects. On the one hand, they are recognised as vital stakeholders in the process, and can bring legitimacy to provincial or national projects. Some people have suggested that this gives far too much power to traditional leaders over the lives of rural communities. On the other hand, and despite legislation which recognises their important role, traditional leaders often feel excluded from processes: the result is that local communities are the losers in a battle between local municipalities and traditional authorities.

2.3. Industrial forests and deforestation

According to Charkravarty et al (2012), deforestation is the changing of a forest to an alternative land use such as agriculture, grazing or development. All these changes in forests are human induced to boost economic activity. Forests are home to many species such as plants, animals and bird species. Forests equally provide food, nutrition and shelter to many of these species (Chakravarty, 2012). Therefore deforestation is regarded as the destruction of the natural habitat for many species and the environment, a situation which creates an imbalance for the many displaced species. The primary agents of deforestation are farmers (subsistence and commercial), firewood collectors in rural areas, and economic developers (Chakravarty, 2012). What needs to be emphasised is that not only do forests provide a lot of diversity in the ecosystems; they also are an agent of greenhouse gas reduction and control the amount of carbon in the oxygen that humans take in (Rudzani et al, 2011). According to Smith and Carnus (2008), forests provide important economic, environmental, social, and cultural benefits. These create obvious tensions between economic development and environmental protection. This is not the case in the Tholeni forest as this forest is not an

indigenous one. Diversity of forest plantations is limited as the most dominant species in the plantation will be the introduced species which will be invasive.

According to the UNDP (2010), the amount of responsibility placed on forests to rehabilitate the environment is increasing yearly as more trees are being deforested and development increases. Millennium Development Goal Seven (2002) is one of the many initiatives that have attempted to promote environmental sustainability and Arbour Day to promote afforestation. The rise in deforestation is threatening the ability of the environment to withstand environmental climate change (UNDP, 2010). The lack of resilience will then have adverse consequences affecting mostly disadvantaged people and poor countries. Major studies reveal that deforestation is driven by a number of direct and indirect factors that stretch beyond the forestry sector. Only a few drivers are similar globally and these drivers and other factors interact differently among regions and even among cases. Some case factors are related to the economy and the increase in agricultural interaction with other factors which result in deforestation.

According to Drexhage and Murphy (2010) economic activity is one of the contributing factors to the deforestation of many forests as people are looking for more financial gain and profits. In the case of the Tholeni Forest, it has been observed that one of the reasons for its deforestation is for the erection of houses by residents wanting to expand and having houses in areas not costly to maintain and own one. Many of these sites are under construction with new houses being built and even more sites being given out which will result in the further deforestation of the area. Conversion of forests into unsustainable cultivation or unsustainable grazing yields only short term benefits or gains at the expense of the environment.

There are environmental and social problems associated with deforestation (Penny, 2014). Such problems include: Climate change, Water and soil resource loss and flooding, decreased biodiversity, habitat loss and conflicts and economic losses. Department of agriculture forestry and fisheries has recognised rural deforestation as a problem that is growing at a fast rate. This problem accelerated by the decline in the number of forest rangers in many forest estates. It is the myths and stories circulating about crime in the forest that have misled the community members to thinking their lives are at risk with the growth of the forest.

According to Chakravarty et al (2012) Deforestation can change the global change of energy not only through the micro climate but also by the increase of carbon dioxide in the atmosphere. With the removal of trees, the surrounding areas will not be able to hold enough

water leading to drier climate and unprotected urban water (Chakravarty et al, 2012). This is an indication that all levels and volumes of deforestation have an effect on a larger scale. People need to be aware that their actions do not only affect the immediate people and community but continued environmental degradation has its come backs and poorer communities of Tholeni included, suffer the most. The loss of biodiversity through fragmentation and degradation of forests increases the number of species lost before being catalogued.

Any potential future economic gain and employment is lost both socially and economically (Chakravarty et al, 2012). The possibility of creating a balanced sustainable economic and environmental society is decreased. Unsustainable resource use and practices may yield short term economic yields but long term negative effects on the environment. This puts emphasis on the need for more awareness of the consequences of deforestation on the environment (Gilbert and Hoepper, 1996). Agrwal and Gibson (1999) argue that the practice of forest conservation and conservation as a whole is important not only in the immediate terms, but also towards future environmental sustainability.

Industrial forest managers and conservation biologists agree on at least two things (1) plantation forests can play a role in conserving biodiversity and (2) plantations will occupy an increasing proportion of future landscapes (Hartley, 2002). Fox (2000) adds that intensive forest management of plantation forests is perhaps the only way to meet the increasing demand for forest products and still reserve large areas of native forests for conservation and preservation processes. There needs to be common ground and a level of balance between the management of natural resources in the Tholeni community and rural South Africa as a whole. According to Brockerhoff et al (2008) the role of forests plantations in biodiversity conservation can be increased if the plantations are managed in a manner in which they can contribute to biodiversity conservation. This would be better than rather focusing only the values within the plantations themselves. A mix of effective public policies and private markets will continue to be needed to help achieve global sustainable forest management in this context (Siry et al, 2005).

As I have noted in chapter one, the particular case of Tholeni is of interest because it is not in fact an indigenous forest. It is the remnants of an industrial forest plantation and the continued protection of the forest by the provincial government, in opposition to the everyday ways in which the community use the forest, makes it a particularly interesting case study for

assessing rural sustainable development. In this next section of the literature review, I will consider the still very limited literature on conservation in the context of non- indigenous forests.

In the year 2010 there had been over 140 million hectares of industrial forests globally that have been planted for various reasons such as commercialisation and subsistence farming. The numbers may have well increase over the past 7 years (Bauhus et al, 2010). "Forests of introduced species and in some cases, native species, established through planting or seeding, with few species, even spacing and/or even aged stands"(Bauhaus et al, 2010). These industrial forests are said (Bauhus et al, 2010) to be characterized by the type and the purpose that they were planted for. According to the characterisation made in Bauhus et al, (2010) the Tholeni plantation forest is a productive forest that was intended for home and farm production to be used for fuel wood, timber, fodder orchards and forest gardens. These were initially the uses of the forests in Tholeni but other reasons for deforesting have surfaced during the fieldwork processes. Plantations of this nature were supposed to assist in afforestation and small scale selling just as some of the residents have been doing so for some of daily income. They were chosen because they are fast growing and they would easily regenerate as compared to other indigenous forests. Globally, planted forests have continued to grow and the goods and services provided by these spaces were becoming increasingly diverse. The interaction of planted forests with other land uses within landscapes and their contribution to poverty alleviation and food security was identified as deserving attention Brockerhoff et al (2008). This is however not the case with the Tholeni forest. Tholeni plantation has decreased due to fast rates of deforestation. Most of what the forest used to be is, land used up for the construction of houses and open land with stumps that can never regenerate unless there would be more afforestation. Hartley (2002) accounts this to the fact that plantation forests are considered to be impoverished both in flora and fauna. It is then assumed that they have little value for conserving biodiversity. Brockerhoff et al (2008) further states that natural forests are usually more suitable as habitat for a wider range of species than plantation forests but the is evidence that plantation forests can provide valuable habitat even for threatened and endangered species. Plantations may also contribute to the conservation of biodiversity.

In this section I have identified deforestation as an environmental problem that need to be acted upon both on a local and a global scale. I looked at the case of industrial forests that are not deemed versatile and of use value and how they can contribute towards living and

promoting the need to decrease deforestation. This is important because this is the case in Tholeni as this forest is not necessarily an indigenous forest but an industrial forest that community members have identified as a wasteland and a liability in their lives.

2.4 Chapter Conclusion

My literature review has looked at the legacy of Apartheid and its underdevelopment in rural South Africa thus affecting the natural environment. It then went on to look at the ways in which the post-apartheid dispensation power structures have emerged that create a very complex condition for intervening in these spaces. There isn't a clear hierarchy between traditional authority and local authority. Each of these two power structures roles remains ambiguous and unclear in order to achieve sustainable futures. There is literature that looks at the questions around deforestation which related directly around the project that I am doing and trying to understand the ways in which commercial industrial forests can also be linked into questions about deforestation and long term sustainable futures. The case of Tholeni forest not being an indigenous forest is considered as it is critical to its deforestation and conservation. One of the ways I have tried to understand the contestation between communities and authorities is to think about environmental justice and whether sustainable futures are achievable. The next chapter which is my methodology consists of interviews and observations which assist in answering whether sustainable futures are achievable. Questions will seek to gather both historical and contemporary information about the Tholeni area.

Chapter 3 – Methodology

Chapter three of this research is the methodology section looking at all the methodological approaches done in this research. It will highlight the sample populations and all the sampling methods used. It will allow for the establishment of the various relations in and around the Tholeni Administration Area. The questions will probe into the history of the area and finding how long residents have stayed in the Tholeni area before, during and after the apartheid era. It will give a time frame of how the environment has changed over the years under the different power structures that have managed the community and the environment over the years.

3.1 Area of study

The Tholeni Forest is located approximately 10 km from a small town called Butterworth in the Eastern Cape (Figure 1). It is surrounded by four smaller rural locations, three on the west and one on the east (Figure 2). The west comprises Mambendeni, Ngobozi and Sawutana locations whilst situated to the east is the Ndabakazi location (settlement). These locations fall under the Tholeni Administration Area within the jurisdictional area of Amahlubi Traditional Authority headed by Chief M. Luzipho (Matanzima, 2015). According to the local government demarcation of boundaries, the Tholeni Administrative area is located within the Mnquma Local Municipality as part of the larger Amathole District Municipality jurisdictional area. Tholeni is in one of the former apartheid homelands better known as Transkei. Homelands were established under the Apartheid government in the year 1963 made specifically for the black people of the country (Kepe, 1998). These homelands had little to no services and development and therefore subjecting people to use the natural environment. According to Smith and Carnus (2008) Forests even those in homelands provide important economic, environmental, social and cultural benefits which are what was observed in the Tholeni Forest.



Figure 1 Showing Butterworth in Eastern Cape

As mentioned in the introduction, the Tholeni area is one of the many rural areas that are affected by deforestation in South Africa. Ramutsindela (2001) states that the abolishment of apartheid and its boundaries in post-apartheid South Africa does not mean that the features of the Bantustans will disappear. Instead frontiers of deprivation, environmental degradation, and overcrowding still prevail. Because Tholeni forest is a forest plantation, to what extent will conservation be achieved? How will sustainable futures be achieved in a legacy that already perpetuated rural underdevelopment and environmental injustice? The following chapter will look at literature that addresses the legacy of apartheid and how forest plantations came about. It will also look at the factors that allow or prevent environmental justice considering power structures in the area and policies about forest management. These power structures and dynamics are all the power of governance that are supposed to be involved in the day to day dealings of societal, environmental, political and economic running of the Tholeni region. Their relationship and willingness to work together will be a single component in what is required in order to achieve these said sustainable futures.

The Tholeni Administrative Area forms part of the surrounding localities that feed into the town of Butterworth, the main service and business centre within Mnquma Local Municipality. It was established as part of the Group Areas Act (1950) and the 1913 Land Act (Westaway, 2012). It constitutes a large community of black people whose movement or

mobility was restricted and governed by the then apartheid government (Westaway, 2012). Many people in these areas had no internal forms of power (community leaders/ traditional leaders) but only governmental and municipal structures (Westaway, 2012). This resulted in the use of Traditional Authorities which functioned as semi-autonomous bodies under the supervision of the government, performing some local government functions on a very small scale and where necessary in collaboration with municipalities. The Traditional Leadership and Governance Framework Act (Act No. 41 of 2003) (TLGFA) makes provision for the establishment and recognition of Traditional Councils in all recognised traditional communities. It requires Traditional Councils to work together with municipalities in the delivery of services to local communities.

The concentration of the Tholeni community during the apartheid era was focused in the areas (encircled in pink) in Figure 2.

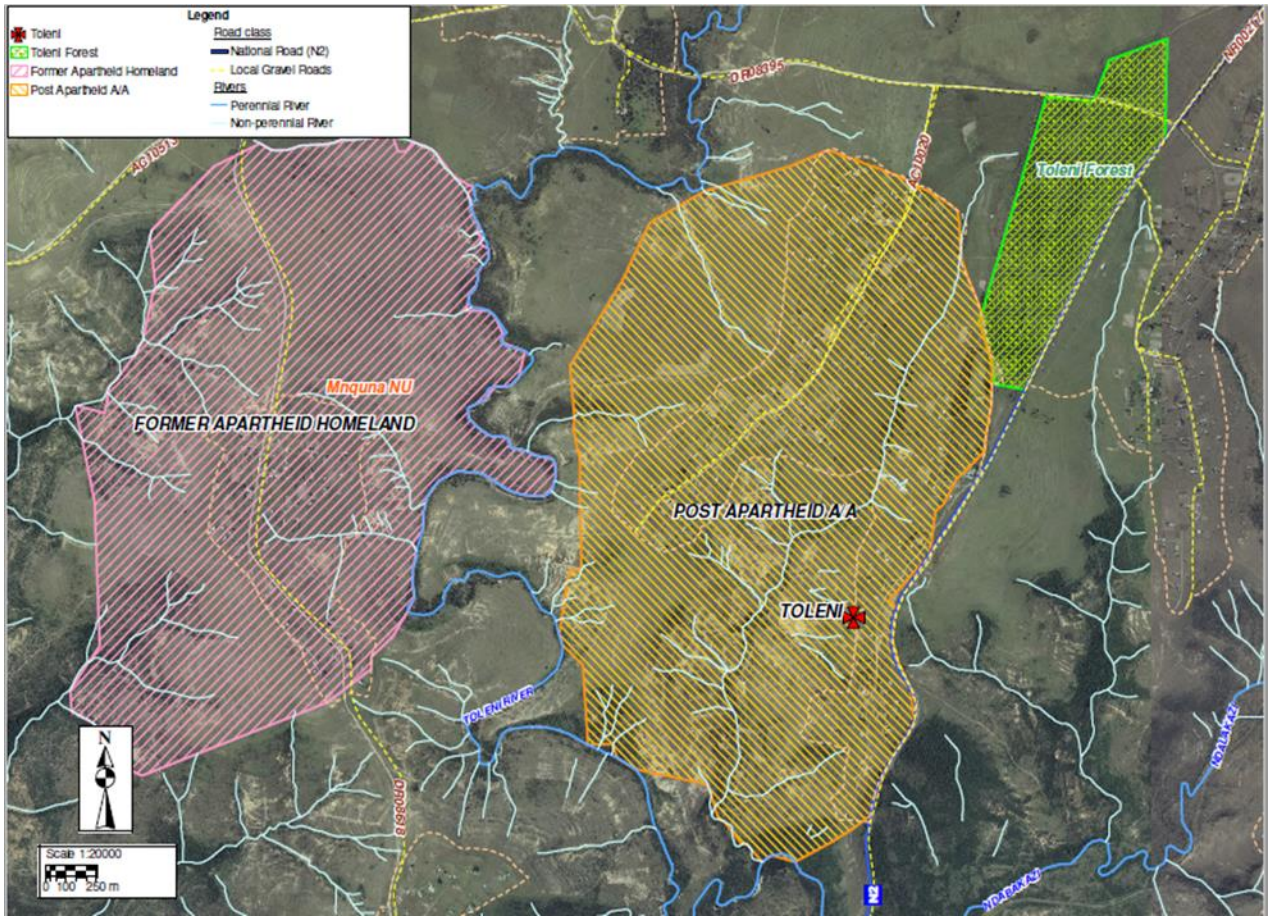


Figure 2 Map showing Tholeni community and Tholeni forest

These settlements where located in hilly areas that could not be provided with any services. Post-apartheid people moved closer to the national route N2. Post-apartheid government

homeland communities were given basic services such as water and electricity, improved transport services which is why they are now concentrated near (encircled in yellow) near tarred roads. This has put much pressure on the natural environment as people are moving into forests leading to forest destruction. The movement of some of the Tholeni residents was supposed to be for the betterment of their livelihoods but they moved to areas that were not sustainable and to areas that were already subjected to poverty. The resources found in Tholeni were not diverse as forest plantations practice monoculture and with that said further perpetuates rural poverty. This in question decided for the rural communities that they cannot achieve sustainable futures.

According to observations made by the researcher, the primary livelihood practices of the people of Tholeni include crop farming and livestock, collection of firewood for household chores and activities of a communal nature. People within the economically active group are dependent on government employment and employment opportunities provided by the private or business sector, mostly in the existing Butterworth urban centre of Mnquma Local Municipality. Others seek and find employment elsewhere, especially in the major towns and cities of South Africa, a practice reminiscent of the erstwhile migrant labour system (Hamann and Tuinder, 2012).

Today, a greater percentage of rural communities of the economically active group are employed in the major towns and cities of the different provinces (Hamann and Tuinder, 2012). The people of the Tholeni Administrative Area are equally affected by this movement in search of opportunities (Matanzima, 2015). More than a half of these people are mainly from the Transkei region of the greater Eastern Cape. They moved to the bigger economically powerful cities for work to be able to send home remittances (Hamman and Tuinder, 2012). Other than the remittances sent from their relatives, local residents around Butterworth rely increasingly on natural resources to supplement their income. Some sell traditional medicine found in surrounding forests and fields such as Ntelezi – (*Gasteria excelsa*), ikhala – (*Aloe Vera*), Mhlonyane – (*Artemisia afra*) and Impepho which is incense (Dold and Cocks, 2000). Others are small scale commercial and subsistence farmers.

Westaway (2012) confirms that farming is one of the primary activities in this area. People's homes and settlements in the homelands are further inland where there is little development with enough land for farming practices. Currently residents from the surrounding areas want to re-establish themselves in land closer to the basic amenities (Westaway, 2012). This

includes proximity to means of transport to the urban service centres. Thus, many areas are being re-planned for residential or household use alongside the main routes (Westaway, 2012). Similarly, the Tholeni Forest is situated within the area now redefined and earmarked for residential or household development. Unlike under the apartheid regime, the clustering and spread of new residential housing development alongside the main national routes reflects a shift in people's attitude in preference of serviceable areas where government and municipalities could easily connect these areas to the basic infrastructure necessary to change their livelihood and life styles (Westaway, 2012).

The historical concentration of many rural communities in defined areas in accordance with their racial and ethnic groups meant that increased land was used for residential development and the remainder for communal grazing of stock and agriculture (Hamann and Tinder, 2012). This over-concentration resulted in environmental degradation such as soil erosion and poor land use and eventual presence and emergence of invasive species, thus, a total of 316 species found in the Transkei are endangered due to species misuse and destruction (Hamann and Tinder, 2012). This highlights the need to promote conservation and conservation awareness in rural areas such as those in the Tholeni region.

Currently, the location consists of subsistence communities, small and emerging farmers and individual household community members who are conservative, predominantly rural, mostly unemployed and an inclination towards stronghold traditional values and culture (Westaway, 2012). The residents value education and agriculture as a means towards obtaining rural livelihood and self-sufficiency (Matanzima, 2015). A small percentage (30 %) of the local population comprises professionals such as teachers, nurses, police officers, public servants, religious leaders and agricultural extension officers (Hamann and Tinder, 2012). The rest of the population comprises of the elderly and the young population who attend local schools. According to Matanzima (2015), Tholeni residents have always acted as a support system for one another. In all matters affecting the community there is always a general consensus and agreement. Support is shown in both negative and positive issues in the community.

According to Hamann and Tinder (2012), the study area is mainly grassland and the tree indigenous to the area is the Mimosa tree (uMnga in isiXhosa) and the afforested area known as the Tholeni forest is mainly composed of the Gum Tree (Eucalyptus) (Dold and Cocks, 2000). According to Matanzima (2015) this plantation forest has since been deforested from 2012 and is being deforested by people who are seeking means of income and other reasons

such as reported crime in the area. The forest plantation in the area was planted in order to decrease the amount of pressure on the gum tree (Figure 3) that was being over exploited. The then apartheid government planted the acacia tree as it was fast when growing and would eventually invade this area to be the most prevalent tree species.

3.2 Approach

The Tholeni area and the community forms part of the many rural areas in South Africa that are plagued with the mismanagement and destruction of the natural environment. This research project intended to understand the social, political and cultural dynamics in the Tholeni area so as to understand how the forest has come to be in danger.

The study adopted a qualitative approach, primarily using interviews and focus groups. A participatory approach was also adopted where the researcher was included in shadowing and site monitoring with the regional forestry department. This experience proved to be more fruitful and educational as the researcher was exposed to the field and its problems on a first-hand basis and obtained more information than internet based sources. To start off the fieldwork process, 3 focus groups with 5 – 6 participants were used to obtain information from traditional authorities and residents with regards to local environmental and conservation knowledge. One of the focus groups was made up of the two authorities in the Tholeni area and the rest were made up of residents of the Tholeni area. The focus groups were intended to reveal the collective understanding of conservation in the area and whether their values and beliefs influence their understanding of conservation (appendix 1 and 2). They also gave room for people to share any local experiences that residents may have about the forest. An in depth understanding of the various roles played by the various authorities was given. According to Gibbs (1997) the use of focus groups allows for the researcher to draw upon feelings, beliefs, and experiences in a way not possible in other methods. It also allows the interviewer to gather more information in a shorter period of time. Focus groups were to decipher the common or general knowledge of the community in terms of their power structures and the general environmental interpretation of Tholeni. The interviews were structured in such a way that the researcher could establish the history of the area and to document whether there have been any issues or concerns over the presence of the forest in the Tholeni community about the forest. Questions also probed into the perceptions that people (appendix 3) have about the understanding of sustainability and environmental justice.

Interviews with local authority members were done to establish the relationship between the two power structures governing the Tholeni community and its surrounding natural environment. Their relationship could play a crucial part in ensuring environmental justice and environmental sustainability. According to de Hoyos and Barnes (2012) the interview is used widely to supplement and extend our knowledge about individual(s) thoughts, feelings and behaviours, meanings and interpretations. Thus, interviews were chosen instead of questionnaires to accommodate the participants that need explanations of the terminology and questions asked. According to Neumann (2000), the advantages of interviews are that they allow for in-depth investigation, flexibility and allows for observation during the interview. Disadvantages are that they are time consuming, need prior preparation and there is room for bias of the interviewer (Neumann, 2000).

In order to fully understand the current conservation practices within the Tholeni area, active participation and observations were undertaken to identify behaviours and attitudes influencing environmental activity (harvesting, collection of firewood and grazing), as this forms an important role in effective decision making and allow for conclusions to be formed about people's values. Practices in the study site illustrate the uses of the forest in the community. The observations made revealed that the people found no actual beneficial use of the forest other than that of the collection of the daily or weekly firewood. Those that harvested large loads were doing so in order to make sales and income for their personal benefit. The researcher participated in a firewood collection with one of the local women and this showed the levels of information and knowledge they have on tree harvesting methods and practices. The collection process takes a few hours as only the longest and strongest could be taken back to the individual household. Also the hardest and longest could be collected for the restoration and building of local kraals which is also a source of income for many of the Tholeni residents which constitutes some of the local unemployed youth.

A purposive sampling method for the research for this study was utilised as it was aimed at the residents of the Tholeni area and specifically to the authorities that govern the Tholeni community. The disadvantage to this sampling is that it allows for generalisation. Conclusions about other rural South African areas might be deduced based on this study. While conducting the interviews it was ensured that people's identities are kept confidential as this is an ethical concern amongst most individuals involved in research. This was done by making the individuals aware that their names and personal information was not requested in the interviews. The reason confidentiality is ensured, is because it had to be acknowledge that

as a researcher there is a moral obligation to sustain the confidentiality of this study (Neuman, 2000). Informed consent was requested before the study was undertaken both from the research participants and the local authority (clergy). Like the questions asked, the data organised was organised in the themes highlighted in the objectives of the research.

With that said, the methodology was attempting to address the three main objectives of this research.

Table1 . objectives of research with corresponding research tools

Objective	Information Needed	Tools
1. To investigate social, economic and political context of Tholeni between traditional authority, local municipal government and community	to understand the history and political context of Tholeni area, and the dynamics that exists between local and traditional authorities	Key informant interviews Desktop analysis and archival research
2. Analyse policy and practice vis a vis the forest resources in the Tholeni area over the apartheid and post-apartheid eras	To understand the ways in which the local community use the forest, the use of policies and understanding of policies.	Observation In-depth interviews Transect walks with community members
3. To investigate the relationship to, and the value of, the forest to the local community member s of Tholeni	What value the forest is to the member s of Tholeni and what the use the forests resources for.	Interviews and focus groups
4. To investigate how environmental justice/ sustainability is perceived and understood among different stakeholders.	What environment sustainability means in rural South Africa and how they promote it.	Interviews and focus groups

3.3 Methodological reflections

During the conduction of the field focus groups the interviewees were initially sceptical about sitting down to have the discussions as they were fearful of getting into any form of trouble. They feared that should the chief hear they participated in such a study they would be singled out in the community. Not aware that the chief was part of the study himself. It shows how people fear their leaders and would rather stay silent about anything that affects the

community as a whole and someone as an individual. Also indicates the levels of open communication between the community members and the local chief.

Informal interviews were conducted amongst community members at different areas and settlements surrounding the Tholeni Forest. Informal interviews were aimed at concluding whether education is necessary to enhance conservation. A total of 50 participants between the ages of 20 – 50 including authorities, were interviewed in order to complete this study. These interviews were to reveal any political and societal issues that allow or prevent the conservation of the Tholeni Forest. In this interview process a lot of the participant's level of environmental knowledge was revealed. The indication of their values and understanding was believed to be attributed to the level of their education and therefore had a challenge in understanding the terminology used to describe and explain the environmental issues that are facing the area. However this was rectified because there was no other language barrier other than in English as Xhosa was a common language between the interviewer and the participants. Terminology and words used by the interviewer were translated where necessary and with the help of the forest rangers, the names of some of the terms were simplified to the common language which was isiXhosa.

The Traditional Authority and community member's focus group yielded some interesting results and information. The discussions were more guided by the chief who had a lot to say about the relationship between the community and municipality. The community members had more to say about their personal livelihoods than the environment and also looked for elements of personal gain in conservation rather than environmental prosperity.

Many of the residents assumed that I was a government official who had come to change their livelihoods and or offer job opportunities to local community members. This was driven by the fact that many of the youth in the area have no form of formal employment and are dependent on piece jobs that could help them support their families. There are high rates of unemployment and some of the educated youth do not afford tertiary education so all opportunities that look like they provide jobs, the community takes advantage of. This also indicated that there was a lack of presence from the government who managed the resources that people used in this community and an attitude towards the government stems from this. According to the residents, there have been talks for the construction of a shopping centre in the area and jobs were offered so that created an even further confusion. This shows the state of the socio economic issues facing the Tholeni community and as a result has led to the

illegal harvesting of trees in order to make an income. During the conduction of the municipal/ governmental focus group a lot of the information given was more policy based than knowledge of the current situations facing the Tholeni forest. The participants were more forthcoming and more environmentally knowledgeable than the traditional authority as some of the participants were more exposed in this field of work based on education and their work experiences.

An interview with a local forest technician, who works for the Department of Forestry, proved to be the most fruitful. His experiences in local forests gave the researcher so much insight and understanding of the kind of problems facing this sector. The knowledge gained proved to be useful and of value to this specific study. These interviews were useful because they gave me an insight both from an educational point of view and both from the groundwork that I did with these officials. Their passion for forestry is limited by resources that the state allegedly does not have. Their visits to the sites are limited but when they do go, they gather relevant and educational information. These officials have built relationships with community members in and around these forests. They listen to grievances but are hindered by progress once concerns are raised at a higher level. This means that once the grievances brought forward by the residents fall on deaf ears the higher they go in the hierarchy. Community members then start questioning the intentions of authority members whether or not they did intend to bring about positive environmental change into their communities.

The focus groups were the easiest to conduct as people were able to pass around ideas from one another. It was also easier to tell the level of truth about the story as people would be able to add a bit of information if the experiences were well known amongst the community. The researcher was given a chance to participate in job shadowing with the above mentioned official. We visited two areas that are facing the same challenges that the Tholeni forest is facing, some even on a larger scale than that of Tholeni. Some of these challenges included overharvesting, illegal harvesting and deforestation to mention a few. Umtiza Nature Reserve situated in East London is one of the areas that were visited faced with similar problems (Fig

This reserve houses many indigenous trees such as the Umtiza *Listerana*, Sneezewood, *Buxus macowanni*, *Olea woodiana*, *Chaetacme aristata* and *Euclea natalensis*. These are amongst hiking trails making them vulnerable to their ecosystems being destroyed. Illegal harvesting for traditional medicine is also one of the challenges facing this reserve. Large parts of the reserves which are accessible or next to the road are plagued with litter which has proved to

be a problem. These are some of the similarities that were observed during work shadowing. What stood out the most is that there is a great demand for the proper management of these forests and there are a limited number of forests rangers who have to safe guard thousands of hectares. This pointed out to some of the reasons why the state would not necessarily dwell on safeguarding smaller forests such as those of Tholeni.

A tape recorder and note taking was used to keep record of the interviews and to aid the analysis of the research data. The use of the tape recorder intimidated some of the participants with the fear of their answers being used against them. This fear was driven by the idea of being singled out in the community should they reveal any sensitive information. A few of the participants opted to have their interviews transcribed instead of recorded as that minimised the risk of their answers being heard and voices recognised. Again this shows that the relationship between the chief and his community members is contested. There is some level of a lack of trust and this creates an even further complication of an already complicated rural authority system. People want to voice out their concerns and opinions and better their lives but would rather live in silence in unpleasant situations than get into trouble with the authority. Community members are supposed to have a voice and are provided a platform to voice these concerns but are silenced by the fear of the unknown.

The one on one interview with the community locals gave a more personal perspective of the issues that are faced in the area. People were able to share more personal experiences without the fear of being judged by the rest of the community. The interviews sought to find information about the myths surrounding the forest and to understand the levels of knowledge around conservation, and reasons behind conservation practices and malpractice in the areas. Stories known on a national and local basis were confirmed. Some of these stories were local myths about the forests and why it was being deforested and some were televised stories of people being murdered and their body parts being harvested. The interview responses also revealed peoples values of the environment and whether they thought it was important to nurture and conserve the environment as opposed to using for personal financial gain.

The interview participants were more open as they were done on a one on one basis and the other community residents had no way of knowing what information was revealed. Such an advantage filled in many gaps that were present from the various focus groups and this was advantageous for the data collection phase. The use of both methods yielded better data than focusing solely on one method. Both focus groups and interviews were used and has thus

allowed a variety of data to use in order to make logical and unbiased conclusions about the study. This has also broadened the amount of data available for the study. Focus groups have allowed for a more focused opinion where interviews were of a general overview of the Tholeni residents.

The types of questions asked revealed information on the size of the forest based on the resident's period of stay in the area. Some of the oldest residents have lived in the Tholeni area for over 20 years and they gave the most useful information on environmental history of the area. Some stories included the change in the size of the forest and whether the decrease of the forests was either natural or human induced. Local stories about the forest are an indication of the presence of myths and stories that might hinder or promote conservation of the forest and how its deforestation commenced and is still on the rise. The authority's role are clearly indicated in policies and in national acts but no one is willing to take on full responsibility on the rate at which rural forests are being deforested. It has grown to be a blame game that is not beneficial to the environment and to the continuous need to conserve forests. The strength of current environmental management and conservation policies are tested based upon their effectiveness in rural environmental areas. As forests continue to be vulnerable to deforestation, this could possibly be an indicator for the need to strengthen these policies and focus on finer details as no problem has a universal solution which is what most officials feel about the current management and conservation policies.

3.4 Conclusion

This chapter has outlined the purpose of each of the methods in order to get the relevant answers for this research. The questions have guided the research in order to establish the time periods in which some of the Tholeni residents have lived in the area that way we can gather historical data and information going back to the apartheid era. They have also been able to indicate if there have been any change in the Tholeni community since the change of power structures and management over the years. The focus groups gave indications in the type of relationships that the residents have with their immediate leaders and power structures. Participant observation and shadowing gave an educational experience and more insight on the greater problems that are unsaid and those that affect other areas other than the Tholeni community. Undertaking this research has also demonstrated the difficulties of doing research in areas of extreme poverty. This was because people were quite disappointed in me having nothing but knowledge to share with them for participating in this research. People

expected there to be some form of compensation even in the form of alcohol for participation. This opens up other avenues of research on the socio economic status of the Tholeni community as not only the natural environment of the area suffered at the hands of apartheid and segregation.

Chapter 4 Results and Discussion

In the following chapters, we will investigate through the findings, the possibilities of achieving sustainable futures in Tholeni pointing at the major environmental issue of deforestation that is occurring in the area. Several stakeholders of the Tholeni community have been interviewed and several areas around the Eastern Cape community have been visited to try and map all the issues that the province as a whole face. The forestry department of Eastern Cape is faced with major responsibilities in ensuring that forest resources both industrial and indigenous are used sustainably and that future generations to come have resources to sustain themselves. These chapters are divided into the major themes that came across in trying to cost out what possibilities there are in achieving sustainable futures in Tholeni. Some of these findings were perceptions and stories of what happens in the Tholeni forest. Much of the idea around environmental justice comes from sustaining natural resources and finding out of what value the forest is to the community that is using it. The perceptions that came across and responses that came across during the interviews indicated that rural environments and communities still have a long way to go in order to achieve environmental justice. With that said, it is first important to find out what dynamics, policies and the working relationship between the power structures that govern and should work towards environmental justice and sustainable futures in the Tholeni Adminitration Area.

4.1 Contested authority and the politics of scale

During the initial stages of data collection, the collection phase started with the assumption that the Mnquma local municipality was involved in the management of the Tholeni forests but upon asking the municipal workers I was informed that municipalities only deal with community services such as waste management and water supply amongst other services. One could easily assume that municipalities are also involved in the management of local natural resources but then I was directed to a government department that is in charge of the management of the many forest estates in the Eastern Cape. The local forestry department is situated in King Williams Town approximately 100 km from the study site. This creates a potential conflict because the people in power have little to no internal knowledge of the Tholeni region and are reliant mostly on observations that they make during site visitations. The current officials have been in authority together with Forest Technicians since 2008.

However the Tholeni community recognises the traditional authority as the main hierarchy of management and policy formulation in Tholeni

There are currently 12 Indigenous Forest Estates in the Eastern Cape and the Tholeni forest falls under the Centane Forest Estate. The Centane Forest Estate is made up of 67 forest patches which all add up to a total of 12 000 hectares.

The Department of Agriculture, Forestry and Fisheries (DAFF) recognises rural deforestation as an issue including areas in and around Tholeni. The said underlying issue is that forest estates and managers are understaffed therefore not all forest depletion can be accounted for. Government refuses to provide funds and opportunity for the increase of Forest Guards and Rangers stating "lack of funds" as the primary reason. Such employment was beneficial for smaller forests but is now only used and is effective in the private sector where community members are properly compensated. Forests like those of Rance Timber in Stutterheim are examples of private commercial forests that have enough forest rangers and enough money to finance their careers. During the job shadowing experience, it was so interesting to experience the various areas of Eastern Cape that are also affected by high rates of deforestation both on a commercial and subsistence scale.

According to Paqula and Kameni (2016), during the pre-2010 period, the Centane Forest Estate had approximately 37 forest guards and rangers. Currently only 8 exist and have to divide themselves amongst the 67 patches which fall under this estate. This means that not all cases of deforestation can be attended to as they will be prioritised according to the damage and species found in the area. Processes of forest rehabilitation are not tied up with the root and cause of the problem that lead to the deforestation. They are more of a generalised solution with a top down approach which does not address the individual issues of each forest.

The South African Constitution gives power to traditional authority, specifying that they too play a role in decision making especially in their areas of jurisdiction. The current chief of Tholeni Administrative Area has been in authority for four years. Of these four years, only 2 of them are officially recognised for the position of chieftainship. Decisions affecting the environment of the Tholeni community are made by the relevant government and municipality structures. Messages are then relayed to the various leaders according to each jurisdictional area on a broad spectrum. What this then fails to do, is address community issues on an individual basis. The involvement of traditional authority in environmental

issues is quite new but still at an introductory phase. Their involvement is also limited due to current environmental policies. They give little to no leeway for their input and involvement in their initiation and monitoring phases. Kepe (1998) asserts that rural communities should be more involved in the development of their futures as it is their constitutional right. The only current involvement of traditional authority is during events such as arbour week. They are currently not involved in decision making and policy formulation even with matters affecting their individual areas of jurisdiction. Their powers are superseded by government departments and are limited in that way.

"If government institutions could involve traditional authorities and their communities, measures aimed at environmental conservation or protection would be more successful than they are currently. People listen, respect and pay more allegiance to their accustomed authority than officials. The only problem with adding traditional authority is that locals will start to seek or look for benefits as a condition for their involvement and participation in any rehabilitation or sustainability projects" (Kameni, 2016). "Some villagers were sceptical of outsiders having control or management responsibility over their land , a wariness that can be linked to the history of land dispossession that affected black South Africans under apartheid" (Kepe and Tessaro, 2012,3). It is then difficult for forest technicians and managers to balance the needs of the environment and those of the people. There is a community engagement management plan called "Participatory Forest Management" (PFM) which was aimed at rural communities. This engagement was set aside to ensure that rural communities were more involved in the processes that were designed to grow and protect their forests be it plantations or indigenous forests (Kameni, 2016).

Traditional leadership responsible for the Tholeni Administrative Area together with the municipality is believed to be poor by its residents. Notwithstanding this, they nevertheless have to take initiatives to address issues of environmental education to sustain the Tholeni Forest. Residents feel neglected, asserting that their grievances are never heard, listened to nor attended to by those in power and authorities. The only benefit comes with having personal relationships with both structures. Communities are plagued with issues such as crime, poverty, communal services, droughts and limited employment and none of these issues have been or are attempted to be addressed with competence or addressed in time. The community feels undermined and neglected in that their relevance and value, is only recognised when the authority plans to gain or benefit from it. *"Abantu bafika apha ngama xesha evoti. Bathembise yonke into udlula kwayo yonke lonto basi libale."* (The only time

programmes are promised in these areas are reported to be when politicians are canvasing for votes for ward councillor positions. As soon as they are elected, they do not need us and our people and these programmes never see the light of day). This has resulted in the community members not recognising any of its leaders as they are not happy with the way they deal with issues facing their communities. Environmental issues in the area are barely dealt with, if at all. The only environmental issue dealt with is the shortage of water that was facing the Tholeni area. Drought relief was organised for households and subsistence farmers in the area as their livelihoods were dependent on the provision of water organised by local community services and water services unit or department of the Amathole District Municipality under which Mnquma Local Municipality falls. Other issues seem to not be of priority as they do not affect the individual livelihoods of the community members. Issues are dealt with as they come. There are no known provisions made in case of any other issues that may face the Tholeni area. All the above mentioned dynamics, politics and hierarchy issues of the Tholeni area create a very complex system of authority and legitimacy.

Most of the community members that I spoke with were born and bred in Tholeni Administrative Area. This means that some have lived for close to 30 years in the area and are well aware of the changes and events that have occurred in the community and the forest. The forest went from being purely a natural forest to it being a plantation in order to decrease the pressure on resources that were supposed to serve the greater Tholeni community. Some of the people that lived in the area have been there before the dawn of democracy and were governed more and led by the traditional authority including the natural resources that surround the area. An elderly (50 -55) participant noted how the area has changed since then. The population has increased and has led to the diminishing of natural resources as everyone needed to use them. The size of the forests is said to have fluctuated over the years but has decreased in hectares over the past 20 to 30 years. Fluctuations were both natural and man-made some of which could have been prevented by community members living sustainably.

Provincial Management of local forestry practices

There are currently no known conservation strategies or practices that are conducted in the Tholeni area. The only conservation or said protection of a resource is done when it is in crisis mode e.g. the current water shortage facing the Tholeni area. The current values of the Tholeni residents are that of financial and social gain. The environment is said to be the least

of their worries as they are faced with greater challenges such as limited water resources, poor service delivery, and unemployment. As the head of the community Chief Luzipho is interested in creating a balance between the community and the environment. “Siyoyika uqala into ezotshintsha indlela abantu abaphila ngayo. Kuhleli kunzima kwakuthi - The only fear is that people would not be willing to change the way they live in order to sustain the environment things are already hard as is” (Luzipho, 2015). The primary challenge would be to instil new values in the older local population as they have been living this way for years. Financial gain and employment opportunities within the forests are what the residents say would motivate them to look after the environment which this thesis is trying to protect.

Local residents who I spoke with site a range of issues with Tholeni forest, such as crime, illegal and informal subdivision of tribal land, alleged plans to construct a mall on portion of the land presently constituting the forest, and the widespread myth of people practicing witchcraft. Mr Paqula one of the officials, attributes the rate of deforestation to the process and lack of awareness that reaches or does not reach rural communities “Abantu bayafa kwela hlathi. Sihleli nje soyika nodlula kuba kalok Umntu akaqinisekanga ngoba uzofika apho akhoyo” lamented one of the residents. (People are dying in that forest. We are constantly living in fear as we don’t know whether someone will return when walking through that forest)

In the resident’s focus group it was mentioned that in 2014 the residents of Tholeni began a process of major deforestation; they were informally and illegally subdividing tribal land without the knowledge of the chief and other necessary members of authority. Some residents had more than one site and had even commenced with fencing around and building their self-allocated sites. The local authorities (DAFF) and the chief were alerted and residents ordered to discontinue immediately. Great damage was undergone by the forest and has only just started the process of self-rehabilitation. Paqula (2016) who is a department of agriculture forestry and fisheries official stated that the rural rehabilitation programmes present in this area amongst others, are at an infancy stage and are not yielding a positive result, which is why the Tholeni forest was left to self-rehabilitate. This statement made by Paqula shows that there are levels of and differences in the knowledge that people have about information regarding the forest. It shows that the absence of knowledge does not equal the absence of environmental interventions.



Figure 3 showing areas in the Tholeni forest that have been deforested.

Even though by law, traditional authority, government and municipalities are supposed to work together, none of that is occurring. This is one of the reasons why these rehabilitation programmes are not effective. The community members are not involved in their planning and decision making stages and how these programmes will be implemented in their communities. People are then ordered to do tasks they barely understand, therefore developing an attitude towards them. There are no common environmental, social and economic goals and decision making platforms between the traditional authorities and government departments. As a consequence, decision making will always differ and there will be a failure to come to an understanding or any proper policy formulation.

Community members become involved because they are aware of the daily practices and dynamics of the forests and officials need their help when it comes to such matters. However this management practice has failed in its introductory phase because during the initiation phase people were incentivised with food parcels and sometimes small lunch packs. As time went by, the budget was strained therefore food parcels had to be halted and people lost interest. Residents felt misused by the department despite the funding being for the initiation

phase of the PFM plan. People also had the hope that government together with municipalities were there to provide steady/ permanent employment to the community

None of the challenges faced by the community of Tholeni and the forest occur in isolation. They are an effect of ongoing issues that have either never been dealt with or the local authority are at no capacity to solve. Looking at the problem at hand that is being addressed by this research, it is important to look at how policy, relationship and values to the forest and how people's perceptions have helped or hindered the way in which people have been dealing with deforestation. Only then can we conclude and make recommendations as to whether or not deforestation in the Tholeni Administration Area can be decreased.

According to the chief and his advisors, the primary reason behind the deforestation of the Tholeni Forest is due to the high crime rates in the area. There are alleged rape cases and people being assaulted by people who use the forest as an area to hide and target vulnerable people when they disembark from public transport or walk from one settlement to another. Residents also see the forest as of no value to them and their community if their lives are in danger. Both Chief Luzipho and his predecessor say that there used to be laws and rules regulating the harvesting of trees. Large unsustainable amounts were prohibited and people were fined or required to pay fees in order to lawfully harvest making use of local forest rangers that safe guarded the forests no matter what size of one's harvest. Due to their lives being threatened, they fled with the fear of being intimidated or killed by local community members. This had a detrimental effect on the forests, Tholeni forest included. According to the local chief, the process of deforestation has not been identified as a problem by the community. This opinion was quite prevalent in the focus group participants and a few interviewees. Residents see the forest as of no value to them then. As a result, they see no need to conserve it. People who had some form of monetary gain from the forests did not harvest accordingly or sustainably but were more focused on the yields and financial gain they were receiving. The department of agriculture forestry and fisheries officials had differing views when it came to the deforestation. What the above shows is that the residents of Tholeni have no value to the forest other than financial gain and provision of firewood for their homes. There are said stories of crimes that are occurring in the area preventing the residents from moving around freely in their community. This has detrimental effects for the forest as it will be seen as a hazard and there is a communal agreement that it needs to be cut down.

Traditional Authorities believe that environmental issues including that of deforestation are the problem of both the municipality and that of the government. This is due to the fact that they are never involved in policy making, safe guarding and other relevant and necessary decisions regarding the general safeguard of the forest. According to Shackleton (2009), traditional authority has little to no capabilities to monitor or control the supply and demand of natural resources in their area of jurisdiction. *"Abana xesha lethu ababantu. Bafika nje sebesi xelela ngemi thetho efuneke sixelele abantu bethu ngayo. Thina sibuzwa nini ba sifuna ntoni elalini yethu?* - Traditional leaders feel undermined by municipalities and have decided not to take action when it comes to unsustainable practices in forest harvesting. Their being undermined made them feel as though they neither have authority nor decision making capacity" (Luzipho, 2016).Their role is said to be limited to relaying messages to the people from the relevant departments. Residents believe it is their right to conduct whatever activity they see fit as it will benefit them personally and are then able to sustain their homes.

The lack of forest rangers has allowed for the continued destruction of Tholeni forest and other rural community owned forests. Laws and regulations cannot be enforced as people in the communities are not willing to volunteer or safe-guard the forest without any financial compensation from either the chief or the government. The chief was interested in knowing what researchers and educated people could do about such problems which are not necessarily focused on. He often questioned about how this research can be used to put forward their concerns to relevant people. He believes that the incorporation of experience, indigenous and current knowledge, a lot can be achieved environmentally and socially in growing rural communities. One of the chief's workers stated that they were interested in knowing and learning more about the environment. "We do not know what doors to knock at or who to turn to for help when we are faced with environmental issues such as deforestation. All we can do is sit and watch the destruction especially when the community ignores the chief's instructions since he is considered to be young (35) by older community members".

Demographics are also a factor that influences environmental destruction and degradation in rural South Africa. Many of these factors are; unemployment, history (apartheid), economy, race, values and education. If people received awareness, there might have been sustainability and better intervention. Forests are put under pressure to provide for the resident's individual homes and the community at large. Firewood collection, Kraal building and rehabilitation are some of the uses of the wood obtained from the natural forests and "*Abantu kufuneka betyile ekugqibeleni* (people need to eat/provide) echoed Mr Paqula. There

are procedures dealing with deforestation but these can be easily broken. Procedure is also hard to abide by because there are cases when people are dependent on these resources to sustain themselves and receive an income. One will feel sorry for the people and turn a blind eye because that tree could be a means to an end for someone.

But in turning a blind eye one is faced with so many questions, for example, how many times can officials turn a blind eye? When will it be okay to reprimand the people? How much of that resource will be left when you finally decide to act as a member of authority? "Our Job is tougher in rural areas as residents feel entitled to rural forests as they assume they have a right to it" (Kiva, 2016) The idea behind forest estates was to eventually employ local community members who had more knowledge of the activities in the forests. Government then phased out all low level income groups (level 1-3) which decreased the labour force by large amounts (Paqula 2016).

According to the department of agriculture forestry and fisheries officials, government has placed poverty stricken people at a certain level where they feel entitled to resources no matter what the cost or consequence is. This way some natural habitats are destroyed as the law will speak for the people in court. It seems as though they are being encouraged or rewarded for their habitat destruction. Should these forests be depleted then rural communities will be in trouble. Government is reactive rather than proactive, they do not take the initiative to prevent or curb forest destruction. Their reaction to the problems is only after it has worsened or is at a stage where it cannot be rehabilitated or will be costly to rehabilitate. Policies, rules and regulations on all forests are in place for some forests that do not even exist. Solutions brought forward are based on the availability of money and should be delegated based on operations.

The internal dynamics and politics of the Tholeni Administration Area are some of the challenges that are facing this community internally. These challenges are dealing with the underlying issues that could be the reason behind the limited amount of conservation that leads to the large numbers of trees that are deforested on a daily basis. In order to achieve sustainable communities then these are the underlying issues that should be addressed first before taking any further action. It is also important that interventions and change are brought forward in areas where one does understand the dynamics. Government and policy makers, when worried about the state of rural forests, should in actual fact begin by understanding the unsaid politics and understand the current situations in areas of intervention.

Recommendations made about the future of Tholeni forest should not be limited to only combating deforestation but also look as the possibility of decreasing these above mentioned issues that have been occurring for years considering also the legacy of apartheid and its effects on Tholeni and the surround environment.

Policy and Policy Changes regarding Forest Management (National Forest Act)

Department of agriculture forestry and fisheries is governed by the National Biodiversity Act and the National Forestry Act (NFA). The (NFA) National Forest Act 84 of 1998 is the main guide to South African forestry industry as it is a more direct guide to forest species and the people's actions and needs. It is used to governs and protect the forestry industry it also states that the state has control over all forests and forest land. This means that they have full responsibility for their (forest) production and its conservation. It was established to regulate and guide the use of forests, interactions with the human population and their maintenance. "Natural forests and woodlands form an important part of the environment and need to be conserved and developed according to the principles of sustainable management" NFA 84 of 1998. The NFA warrants rangers/technicians and managers to search people's home should there be a case of habitat destruction and unauthorised deforestation with the intent to sell. "For you to harvest / cut any tree you need to have a permit after specifying why and what the harvested tree will be used for" (Paqula, 2016).

According to Bose *et al* (2012) the governmentalisation of the environment was done with the intent to reshape forest institutions, practices and subjectivities through the creation and execution of new laws, regulations and procedures for forest management. According to Statistics South Africa (2014), the forestry industry contributes about 0.2% to the country's GDP which is one of the reasons why it is to be safeguarded with laws. Another contributing reason is that forests are the hub to more than 50 % of nature's diversity. They provide the human and animal population with oxygen, food and energy sources.

Policies and land tenure systems have an influence on community livelihoods, how they use land and natural resources. Contemporary topics about land tenure are believed to be ruled by deforestation, conservation and customary claims (Riggs *et al* 2016). The assumption was that these policies would benefit dwellers and the forest itself. "Forest land tenure and forest resources have been contentious issues as a result of the forest department's authority to reserve forests for exploitation and protection on the one hand vis-à-vis the constitutional rights of tribal communities to access the forests on the other" (Bose *et al*, 2012, 669).

Equally, the purpose of the forestry legislation is to promote the sustainable management and development of forests for the benefit of all people that use the resources. The set rules and regulations allow and limit the amounts of trees harvested at the same time considering the uses that people need the forests for. It states that under no circumstances may a person cut, disturb, damage or destroy an indigenous living tree in a natural forest. Currently these laws are ignored in many parts of the world. Daily, hectares of trees and plants are destroyed for both commercial and private use. Umtiza Nature Reserve which was also visited during the work shadow venture is one the many indigenous areas plagued with habitat destruction and illegal harvesting. Such activity is punishable by law yet the growth of habitat destruction and deforestation has increased over the years. There are spot fines and imprisonment as some of the consequences that people could face if caught and found guilty of destruction. The NFA gives warrant for officials (not necessarily law enforcement) to enter your premises in a case where indigenous and protected trees are harvested in an individual's yard. The use of state forests under the impression that 'it is your right' is known as encroachment (Riggs *et al*, 2016), and this has caused major problems for people that learn otherwise when punished by law officials. People have an attitude and do not adhere to these laws as they are not involved in the policy formulation. This has resulted in issues where people deforest more in areas that are supposed to be protected.

Research shows that officials find it difficult to enforce fines to people that have no means to an end other than selling these protected resources. It is that sustainability balance that separates a means to an end and blatant destruction. The distinction between the two is difficult to tell because one cannot foresee any offender's situation when they are caught in the act. Mr Paqula mentions that the court of law always puts the human before the environment. Even reporting destruction cases at local police stations is sometimes not taken seriously. It is difficult because their values, knowledge and understanding of the environment is different to that of qualified environmental and forestry officials. These are some of the challenges that this act faces. The act itself makes no provision for societal issues that have led to the destruction of the said environment. The act also does not consider that a large number of people are dependent on these very forests for the basic functions of their homes. Sustainable forest management should also include public and private stakeholders but also ensure that the government works hand in hand in order to have effective results in their management attempts. By involving local forest users in policies and community forest

management, this has the potential to benefit both the forests and the lives of local community members

Due to the lack of employment opportunities, forests have become sources of income and based on the research findings, a number of the people that depend on forest for income come from rural parts of the country, excluding commercial forestry. “The harvesting of numerous natural resources provides consumptive products for millions of poor South Africans as well as income for equally significant number” (Shackleton, 2009, 91). People in rural communities then resist having the local forests governmentalized as this will cut their source of income and not be offered any other form of compensation for the change in their livelihoods. Environmental policy making continues to treat human beings as rational economic actors and relies on economic incentives to transform human behaviour. This further puts emphasis on a point raised as to whether we as environmentalists should make an exception in such cases or do we proceed with enforcement. It is difficult to pick a side with an Act or law when people sleep without food on the table. This is why laws and acts are said to be a top down approach.

These so called top down approach laws and acts make no provision for such cases and these grey areas that are mostly found in rural South Africa. These grey areas are special cases where people are dependent on natural resources to live, where people fear for their lives, for example, in cases like Tholeni where people are said to have been raped and killed in the forest. Forestry and Environmental Legislation act as a blanket solution for all the different problems faced by the forests in different regions.

One law is expected to solve all the different problems faced by the forestry industry as a whole. Notwithstanding this, each and every region and forest has its own immediate problems that cannot be solved or covered by one blanket legislation or law. It is also not possible to have many different laws for each individual forest, but their issues should be taken into consideration when dealing with each area’s problems. Factors to be taken into consideration include; the history and current political status of the area, socio economic standing of the surrounding community and its people, levels of education and understanding of environmental issues and the power structures that are found in that specific area.

Such provisions could make a positive difference in how environmental interventions are held. Considering all the differences of each area allows for better suited strategies for that individual area based on its challenges. It will allow for better community engagement and

participation as these are the kind of issues that are currently facing South African rural areas such as Tholeni. Currently Tholeni is under the governance of traditional authority and municipal/ governmental structures. The reasons behind deforestation are both from a need to provide for the individual household and also the limited amount of knowledge coupled with myths which are proving to be a challenge in the Tholeni Forest. Long term solutions should be based around the issues faced by the Tholeni Forest and community and not only rely on national policies for individual and local problems. Policies should now also entail the various aspects that hinder their effectiveness in some areas. In the case of rural areas, they should consider things such as; the areas political history, socio economic activity and status of the people in the area. Poor management in South Africa is not a result of black 'voluntary action but more the result of the territorial changes caused by white colonialists" (Dovers et al, 2004, 1).

People have a different perspective on environmental issues compared to other general issues. That is why it is hard to fulfil or implement law enforcement measures (cases) even in the court of law. According to the department of agriculture forestry and fisheries officials, environmental education has not been introduced in areas like Tholeni properly. Its scale of introduction is not big enough to bring about change to the environment. Sustainability drives and conferences are held in rural communities based on how to save the environment. This then is expected to motivate people to change their actions and values to the point where they are educated about the environment. This however cannot be considered to be environmental education. If the state and local governments are still struggling with minor issues such as the transportation of school children in rural areas, how much, when and how else will these institutions be able to introduce environmental education properly across all communities at the local level?

Should all of the above mentioned be considered and well adjusted, then conservation could thrive and acts of deforestation in areas like Tholeni could decrease. Balancing the needs of the environment and that of the people is proving to be a hard goal. As previously mentioned, the Tholeni residents have the misconception that they are entitled to the resources in the Tholeni Forest and its surroundings. Their idea of entitlement has led to further environmental degradation in the area. The forest is plagued with soil erosion, dumping and unmonitored burning of some of the forest patches and edges. The balance will be a challenge because conservation is already an ongoing challenge for both municipal/ governmental power structures and traditional authority. These are some of the things that these policies

should be adapted to address. Not only focusing on the natural side of things but also incorporate the aspect of power balance in order to improve management and also understand the community and its relationship with the surrounding natural environment.

4.2 Between tradition and modernity – the practices and attitudes of the local community to the forest

In this chapter I consider the context of Tholeni as a former apartheid-era homeland, now the site for social and political obligations to improve people's livelihoods. I suggest that people's lives are caught between the impossibility of 'traditional' practices and ways of life in what were always unsustainable places, and the unfulfilled expectations of 'modern' life: running water, electricity and access to employment and consumption opportunities. The forest becomes a manifestation of this tension: neither bio-diverse enough to provide genuine sustainable ways of life (I will consider the attitudes of local traditional healers to the forest), yet the focus of seemingly unnecessary government protection (against the seeming unresponsiveness of government to the socio-economic needs of the local community), the forest is being slowly eroded.

I begin the chapter by considering the demographic and geographic shifts in the community over the past twenty years. Specifically, I look at how people have moved increasingly away from the highland areas towards the low-lying areas closer to the local freeway, as they have (a) shifted towards more suburban-style living, and (b) as they have moved to areas with better access to 'modern' conveniences: the freeway runs from Butterworth to East London, and so provides access to urban employment opportunities. Moreover, as the local municipality has gradually rolled out access to basic services, these more accessible areas are the first places to benefit. As shown in figure two, the geographic shift of people from the former apartheid location to the current location has resulted I people need resources and areas for development. This came to the detriment of the forest in question. The demographic and geographic shift has placed extra pressure on the forest because it is located in precisely the area with the highest amount of new housing development. As a former plantation, the neat, straight trees make excellent building material, and as such the forest is servicing the burgeoning informal building sector.

Against this rapacious drive to consume the forest for housing, I will consider also how traditional healers continue to use the forest for sourcing the natural resources that are an important part of their customary healing practices. Despite the general unsuitability of the forest for such purposes due to the lack of indigenous bio-diversity, nevertheless I show how these practices have the potential to promote sustainable use of natural resources. This requires the cooperation of traditional and local municipal authorities, something which has not yet been successfully achieved.

Geographic shifts in the Tholeni area

As illustrated in Figure 2 of this thesis, the immediate location of the Tholeni community was different during the apartheid era. During apartheid, the homelands were situated in hilly areas (pink coloured area) that were inaccessible and had little to no infrastructure that could assist the growth and development of rural communities. These areas had no electricity or running water that could be used in the households and the community at large. “Sasingena mbane apha mntanam, umntu waye xhomekeke kwama khandlela nhezibane zeparaffin. Rhulumente uqale emva ko 2000 usifakela umbane. Itap kezona zinqabile inoba inye ikuNgobozini apha eTholeni” said one of the interview participants. Translated as: *we did not have electricity in this area. People were dependent on candles and paraffin lights in order to have source of light in their homes. The government only started putting in electricity in our homes after the year 2000. As for the taps, there is only one in Ngobozini location that falls under Tholeni Administration Area.* According to some of the interview participants, there was one mode of transport that left the community in the morning to only return in the evening otherwise one would be stranded. This limited the movement of people and people had to be more reliant to natural resources for basic household needs. Post-apartheid, people moved to areas closer to roads and busy transport routes; this meant that people could move around easily between their communities and the nearest town which is Butterworth. There they would be provided with basic services such as hospitals, schools, banks and other amenities. The lives of the Tholeni residents were on the verge of development but with that came environmental consequences.

With the shift from one area to the next meant that areas with vegetation and small ecosystems were to be cut down to build homes for the community. Strain was put upon resources such as rivers and forests as they had to supply these areas with water and

firewood. Because these areas were not built up before, there was pressure upon local municipalities and government to supply these areas with basic living services which included the supply of clean water to households and the supply of electricity to each household. This is proving still to be a challenge as some areas still have no water supply only electricity. Some homes are dependent solely on unreliable rivers for the supply of water. Homelands and its community members are reliant on small income from in and around the community, social grants and mostly remittances. The younger population of the Tholeni community is rather scarce as people have been attracted to bigger cities in search for better schools, services and working opportunities. This speaks a lot to the economy of the Tholeni area and its development. The movement of younger people shows the lack of development socially and economically. The level of development is not enough to attract people and capital to the Tholeni community. Young graduates who are hopefuls of these areas are in bigger cities in search for better job opportunities and this further staggers the development of many rural areas like Tholeni. *"Akukho misebenzi apha tuu. Umntu funeke aye kwezinye idolophu ukuze adhe afumane umsebenzi. Abantwana bethu bahlala kude namakhaya abo kuba kaloku akhonto anoyenza apha ngaphandle kokonakala. Kukho umntana apha oclever kakhulu imaths yeyona nto ayaziyo. Imeko yakowabo zange imvumele ba aqhubeke nhe skolo. Uphele esitya idrugs kuba engade afumane macebo"* said one of the residents. Translated meaning; There are no jobs here at all. People have to relocate to other towns even other provinces in order to find work. People have opted to live further away from home because the economies of those areas are better than that of Tholeni. Our kids live far and we have accepted that because it is better than them being here and getting involved in illegal things. There is a young boy in the area who is excellent in maths but because of financial issues at home he could not further his studies. He is now a victim of drugs and substance abuse as a result of not knowing how to carry on or what direction to move in.

These statements show how frustrated rural communities are with their development levels. It came across as though people were disappointed with the way their lives has turned out. People expected change, positive growth and development in the post-apartheid era. The already delayed development processes were starting to be a generational problem. People moved closer to towns and cities in the hopes that the lives of their kids would have been better than that of their own. This was not the case, things were not better in the areas that the community members thought they would be. Pressure is put upon government in the post-apartheid era to deliver and rectify the wrongs of segregation and Apartheid. The issue is that

the environment in this case the environment will not be prioritised as the needs of community members are placed above that of the environment. One of the government officials interviewed is quoted to have said "*It is so difficult being a geographer especially when you feel the pressures of having to provide for the needs of the community and at the same time having to think about conservation. Even with major cases of deforestation, you think twice about reporting it as this is someone's livelihood we are talking about. On the other hand it is my job so I have to report these serious crimes."*

One can see that the modernity that the residents of Tholeni are chasing, comes at a cost one that might be impossible to reach considering the long history of Tholeni. It shows that even though people moved closer to towns, this does not guarantee change and development socially, environmentally and economically. This desire of modernity is added stress to poor communities.

The relationship and the value of the forest to the community members of Tholeni

Indigenous knowledge plays an immense role in forest conservation. Back then, these resources were used in a sustainable manner and protected by myths (Kameni, 2016). Therefore resource depletion was scarce and minimal when it occurred. At the same time people say their forefathers used these very natural resources yet they were never depleted. Such community values and principles are no longer practised by the present day generation, yet were passed on to the next. The root cause for the abandonment of these values is not known but it can easily be assumed that, as socio-cultural systems evolved, people tended to neglect and ignore useful community values and practices that upheld their local knowledge systems and indigenous technical knowledge.

"Forefathers had principles that they adhered to which prevented people from doing as they pleased to the environment" (Kameni, 2016). This statement resonates with the principles and values upheld by the older generation in that;

I. Rural populations were smaller than they are at present.
II. Economy of the country was better than its current state.
III. People were self-sufficient, compliant and more governable.
IV. Political control was different.

V. Natural forests do not expand at a fast rate, so when populations increase the forests decrease.

It is then impossible to compare the way we use resources and the way our forefathers did, echoed Paqula. People have then figured out that indigenous knowledge was mostly myths that protected the environment. The morals and values of the current generation to that of the forefathers are different. People are stubborn and we are losing the fight to ensure that all communities are environmentally sustainable. "We went above and beyond without a control measure which is why rural forests are depleted at a faster rate" (Kiva, 2016). The use rate of the forest will vary in accordance with the population density of a specific area. This is why we then need to rely on educational interventions to help change people's values and ideals about the environment both from the past to the present and vice versa. Those that believe that traditional and herbal healers are one of the main reasons behind forest destruction are misinformed. They are part of the people that use these resources sustainably and value natural resources.

According to Kameni (2016) illegal traditional medicine market traders are the ones who destroy habitat as they harvest in bulk with the intent to sell. Traditional healers do not separate themselves and their living from nature but instead respect it. They conserve by creating pseudo-names for the trees and herbs that they use to decrease the people's desire to obtain it after knowing its common name. Some of the names include "UmNukane *Ocotea bullata*, UbuHlungu benyoka *Acokanthera oppositifolia*, UmLungumabele *Zanthoxylum capense and* UmNgquza *Buxus natalensis"* (Johnson, 1990). All these plants had medicinal properties so by them being given pseudonyms they were protected by traditional healers. In this way, the traditional healers practices grew and resources were conserved. When healers and other community members are offered the medicinal trees and shrubs for their own personal yards they refuse. This is because they think the trees 'healing properties' will be impure once they are in their households. Only a few of the focus group participants were interested in being involved in community growth and environmental education initiatives that may be introduced in the area. These are few of the people that have heard something about conservation and sustainability and were interested in ensuring that they live in sustainable communities. This really proves to be an issue because the minority which is against deforestation is out-numbered by the majority that feels that the forest is of no value to them or their surroundings. These competing views are therefore an issue that needs local

community education of environmental preservation to achieve sustainability in measures to restore and conserve the environment.

Academic interventions will be effective in areas that are actually interested in conserving nature. The residents of Tholeni are not interested in keeping this forest so it will be difficult to "educate" people on something that they feel they do not need. *"Thina songa izinto ezibalulekileyo kuthi futhi esizi dingayo. Sawufunda nton ngehlathi elisithathela omama nabantwana bethu? Sakheleni imizi nisiqeshe qha ayikho enye esiyi funayo".* Translated this means; we conserve important, meaningful and necessary things in this community. What can and will we learn about a forest that kills our mothers and children? Build us homes and employ us, as that is all we seek in this community said one of the interviewees.

People's interests to be involved in community education were driven by them thinking they would benefit financially from the initiation of the program. If they were not going to be compensated the next question would be how then learning and saving the forest will benefit them or be of good to the community. The resident's attitude is believed to be attributed to the way the authority responds to environmental issues in the area. A resident echoed that if their leadership showed interest and took action by reporting the crime that is occurring in the area, and then maybe, they too would be interested to learn about the importance of protecting natural resources and living sustainably. Some of the participants also said that the forest is of no value to them. Instead it is a life and safety threat to them. It is believed that most of the community members do not collect firewood from Tholeni Forest that much anymore for fear of their lives because of the rising crime committed in the forest, for example, rape and murder. This is because people are scared, they feel that they will be killed or mugged in the forest as it is dark and dense. The 40 % of respondents that value the environment, source their income from the forest indirectly. They sell poles and firewood to homes that require them and some repair family kraals which are used on a weekly basis or periodically in rural communities for traditional ceremonies and safekeeping of livestock. The maintenance of kraals has grown into a big business and is mandatory in many households. There was a rumour circulating in the Tholeni community that department of agriculture forestry and fisheries were to rehabilitate and fence around the Tholeni Forest. This would be done so that the department would be fully responsible for the forest, protect it and the people surrounding the forest. However this has not been done yet and people feel that fencing of the Tholeni Forest will in any event not stop the crime and people's lives will still be in danger. Residents say that the main reason behind the illegal/ informal subdivision

of tribal land constituting the forest area was to increase and improve their safety in the area. It was not driven by people wanting more sites to develop new houses. “Not everyone has a site there because the community is mainly concerned about their safety and not so much about building homes. People’s relatives and family members walk past and live around this forest so we wanted to ensure their safety to a certain extent” asserts an interviewee.

History shows that in many villages around the world people have a better relationship with the forest than what is said. According to Singh (2013) in India villagers institute rules once forests around them become degraded. These rules regulate the extraction of wood by sending people to patrol on a daily basis. This is a different story when it comes to the Tholeni community. The resident’s relationship with the forest is a rather complicated one. The relationship between the Tholeni community and the forest has proved to be a rather unbalanced one. Its imbalance is caused by the lack of proper treatment and sustainable use of its resources by the community members. It has been more about taking from the natural environment rather than taking, protecting and rehabilitation. This has had a negative influence in the way that the forest has grown over the years as it is not allowed by the community members to reach its full growth potential and rehabilitation. It was found that one of the reasons behind the major deforestation in Tholeni was with intent to sell. People have found ways in which to make money and provide for their families. This is driven by the lack of job opportunities for people in these areas. Providing food for the family is more important to community members than looking after the environment. This once again brings up the great debate of whether sustainability is viable in communities who were previously disadvantaged and are still living with social and economic impacts of their history. It is thus difficult for officials to also place the needs of the community before that of the environment. It is impossible to favour the environment even in the court of law as people are faced with major poverty cases every day. Some of the community members of Tholeni see deforestation as the solution to some of the problems that the community has been facing. These views are opposing and will cause even greater issues for the department as people will continue deforesting with the assumption that they are doing it for the greater good.

The cases of deforestation in all the rural forests under the Centane Forest Reserve have been targeted. This is due to the limited number of guards that are there to safe guard the forests. People are now taking advantage of all these shortages of staff and are continuing to exert a lot of pressure on the natural environment such as Tholeni. This shows that people have little to no value of the environment. What matters the most is for the people is to provide for

themselves and their families. In order for the relationship of the community members and that of the forest to improve, it is imperative that the community of Tholeni start valuing the environment and what it offers them and their families. These values can either be instilled at home, school or by being empowered by their own leaders. Like Odisha in India, Tholeni community members need to recover their relationship with the environment and this will bring about community based forest conservation. This will involve the creation of rules to restrict outsiders' access to their forest, placed restraints on their use and specified penalties for not adherence to the rules (Singh, 2016). This is where leaders are required to take initiative on issues that are facing their communities and should take an active role in trying to lead by example in their areas of jurisdiction.

Community active participation processes are designed for such things where community members share and give an input as to how changes in their space are going to affect their daily practices. Amongst such practices, there should be times where the state of natural resources and their state of distress is discussed. The act of forest destruction because people fear for their safety, is a decision that is rather careless and one that is misinformed. Instead of deforesting why not approach state organisations with solutions or ideas that incorporate the forest into the community rather than destroying it. Singh (2013) asserts that the impetus to protect forests came from the people's material dependence to the forest. Affective relations were formed through everyday intimate practices of environmental care and nurturance of the forest over the years. Current global development trends include building and growing with, in between and around nature. This can also be done in rural communities and the people can be involved in order to prevent them destructing the change. Such development requires the understanding and perceptions of community members about what conservation is and what it means to them. Perceptions are also driven by what people understand something to be. These perceptions are what could drive or hinder deforestation and it is important to establish what these perceptions of conservation are before even addressing the issue of forest conservation on its own. As stressed previously, these interventions must be inclusive of the community members and their leaders. In doing so, we are increasing their chances of success and their long lived effect which will be positive for the environment.

The main value of the land occupied by the Tholeni forest is its ability to improve the livelihoods of people through housing and personal development. As illustrated in the above chapters, people are after modernity and development of their community. The local chief

says that some people have more than one site in the area some for themselves some for their children. This should be identified as one of the ways in which the Tholeni community is trying to move. People's actions indicate what they really want. What is recommended nationally may not be possible for all areas as each settlement has its own needs and problem.

The point that I am trying to show is that Tholeni forest gets caught in the traditional practices and modern imperatives. The lives that people are living in the area of Tholeni are traditional in some sense but also want to become part of an urban economy and resources are always under threat. The main need that people have identified in this area is the need for jobs and proper housing for their families and their kids who are making money in other cities because of Tholeni's economy. The traditional perceptions, methods and practices of conservation that government officials say worked before are not effective here at all people are clearly not interested in having this forest at all. The gap that this thesis is trying to fill is the ways in which government can develop rural communities with meaningful projects that could benefit the environment but also trying to combat other developmental issues that are facing the community. The issue here is not really the deforestation itself but the use value of the forest in a community that lacks so much because of the history of the country. The next chapter we will look at the possibilities of sustainable futures being achieved in rural areas such as Tholeni. I will look at possible solutions that are meaningful to the context of Tholeni and its surrounding settlements and conclusions in achieving sustainable rural areas where both the society, environment and the economy are fairly considered.

4.3 Conclusion to chapter

In this chapter, I have attempted to show how Tholeni Forest falls through the cracks of proper forest management, despite the fact that it is identified as an important resource by provincial government. But locally it is seen as a resource in a different way. There is a disjuncture between local and provincial government and is to the detriment of the forest. This chapter has highlighted how the politics and internal dynamics of Tholeni have affected the proper management of the Tholeni forest. Because of this poor management, people's value of the forest has diminished over the years making it very hard to create any form of conservation. The fact that the forest does not carry any form or limited diversity, due to it being a plantation, shows that it has little use traditionally and environmentally.

Nevertheless, I have also shown in this chapter how certain traditional practices do work towards the potential conservation of the Tholeni forest. These traditional practices are here in tension with the desire of many of the Tholeni residents to live modern lives in areas that do not allow for growth and development because of various internal dynamics and politics. In this chapter I have also tried to show how the forest is caught between the impossibility of 'traditional' livelihoods and the unfulfilled expectations of 'modern' lives. Through an analysis of (a) the demographic and geographical shifts in the area in the past twenty years, and (b) an analysis of the ongoing traditional practices in the area, I have hoped to capture something of this tension. The forest serves neither tradition nor modernity, yet is caught between government protection and informal deforestation. The result is an unsatisfactory situation, in which local community members feel anger towards the local municipality.

I then suggested that some traditional practices have the potential to embed more sustainable livelihood practices, but that in order for this to be realised there needs to be cooperation between the traditional, the local and the provincial authorities – something which seems elusive at this point. In the final chapter, I will bring the different strands throughout the thesis together, and argue that Tholeni Forest poses some urgent questions for the sustainable futures of South Africa's rural areas.

Chapter 5: Conclusion

In this thesis I demonstrated how sustainable futures could be achieved in rural areas of South Africa like the Tholeni Administration Area. The main aim of the study was to interrogate the possibility of sustainable economic, political and environmental futures in Tholeni in the context of rural underdevelopment, continued poverty and the increasingly incompatible relationship between traditional knowledge and contemporary practices. To the above I first highlighted the history of the country that delayed the development of the country through apartheid. This legacy of the apartheid era made environmental growth to be stagnant and non-existent in previously disadvantaged areas. I then went to highlight the use and value of industrial forests in the drive towards promoting environmental sustainability. The hierarchy of the Tholeni region was studied in order to understand how decision making and policy formulation was conducted in the Tholeni region. This included the internal dynamics and politics between the power structures and those between the power structures and the residents of the Tholeni community. Data collection indicated the dynamic shifts and changes that occurred in the Tholeni region leading to various factors such as deforestation, disjuncture in the hierarchies, use value and environmental value of the Tholeni area. All these factors were to determine whether sustainable futures could be achieved.

Ultimately what I tried to do is see where sustainable futures are achievable in the post-apartheid context particularly looking at the case study of Tholeni and the deforestation of its industrial forest. Tholeni forest poses a range of interesting questions for sustainable futures because it exists in a space that is under huge amount of pressure to become part of an urbanised economy where the demographic pressures and authority structure has not worked out a way of connecting between local people and the resources. This is exacerbated by the fact that the forest itself was never an indigenous forest so there was or is no obvious reason or compelling reasons to protect the forest. Even though ultimately the forest could serve an environmental purpose there is no found motive to protect.

Provincial government is protecting something that most people do not want in their community. They are doing it in a way that does not engage with the community of Tholeni by creating policies at higher structures that are supposed to be a perfect fit for all cases of forest destruction. This is proving to be very unsuccessful. Why make industrial forests protected when they hold little to no value both aesthetically and environmentally. Instead this forest has become a wasteland that is fast becoming a hub for crime practices in the

community. The effects of the understaffed forest estates are now being felt as most forests are now unguarded and unsafe. Forest estates are already resource stressed and understaffed so there is no reason why industrial forests are added to the agenda of protection? Maybe we should not care about this forest and get rid of it and replace it with something more meaningful and of value both socially and environmentally. These wastelands could be removed strategically. If the forests are cut down, the community's dependence is put into question as there won't be a forest to collect firewood and to graze cattle in. However, because there is no value of the forest to the community, replacement would be more appreciated. The residents do not like what the forests are being replaced with and want to be involved in these processes of replacement.

What could be introduced as a meaningful and sustainable could be agricultural projects that would be of benefit to the community in terms of employment, social improvement and safety. These agricultural projects will provide a level of development of the Tholeni community and moving them towards the urban economies that are desired while at the same time promoting environmental growth through community development projects. To make this possible, however, requires a lot effort and focus in order to realise the expected outcomes. The starting point could be to clearly identify, analyse and understand the problem and the root cause in order to know how and what tools and instruments should be used to address the problem. Striking a balance between the people's local circumstances, their needs, and the challenge of environmental conservation is crucial to achieve best results. One can hold discussions with affected local communities once one has an idea of the problem, listening to their views in that any sustainable solution requires their active participation and which cannot be separated from a social learning process approach, education or training and use of a combination of top-down and bottom-up approaches to achieve the desired results. This alone, implies that there is no single solution to the problem.

A combination of approaches is desirable to achieve best outcomes. Realising this entails the need for a focused hands-on approach as well, an approach and methodology that enables one to learn other phenomena whilst implementing other tested solutions and remedial measures. This requires use of flexible instruments considering the location of the Tholeni Forest within the residential fabric of the local community and many others facing similar challenges throughout the length and breadth of the country.

Therefore, the key argument of this thesis is not that the forest needs special protection. It is ultimately pretty useless. We however need to plan carefully for what replaces the forest. This is the sustainable future.

Appendix 1

Community members focus group questions

1. How would you describe the leadership within your community?
2. How do they often deal with environmental issues facing this area?
3. What are your comments about the deforestation of the Toleni Forest?
4. What is believed to be the cause of the forests deforestation?
5. Are there any myths or stories associated with the deforestation of Toleni forest?
6. What programmes or community initiatives have you been involved in to decrease the rate of deforestation in the area?
7. Are you willing to learn about forest conservation and environmental education?
8. Is there anything else you would like to add?

Appendix 2

Authorities focus group questions

1. How long have you been an authority in the Tholeni Location and its surrounding natural environment?

2. Do you know why Tholeni forest is being deforested?

3. Has the deforestation of Tholeni forest been recognised as a problem?

4. Are there any written policies/ rules and regulations about the management and conservation of the Tholeni forest?

5. Has a procedure been followed to prevent or allow the deforestation of the Tholeni forest? If yes, can you please elaborate?

6. Were community leaders involved in decisions made regarding this area?

7. How are decisions made with regard to environmental awareness and issues in the area?

8. Are there any general trends and opinions that you have observed and noticed about conservation in the area?

9. What is currently done to promote environmental education in the area?

10. Is there anything else you would like to add?

Appendix 3

Interview Questions

1. How long have you lived in Tholeni Location?

2. Do you think the size of the forest has decreased or increased?

3. What do you believe is the reason behind the deforestation of the forest?

4. Do you know of any myths or beliefs about the Tholeni Forest?

5. What are some of your experiences with the forest?

6. Do you know of any rules/actions in place to protect the forest?

7. How do you feel conservation could be implemented locally?

8. How can you protect the environment?

Appendix 4

Image Gallery



Figure A1 showing DAFF officials at Umtiza Nature Reserve during the job shadowing experience



Figure A2 showing a commercial industrial forest in Stutterheim, Eastern Cape (Rance Timber)



Figure A3 showing areas in Tholeni Forest that are deforested and some trees regenerating after deforestation.



Figure A4 showing areas completely deforested and constructed homes



Figure A5 showing a developing gully due to soil erosion in the area



Figure A6 Showing the Gum tree in the middle of Tholeni forest protected by the acacia

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