



Investigating the Perceived Incompatibility of Conservation and Agriculture The Case of Nuweberg, Western Cape, South Africa

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List of Acronyms

CBNRM	Community Based Natural Resource Management
CRDP	Comprehensive Rural Development Programme
IUNC	International Union for Conservation of Nature
LVC	La Vía Campesina
NGO	Non-Governmental Organization
SPP	Surplus People Project
TA	Tshintsha Amakhaya
USAID	United States Agency for International Development

Abstract

This paper seeks to explain why biodiversity conservation and agriculture are perceived by mainstream conservationists and agricultural policy makers as incompatible, and as a result people living inside or nearby protected areas are often prohibited from farming. The central argument of this paper is that the dominant perception of the incompatibility of conservation and agriculture is the result of a political project which is situated in the ideological framing of conservation and agriculture. The theoretical framework is informed by linking the discussions on (i) CBNRM as a conservation policy instrument (ii) agroecology as an alternative farming model to industrial agriculture and (iii) biodiversity conservation which is about protecting and managing nature through the creation of protected areas. It is established that the point of difference between the three concepts is the idea of human/nature separation. Agroecology promotes the connection between human and nature and therefore encourages the link between conservation and agriculture while CBNRM and biodiversity conservation are based on the principles of separation.

Lessons from the study case in the Nuweberg settlement suggest that this idea of separation of humans from nature results in the marginalization of inhabitants' land-based livelihoods particularly agriculture. The paper further explores implications for the various actors involved in this case, in the attempt to link conservation and agriculture. The paper calls for the government to implement a strategy to re-think land access and support to small-scale farmers particularly those who practice agroecology, while for the conservation authorities at the public conservation institution Cape Nature need to revive CBNRM. In conclusion the paper highlights the crucial role of NGOs, social movements and networks of small-scale agroecological farmers to engage more with academic research in order to strengthen their advocacy strategies for land access, agroecology and better livelihoods.

Relevance to Development Studies

The importance of land-based livelihoods for people living in protected areas cannot be over-emphasized. Conservation instruments such as CBNRM were developed precisely for the purpose of enhancing livelihoods. Agriculture remains one of the dominant land-based livelihood activities particularly in rural areas and in recent years there has been a great focus by various civil society actors including academics and small-scale farmers on promoting agroecology as an environmentally friendly farming option. These debates often occur in isolation, meaning that those that are more aligned with agrarian issues tend to focus more on agriculture and less on the environmental discourse or the other way round. This paper is located within the major of Agrarian and Environmental Studies at the ISS, and aims to show how the agrarian and environmental issues are interlinked and not separate.

Keywords

Biodiversity conservation, CBNRM, Industrial agriculture, Agroecology, land-based livelihoods, South Africa

Chapter 1: Introduction

1.1 Setting the Scene:

“.... places are made for nature and simultaneously unmade for human communities that reside in them. I refer to the members of such communities as conservation refugees, people who involuntarily part with their livelihood claims in places set aside for natural protection. That this protection is important to human welfare is not disputed. With growing force and scope, however, parks and protected areas are dispossessing human communities and cleansing biodiversity hotspots of people perceived as threats to parks and nature.” (Geisler 2003:69)

Protected areas, such as forests, nature reserves and national parks, have natural resources and inhabitants who either live within or in the surrounding areas. Often there are tensions between the pursuit of farming and conservation as people living in these spaces seek to do the former while conservationists are meant to do the latter. This research paper seeks to explain why in protected areas biodiversity conservation and small-scale agriculture are perceived to be separated from each other particularly by mainstream conservationists and government policy makers, and then consider whether there could be ways to suggest potential avenues for improvement.

The empirical evidence for this study is drawn from Nuweberg settlement, which is located within a nature reserve under the management of Cape Nature, a public institution with the constitutional responsibility for biodiversity conservation in the Western Cape. The objective of Cape Nature to conserve biodiversity is located within the recent conservation efforts which have been established with the aim to link conservation with land-based livelihood strategies of the inhabitants of protected areas. Büscher and Whande (2007:23) highlight that central to the debates about conservation of natural resources and biodiversity in protected areas is the issue of dealing with the inhabitants of such spaces whether they have a role in or pose a threat to conservation. CBNRM is the one conservation mechanism with the aim to put the ultimate responsibility to manage natural resources and biodiversity in the hands of local communities through empowerment, participation and decentralization of power (Dressler et al 2010:5).

For over seven years the inhabitants of Nuweberg have continued unsuccessful negotiations with the government and Cape Nature for the integration of their land-based livelihoods needs with nature conservation efforts. They want to be supported by the government and Cape Nature in their agro-ecological farming methods, given access to secure land and allowed to grow crops and raise livestock. This they believe will be well suited to integrate the conservation objectives of Cape Nature. While CBNRM and agroecological farming practices appear to provide viable opportunities for inhabitants of Nuweberg to pursue farming while at the same time contributing to conservation, unfortunately this relationship is not recognized by policy makers.

The central argument of this paper is that the dominant perception of the incompatibility of conservation and agriculture is the result of a political project which is situated in the ideological framing of conservation and agriculture. The definition of these two concepts, as well as the conception of their purpose and method of fulfillment determine conservation and agricultural practices and what policies are implemented to support them. Often these practices and policies tend to marginalize the inhabitants.

In substantiating this argument, the paper focuses on (i) the institutions involved as intermediaries of the relations between people and the environment (Leach et al 1999:231) and (ii) the agency of inhabitants. Institutions refer to both systems of rules such as biodiversity laws and organizations such as the government's department of agriculture and Cape Nature. Agency refers to the capacity to decide what to do or not to do when in confrontation with institutions, in this case the response of the Nuweberg inhabitants.

This research paper is located within the field of political ecology¹ and is centered on the concepts of biodiversity conservation, CBNRM and agroecology, which also form the theoretical framework of this piece. Briefly on the three concepts, a basic definition of biodiversity conservation is provided by Büscher and Whande (2007:25) suggesting that it is a formal or informal management of a selected biological resource. Moving to CBNRM, it refers to the management of particular natural resources by concerned communities, based on the assumption that they have a good relationship with their environment (Dressler et al 2010:5). Lastly, about agroecology, it is both a political tool to transform industrial capitalist agriculture² and a science which entails practices that re-enforce biodiversity and interaction among plants through recycling of nutrients and energy on the farm and no use of external pesticides or fertilizers (Altieri and Toledo 2011:588).

Attention is paid to the relationships between the three concepts in order to help identify and untangle the tensions between conservation and agriculture with regards to natural resource management. In addition the framework allows us to explore the tension between the two competing models of agriculture (industrial vs agroecology) which then leads us to engage with an alternative paradigm. In the view of Perfecto et al (2009) a useful alternative paradigm would give recognition to small-scale farmers as conservationists in their own right, thus creating opportunities for marrying conservation with agriculture

The prohibition of Nuweberg inhabitants from practicing agroecological farming appears to be in contradiction with the principles of CBNRM and the objective of Cape Nature i.e. biodiversity conservation.

¹ Political ecology is the study of power relations in land and environmental management. It addresses the relations between the social and natural, viewing these as intimately linked and highlights that the way nature is understood is political (Adams and Hutton 2007:149).

² Industrial agriculture is associated with increased use of inputs such as fertilizers, pesticides and advanced farming technologies in order to get maximum output, that is, agricultural intensification (Wiggins 2009:12). It is promoted by international institutions such as the Food and Agriculture Organization and the World Bank as a recommended response to address food insecurity through small-scale farmer development (Tomlinson 2013:81) and in South Africa it is embraced by the government and agribusiness.

1.2 Research question

It is against the background explained above that this research paper asks and explores answers to the following main question:

How have the recent conservation efforts around Nuweberg dealt with land-based and agroecology agricultural livelihood strategies of the village residents and to what social and political-economic effect?

In line with the central argument of this research the main question is further broken down in an attempt to understand firstly what the prevailing meaning of conservation and agriculture is amongst the different actors involved in Nuweberg. Secondly the research paper explores what is happening in Nuweberg with regards to conservation particularly the CBNRM programme of Cape Nature i.e. what is being conserved, how, by whom and why. Thirdly the paper seeks to establish whether or not such conservation activities involve the inhabitants of Nuweberg, if so on what terms and if not why not. Finally, the paper aims to establish what it would require for the alternative paradigm shift to emerge by asking what the livelihood strategies of the inhabitants are, and what their response has been since their requests have not been met.

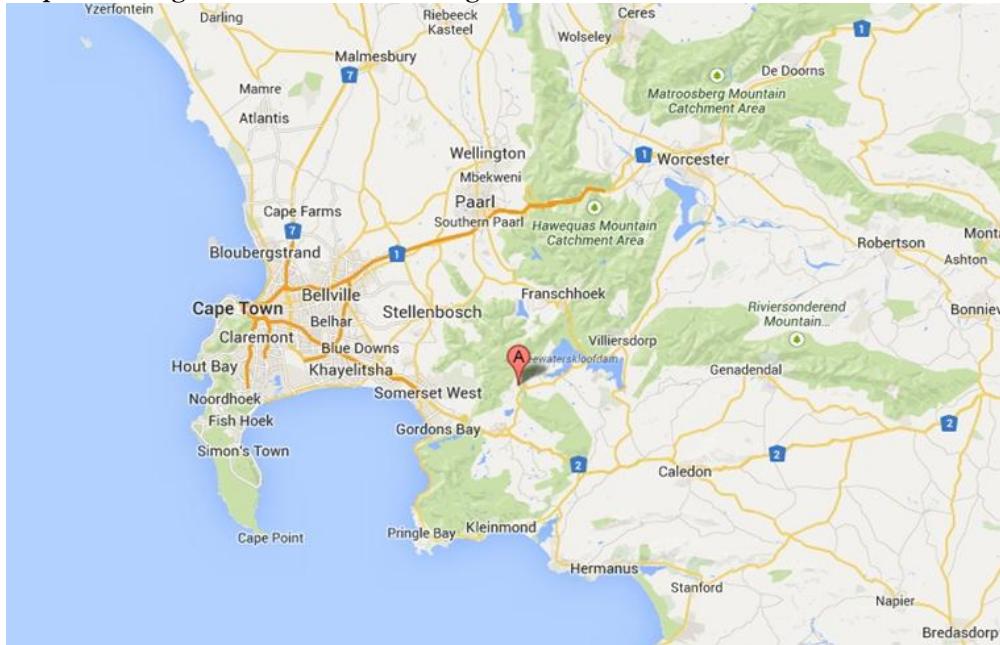
1.3 Introducing Nuweberg

The Nuweberg settlement was established during the 1970s by the then Department of Water Affairs and Forestry to provide accommodation for the workers of the pine plantations and the nearby Hottentots Holland Nature Reserve. The settlement is located about 20km north of Grabouw on the R321 road between Grabouw and Villiersdorp and is part of the service area of the Theewaterskloof Municipality. It is located adjacent to pine plantations and the Hottentots Holland Nature Reserve. The settlement has 45 housing units, occupied by different families, totaling up to about 250 individuals.

The privatization of forestry services in the early 1990s resulted in the retrenchment of the Nuweberg settlement residents which increased unemployment. As a result, people were forced to look for alternative livelihoods, and this remains a challenge today. A small number of residents provide casual and/or seasonal wage labor in the surrounding nature reserve, neighboring commercial apple farms and packing facilities in Grabouw. Some residents engage in small-scale agroecological farming (small household gardens), mainly to grow vegetables for own consumption and livestock keeping i.e. chickens and pigs (kept in small kraals at the back of the houses). They are, however, constrained by the lack of access to land and institutional regulations which prohibit cropping and grazing.

Currently, their land based livelihoods opportunities are threatened as their residential areas are targeted for tourism, recreation and biodiversity conservation under the management of Cape Nature. In their continuous struggle for access to land and natural resources they are supported by a local NGO, SPP, and a network of agroecological small-scale farmers, the Food Sovereignty Campaign. With this they hope to increase their household food access by consuming the produce but also generating income through selling locally

Map 1: Showing the location of Nuweberg



Source: Google Maps

1.4 Research Methodology and Methods

For one to understand the conservation efforts of the government and people's livelihood strategies and their understanding of the meanings of conservation and agriculture requires an in-depth inquiry and therefore conducting qualitative research using a case study-based design (Babbie and Mouton 2001). The reason for choosing to do a case study is that it provides the researcher with a clearly defined unit to be studied (Nuweberg) and identifies all the actors involved. In addition, the case study allows one to establish the history and the timeline of events that happened in relation to the problem that is being investigated. All of these characteristics of a case study were found to be useful in exploring the research question and coming up with possible explanations of the core issue, thus providing recommendations. The nature of the study is an empirical one and it required asking questions to address a real life problem of livelihoods. This is a qualitative study that combines both primary data collected mainly using semi-structured interviews and secondary data (academic literature review, government policies, Cape Nature policies, NGO reports,) which will be analyzed in the later chapters. Two sets of data were collected and these are explained in the following sections.

1.4.1 Secondary data

The first set of data was collected by reviewing existing academic literature on CBNRM, biodiversity conservation and agroecology, looking at both regional and international studies. The purpose of this was to get an insight of similar studies that have been done and establish if there were gaps to fill in or theories to confirm. In addition, government policy documents on biodiversity conservation in protected areas, land-based livelihoods, and small-scale agricultural support in South Africa, Cape Nature CBNRM policy, and SPP reports on Nuweberg were also reviewed paying attention to the discourse and ideologies underpinning the nature of support they provide.

1.4.2 Primary Data (Field interviews)

A field visit to the Western Cape was undertaken for a period of three weeks (July 14th –August 5th 2014) to collect a second set of data by conducting semi-structured interviews with the key informants i.e. SPP, Cape Nature and government officials, and members of Nuweberg settlement. In total ten informants were interviewed and this number was made up of six officials representing each of the actors involved and four members of the settlement. Informants were identified with the help of SPP staff members who provided the names and contact details of all the government and Cape Nature officials involved in Nuweberg. Interviews appointments with each official were made via email and telephone and all agreed to participate in the research. All interviews took place in their respective offices in Cape Town, Elsenberg, and Somerset West and in Grabouw. The interviews with the four residents of Nuweberg settlement took place in their respective homes. All informants were comfortable in their spaces and this helped to set the tone of the process, which was relaxed and informal, as preferred by all involved.

The use of a semi-structured interview method was ideal as it allowed me to focus on a particular issue and engaged with it deeper through a conversation with each informant. With the permission from the informants, the interviews were audio recorded and this allowed me to focus on the interview process with minimal interruptions. The interviews were structured along the lines of the key research questions. An interview guide that I provided identified the areas and topics to be covered during the interviews, there were general questions to all the informants, and some which were actor specific.

While the questions were open-ended in nature, to allow space for further conversation and interaction, the interviews were guided by sub-questions. For the inhabitants of Nuweberg, the questions asked were about what their farming activities and other livelihood strategies apart from farming were. In addition it was asked if their land-based livelihood activities fit in with conservation and what the challenges regarding land-based livelihood activities were and how they dealt with them. The SPP staff member was asked about their role in Nuweberg, understanding of challenges and meanings of agriculture and conservation. Cape Nature and government officials were also asked about their roles in Nuweberg, conservation activities taking place in Nuweberg (who was involved, how were they selected), how livelihoods of the inhabitants were catered for in conservation activities, challenges and understanding of conservation and agriculture.

1.4.3 Identification and Selection of Respondents

My first contact was SPP and with their assistance the following actors that are involved in Nuweberg were identified and their representatives were selected to participate in the research.

- The provincial department of public works, which is the body that owns the land and infrastructure in Nuweberg.
- The provincial department of agriculture, which is responsible for implementing the CRDP in the Western Cape, within which the Nuweberg settlement is located.
- Theewaterskloof local municipality (local government), which is responsible for sustainable economic development in the area and is in the process of incorporating the Nuweberg settlement into the municipality.

Cape Nature, a public institution which is managing conservation activities taking place in Nuweberg. This is also the body responsible for the implementation of CBNsPP, a local NGO

which supports Nuweberg community members in their struggles to access land and to improve their land-based livelihood opportunities, particularly through small-scale agroecology farming.

- Members of Nuweberg settlement, in particular those that are practicing farming and have been engaging with the various government and non-government actors in pursuit of better livelihood opportunities.

These actors were selected because they form the committee working in the region which Nuweberg forms part of. While SPP had suggested and provided me with the details of all the actors involved in Nuweberg, to avoid the bias I also asked the respondents that I interviewed at Cape Nature and Public Works to refer me to other players that I could speak to. However, they recommended and provided me with the same list of contacts.

1.5 Scope and Limitations

While the inhabitants of Nuweberg vary in their aspirations for better livelihoods such as getting involved in pine tree plantation activities that are taking place in the area or opening up a local shop, this paper is focusing only on those who are interested in small-scale agricultural production. Out of 45 households in this settlement, only 15 are currently engaging in small scale agriculture, an explanation for this will be provided in chapters three and four. In relation to the size of the population of Nuweberg a relatively small number of four farming households were involved in the study. Due to limited time available to do research in the Western Cape and the unavailability of most of the inhabitants that are involved in farming due to personal commitments, less than the desired number of participants were engaged. Although Cape Nature is responsible for a number of nature reserves in the area, this paper is limited in scope to the situation in Nuweberg.

Another limitation was that all respondents in the study associated me with SPP, since most of them knew me from the time I was employed there. For instance the inhabitants of Nuweberg were not critical of the role played by SPP, they only said positive things. The respondent at SPP was critical about all the actors involved but SPP. It was only with the municipality official that my previous association with SPP did not come up in the conversation, and the respondent raised issues regarding the limitations of working with an NGO such as SPP in Nuweberg. In my attempt to overcome this bias I emphasized that the study was for academic purposes and that I was no longer working with SPP. Overall, I feel that I was able to recognize the ways in which my position was perceived by my respondents, and to take steps to mitigate against biased responses, through probing questions during the interviews.

1.6 Overview of Chapters

The rest of this research paper is organized as follows: chapter two follows with the theoretical framework and literature review that will guide the discussions in the rest of the paper. Chapter three provides an analysis of conservation, CBNRM programme and land-based livelihood activities in Nuweberg, how the various actors are contributing and to what socio-economic effect. Chapter four engages with the proposed paradigm to integrate conservation and agriculture through agroecology, again paying attention to the roles of all the actors involved in Nuweberg. This will be followed by concluding remarks in chapter five.

Chapter 2: Investigation Tools: Concepts, Theories and Literature Review

2.1 Introduction

The prohibition of Nuweberg inhabitants from accessing land for agroecology agricultural production coupled with the failure of Cape Nature's CBNRM programme to offer tangible land-based livelihood opportunities illustrates the logic of conservation in South African protected areas. In the view of Agrawal and Redford (2009:4) the logic is that in order to conserve biodiversity, designated areas in which this should take place require the restriction of human influence, which is often associated with the displacement of people and their livelihoods. The assumption behind this logic is that the presence of people has a negative impact on conservation, a view that stems from the separation of people from nature (Agrawal and Redford 2009:5). This view on nature is explained by West et al (2006:255), suggesting that protected areas have become the means by which people see and understand what they call nature. This is influenced by the European nature/culture division between people and places. According to this view, protected areas represent a just, moral and original part of the world. Small-scale farming, in particular, is seen by many mainstream conservationists and their supporters as a threat to biodiversity conservation and must be checked and avoided at all times (Geisler 2003:71).

Projects that are often developed by the South African government's conservation agencies such as Cape Nature, in order to create livelihood opportunities for people living in protected areas include selling of local crafts to visitors of these spaces, wild life management and harvesting of renewable resources such as wood and grass. These activities are encouraged provided they do not negatively affect biodiversity conservation, which remains the core business (Cock and Fig 2002:143). The CBNRM programme of Cape Nature encompasses such livelihood activities and excludes small-scale farming, an exclusion which is largely influenced by mainstream conservationists' notions about the division between human and nature (West et al 2006:255). In this context, small-scale farming means industrial agriculture that is practiced on a smaller scale (as supposed to large commercial farms), where poorly-resourced farmers are encouraged to use synthetic fertilizers and pesticides including various kinds of modern technologies in order to increase their productivity. This is the model of agriculture that is supported and promoted by the South African government's department of agriculture and it informs Cape Nature's understanding of small-scale farming. Weis (2010:320) alerts us to the ecological damage associated with practices of industrial agriculture which he refers to as "externalized burdens" such as growing of the same crop in the same field year after year (monoculture), the use of oil machinery, intensive use of fertilizers and pesticides, water overdrafts and loss of biodiversity, all of which result in soil erosion. Adding to that, strategies to address the problems of soil erosion are also based on the same instruments that created them, such as the application of improved synthetic fertilizers which causes further ecological damages (Weis 2010: 321). These ecological effects are known to the proponents of industrial agriculture and also to conservation authorities, which partly explains exclusion of small-scale agriculture from conservation activities in Nuweberg.

In contrast, practitioners and supporters of agroecology such as SPP and the inhabitants of Nuweberg see a direct link between conservation and people and suggest that agroecological farming can enhance biodiversity and livelihoods at the same time (Altieri 1998). The common denominator between CBNRM, biodiversity conservation and agroecology is that all these mechanisms are concerned with the management of natural resources, however they differ in their politics, ideas and strategies. The next sections of this chapter expand on the relationship between these concepts in order to develop a theoretical frame to help explain the puzzle in Nuweberg.

2.2 Conservation, CBNRM and Agroecology (C, C&A): Exploring the Tensions

The tensions between CBNRM, biodiversity conservation and agroecology can be explained in terms of ideas carried by each concept around the issues of (i) the relationship between humans and nature (ii) natural resource management (NRM) and livelihoods. In the attempt to explore the tension, the paper reviews literature on the three concepts C,C&A, and their stand on the identified areas of tension.

2.2.1 *Ideas about the human/nature relationship, NRM & livelihoods: biodiversity conservation perspectives*

The South African government embraces the dominant model of managing nature through the creation of protected areas, a task that is largely performed by various public agencies such as Cape Nature. According to Adams and Hutton (2007:150) the idea of managing and protecting nature in the form of establishing protected areas such as the nature reserve in which Nuweberg is located, goes as far back as the 19th century in the United States of America (USA). Reference has been made by a number of scholars to Yellowstone, the first national park established for leisure (for the elite) in the USA whose management approach was to restrict local people from accessing it and this has influenced the management of protected areas globally until today (Dressler et al 2010, Adams and Hutton 2007, Brockinton and Igoe 2006). Protected areas that exclude human livelihood activities are a reflection of what Adams and Hutton (2007:152) refer to as the conceptual division between human society and nature, deeply rooted in Western ideas about nature. From this view, protected areas are seen as pristine and physically separated from land that has been transformed by humans (such as agricultural farms).

The idea of the pristine sees human activities as a destructive force that is outside of the natural world. This in the view of Adams and Hutton (2007:154) has been motivated by the idea of wilderness, which is about land that is free from the presence of humans and is seen as a positive thing. Such ideas about the wilderness and pristine nature were spread in the 20th century as a political framing of nature. The use of science (by the government and its conservation agencies) has been key in enforcing this separation, as it allowed for nature to be counted, controlled and classified (Adams and Hutton 2007:154).

The establishment of the IUCN during the 1940s endorsed this separation by creating the standardized categories of protected areas with the nature reserves intended to maintain flows of services such as water catchment (Adams and Hutton (2007:154). The key feature of conservation management which is based on this idea of separation is the displacement of people from their living environment because providing more space for nature requires constraining people's lives and activities (Brockinton and Igoe 2006:425). In addition, such conservation practices result in displacement of people's livelihoods as many are restricted from accessing natural resources in such spaces, contributing to food insecurity and economic marginalization as it is the case in Nuweberg (Brockinton and Igoe 2006:426). Benefits of conservation have been noted and these include protecting biodiversity and attractive landscapes which provide the required resources for the tourism industry, however the profits generated do not address impoverishment of the inhabitants (Brockinton and Igoe 2006:425). Often the profits generated from tourism activities are reaped by government conservation agencies and private companies who provide entertainment services such as bungee jumping, with only a few inhabitants getting employment. Overall there is no room for land-based livelihoods particularly small-scale agriculture.

The separation continues to influence the way that protected areas are created and managed today, which is a top down approach (Büscher and Whande 2007:26). In a nutshell, biodiversity conservation is concerned with the protection of nature and landscapes primarily to provide leisure for the elite while generating income from it. The politics of this is the fact that the costs and benefits of the creation of protected areas are not evenly distributed, with the inhabitants bearing most of the social costs through their loss of livelihoods. While mainstream conservationists' approaches are still dominant and visible in areas such as Nuweberg, an attempt to redress the displacement of livelihoods has been made and discussed at large, CBNRM being one strategy and the focus of this research paper.

2.2.2 *Ideas about the human/nature relationship, NRM & livelihoods: CBNRM perspectives*

There are similarities between mainstream conservation and CBNRM discourses regarding ideas about the human/nature relationship. While community based conservation discourse suggests that there are possibilities to link the needs of the local people with conservation of nature (Büscher and Whande 2007:23), Dressler et al (2010:6) highlight that CBNRM is experiencing an identity crisis. It has found itself more influenced by mainstream conservation management styles in spite of its initial goal of addressing environmental injustice. Just to give the context, CBNRM is one popular conservation instrument that is based on the assumption that communities are more in tune with their natural environment as they may have relied on it for their livelihoods and therefore would be best positioned to manage it, given external assistance (Dressler et al 2010:5).

This approach to nature conservation emerged out of the need by international conservation community to redress the injustices of the past which were associated with coercive³ conservation (Dressler et al 2010:5). Such a need to reconsider conservation mechanisms was influenced by the social movements during the 1960s, putting pressure on conservation agencies to adopt inclusive approaches which prioritized the livelihoods of the citizens (Dressler et al 2010:6). CBNRM made its first appearance in the policy scene during the World Congress on National Parks and Protected Areas first in 1982 and again in 1992 (Hutton et al 2005:343). It was mostly supported by multilateral lending agencies such as the USAID, conservation organizations and institutions linked to the World Bank (Hutton et al 2005:349).

In practice CBNRM has displayed a strong influence of mainstream conservation ideas which are based on the separation of humans from nature, generating mixed responses amongst various scholars as to whether or not CBNRM is a genuine tool or another top down conservation approach in disguise. For scholars such as Mbaiwa (2004) and Boggs (2004), CBNRM is good news. Drawing from the case studies of CBNRM programmes in Botswana Mbaiwa (2004:46) suggests that its success can be measured in three ways: i.e. economic efficiency, social equality and ecological sustainability. The case studies were based on wildlife and natural resource conservation. Economic efficiency refers to the optimal use of natural resources in order to maximize outputs and contribute to improving the standard of living for the people. Social equality concerns access to the programme by all community members while ecological sustainability ensures that the ecosystem does not get degraded because of resource extraction (Mbaiwa 2004:46).

³ Coercive conservation entails protecting nature for pleasure by restricting access of local people through fences, fines and strict rules about who can use nature, how, where and when (Geisler 2003:72). In some cases it involves forced removal of people from areas designated to protect and manage nature (Corson 2010:580).

The author argues that the success of CBNRM programmes in Botswana was made possible by the adoption of government policies such as the Tourism act of 1992 and Wildlife conservation policy whose main focus was to increase opportunities for local communities to benefit from wildlife conservation (Mbaiwa 2004:46). The outcomes of these include decentralization of land and its resources to rural communities, with community members taking the responsibility to separate wild life areas from residential areas and managing the hunting activities through a permit system. The last aspect of success regards income that was generated through the issuing of hunting quotas, selling of crafts to tourists, singing and dancing and renting out of land due to the collaboration of the trusts with safari operators in a form of joint ventures. All of these aspects according to Mbaiwa (2004:47) were an indication of the success of CBNRM programmes.

What stands out from this description of CBNRM activities in Botswana is that they do not interfere with so-called 'pristine' nature, thus reinforcing the dominant view on conservation management. The use of permits and quotas to determine how, when and where people should hunt is a characteristic of mainstream conservation management style already discussed in the section above. The same can be said for activities such as dance and selling crafts to tourists as these often do not distract from the protected natural landscapes. CBNRM programmes are standardized and community needs made to accommodate existing conservation practices, which should not be disturbed. Dressler et al (2010:12) highlight that often the government and civil society organizations involved in CBNRM programmes tend to oversimplify the problems and then come up with prescribed solutions that are not always aligned with realities on the ground. The success of CBNRM that Mbaiwa (2005) claims has been received with skepticism and subjected to questioning by the likes of Blaikie (2006) and Kumar (2005) who problematize the concept of CBNRM.

Blaikie (2006:1943) argues that CBNRM has failed to deliver on its theoretical promises. According to Blaikie (2006:1944) what makes CBNRM popular in policies and not in practice is that it carries powerful ideas starting with that of a community described as a space where people live together in harmony, share norms and are defined by a distinct social structure. CBNRM fails because the differences that make up communities are not dealt with (Blaikie 2006:1944). The Botswana case study of wildlife conservation does not distinguish between the different social groups that exist in the community, but the community is viewed as a homogenous structure, which Blaikie criticizes. In reality, communities are heterogeneous, differentiated by gender, class, age, and ethnicity, central to which is the location of power. Overall the case study does not tell us much about the power relations that often determine who can or cannot participate in such economic activities.

The second problematic concept is that of natural resources which are often not specified and clearly defined. According to Blaikie (2006:1944) the association of communities with natural resource management suggests that the community is always well equipped to perform the task through its wisdom about traditional knowledge. This, however, is not the case in reality as often mainstream conservationists tend to advance scientific knowledge which does not always match with the local ideas of what nature is and how it should be managed. In CBNRM, the identification of natural resources to be accessed and managed by the community follows a top down approach, where the conservation authorities such as Cape Nature are the ones who decide on the resources and activities allowed. Such decisions are influenced by the same conservation logic of separation between humans and nature, leading to rejection of proposals for activities such as small-scale agroecological farming.

The third problematic concept is that of management, which in the view of Blaikie (2006:1944) is contradictory because the community is not in charge of the management of the resource. Decision-making, however, as a practice, involves the community, the government, donors and civil society organizations and all these institutions carry more political power than the community. Contrary to Mbaiwa (2004:1946) who suggests that the government is central to the success of CBNRM, Blaikie (2006: 1946) views the involvement of the government and its agendas supported by funding institutions to be the barrier. Blaikie (2006:1948) suggests that to make CBNRM work, the focus should be on the policy processes and this should involve targeted and clearly distinguished communities, natural resources and management practices. While in theory the case studies in Botswana celebrate the central role of the government, Muphree (2009:2559) suggests that in practice the role of the government is often coercive and legalistic in its approach. In Botswana, government officials decided on wildlife as the resource to be conserved through the establishment of a trust; the community saw the trust as a vehicle to deprive them of their hunting rights (Blaikie 2006:1948).

Moving forward, Dressler et al (2010:12) suggest that the government and conservation agencies/NGOs should refrain from over-simplifying the problems associated with the issue linking conservation with livelihoods in order to come up with solutions. Instead they should work with communities to identify needs and problems which would then inform policy. This would require that practitioners understand the history of CBNRM which according to Dressler et al (2010:6) was intended to benefit communities by helping them reduce poverty through conservation. Today, however, it is mixed with neoliberal ideas that makes it hard to implement. The authors argue that CBNRM can still be revived to meet its original goals, if it changes its focus back to social justice i.e. redressing the injustices of coercive conservation and environmental wellbeing (Dressler et al 2010:6). Social inequity could be redressed by looking at the ways in which marginalized communities can access and utilize natural resources with a sense of entitlement that supports conservation (Dressler et al 2010:13). For instance Roe (2004:66) suggests that for the majority of rural people, their livelihoods are based on agriculture and therefore CBNRM approaches should be geared towards the mechanisms which attempt to integrate biodiversity conservation with food production. This brings us to the next issue which is the role of agroecology in the nature conservation and land-based livelihoods complex.

2.2.3 Where does agroecology stand on the issues of human/nature relationship and NRM & livelihoods?

Agroecology is best understood in relation to industrial agriculture, because both these are paradigms of agriculture in competition with each other. In fact agroecology as a science was a response to the green revolution which created intensification of agriculture through heavy application of fertilizers and pesticides while destroying the environment and displacing livelihoods of small-scale farmers (Altieri 2009:102). The concept of agroecology was coined at the beginning of the 20th century by Russian agronomists and it concerned the application of ecology in agriculture and later in the 1970s it emerged as a movement and a set of practices (Wezel et al 2009:505). This period was characterized by the increase in interest of academics, researchers, agronomists mainly in the US and Europe to look at agriculture from an ecological angle (Wezel et al 2009:505). In addition NGOs in Latin America have been since the 1980s active in research to support small scale farmers explore alternative ways of farming based on the principles of agroecology (Altieri 1987:43).

Agroecology is viewed by its proponents as the better option for poorly resourced farmers because it requires low cost inputs such as animal manure, and farmers are encouraged to use open-pollinated seeds which they are able to conserve, thereby avoiding dependency on external industrial inputs (Altieri 1998). In addition, it is based on local knowledge which is specific to the local context of the farmers. For instance, depending on the type of soil and climate, some areas may require the use of green manure to fertilize the soil while in other areas animal manure could be more suitable (Altieri and Nicholls 2008: 475).

Since the green revolution, industrial agriculture continues to be the dominant model of production globally. Agricultural intensification is favorable to agribusiness as they produce and supply fertilizers, pesticides, improved seeds and various kinds of farming technologies and in the process generate profits. Today a growing number of NGOs such as SPP, food activists, small-scale farmers, local social movements, researchers and academics, with influence from the transnational agrarian social movement, LVC continue to challenge the industrial path of agriculture in favor of agroecology (Rosset et al 2011:162).

For members of social movements like LVC, agroecology is founded on a set of social, political and cultural principles. LVC sees agroecology as a tool to transform the entire agribusiness dominated food system under the banner of food sovereignty⁴, which aims to increase autonomy from input markets by giving small-scale farmers more control over their food production system (Rosset and Martinez-Torres 2012). This entails giving marginalized small-scale farmers secured access to land, and other natural resources such as water and seeds, and also to include them in political processes which inform policies that support small-scale agriculture.

NGOs such as SPP put the views of LVC into practice by focusing their work on the promotion of agroecology and supporting the building of rural social movements towards attaining food sovereignty. Altieri (2009:111) suggests that a move towards a socially just and environmentally friendly type of agriculture such as agroecology would require a coordinated international effort, pulling together various social movements in the rural sector and civil society organizations, to put political pressure on various governments. Overall agroecology is built on the principles of social and environmental justice, which encourages interaction between nature and human activities in order to enhance the livelihoods of small-scale farmers and biodiversity.

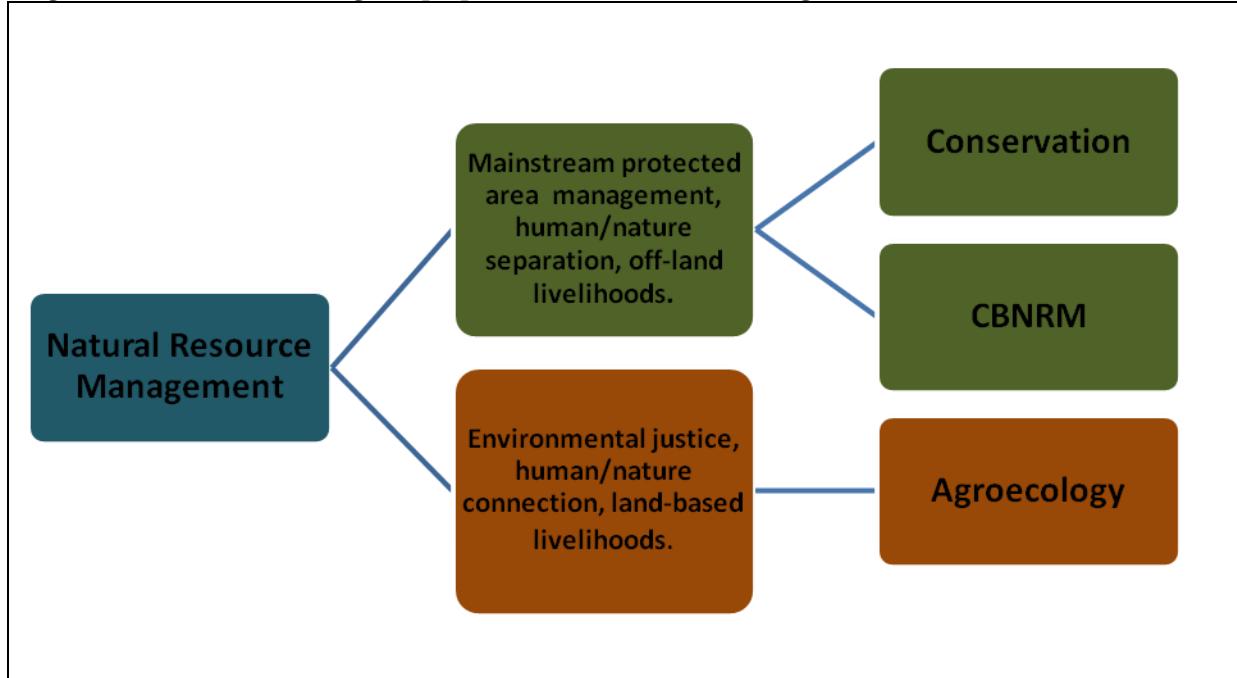
The theoretical framework from the above discussion on the tensions between conservation, CBNRM and agroecology will be used to explain how these relationships work out in Nuweberg.

2.3 Theoretical framework

Drawing from the above discussion on the tensions amongst the three concepts (C, C&A) with regards to their ideas of natural resource management, a theoretical framework is developed to explain how the various actors involved in Nuweberg settlement are dealing with this issue. The developed framework is referred to as 'tensions in meaning and purpose of natural resource management' and the analysis follows in the next chapters.

⁴ Food sovereignty is defined by LVC in brief as the right of people to define their own food and agriculture through their own regulation of the kind of food they produce and in ways that are ecologically sustainable (La Via Campesina 2007)

Figure 1: Tensions in meaning and purpose of natural resource management: A Theoretical Framework



Chapter 3: Competing Paradigms of Agriculture and Biodiversity Conservation: the Experience of Nuweberg Settlement

This chapter uses primary data to describe and analyze the logic behind the current conservation and CBNRM activities and the implications for land-based livelihoods in Nuweberg. For the purpose of this analysis a broad differentiation is made between competing paradigms of conservation and agriculture and these shall be referred to as *paradigm A* and *paradigm B*. Paradigm A identifies more with agroecology and conservation practices which advance social justice⁵ and the proponents associated with this paradigm are the inhabitants of Nuweberg and SPP. Paradigm B is oriented more towards mainstream conservation practices and industrial agriculture and the actors associated with this paradigm are Cape Nature, the government departments of agriculture, public works and the local municipality. The distinctions in day-to-day practice, however, are not black and white but there are grey areas, meaning that these two categories are not fixed and often there is some fluidity and overlapping of ideas. Such fluidity may serve as a basis for engagement between the various actors for them to work towards a more favorable paradigm that could connect conservation with agriculture. A more detailed account of such an engagement will follow in chapter four.

The theoretical framework discussed in the preceding chapter is used to look at the issue at hand (i.e. prohibition of the inhabitants from practicing agroecological farming) from the perspectives of the proponents of paradigm A versus those that are associated with paradigm B and to what socio-economic effect. By doing this the chapter aims to demonstrate how the conflicting political ideas about conservation and agriculture look in practice and in that way provide evidence to support the main argument of this paper.

What exactly are the barriers preventing the inhabitants of Nuweberg from expanding agroecological farming? The barriers observed are a lack of mutual understanding by the actors of what agriculture and conservation mean and entail coupled with the inhabitants' lack of access to land. There are various explanations for this; the next section discusses conservation and CBNRM activities and how the different actors' understandings of meaning influence these.

3.1 Conservation and CBNRM in Nuweberg:

What natural resources are conserved and managed, by whom, how and why?

The primary functions of the nature reserve include managing a water catchment area which supplies water to the whole city of Cape Town and communities around Grabouw, wild life management and provision of walking and hiking trails plus camping sites for tourists. Cape Nature's job is to make sure that water does not run dry. This is done by cutting trees that consume water, and alien plants that grow on top of the mountain, as well as preventing and controlling wild fires. These tasks are done by the employed staff at Cape Nature which includes a few of the inhabitants of Nuweberg (Interviewee: 24/07/17).

⁵ Social justice in this context should be understood as the means to rectify coercive conservation by advancing people's livelihoods in protected areas.

With regards to the CBNRM programme, Cape Nature has identified wild life hunting and harvesting of natural resources such as fire wood, *fynbos*⁶ and *proteas*⁷ as the activities to be managed by the inhabitants and in that way enhance their livelihoods. According to the nature reserve manager all of these are available to any of the inhabitants of Nuweberg on the condition that they obtain legal permits issued by Cape Nature (Interviewee: 24/07/17). The purpose of the permits is to prevent over-consumption of any of these natural resources, therefore permits help to ration the people and to allow enough time for the regeneration of the resources (Interviewee: 21/07/14). For the inhabitants this is quite a challenge as often they do not know about the procedures to follow in order to obtain the permits and in some cases they do not meet the requirements (Interviewee: 24/07/14). One member of the Nuweberg settlement highlighted that *“We are not allowed to harvest fynbos. We are not going to destroy it. We need trees for the shade. There are proteas we can harvest. They are just standing there, dying. If we touch them, we will get a fine. We do not know what to do to access it, we do not have the information. If you want to be in trouble then you must go and cut the flowers”* (Interviewee: 24/07/14). From this explanation that is given by the respondent it appears that there is a lack of a clear communication channel between the CBNRM authorities at Cape Nature and the inhabitants. On the one hand the inhabitants are saying they do not know about the procedures yet on the other hand in certain instances they do know of it but do not meet the requirements. When asked how they dealt with the problem of the lack of access to information one respondent raised that they have requested information from the nature reserve manager a number of times and they were promised it would be made available but nothing happened (Interviewee: 24/07/14). The inconsistency with the flow of information between Cape Nature and the inhabitants could be attributed to the attitude of Cape Nature towards the delivery of CBNRM which does not seem to have a clear structure and implementation strategy. It does not help ensure that the CBNRM programme is active and is conducted in a way that addresses conservation and livelihoods if the authorities who develop it demonstrate insufficient effort in communicating with those that it is developed for.

When it comes to wildlife hunting, the requirement is that one should use a rifle and not a hunting dog. Dogs are not allowed because they often do not know which animal to kill or not, thus creating problems for Cape Nature whose job is to prevent over-consumption. Due to this institutional constraint, the inhabitants have been caught engaging in what Cape Nature refers to illegal hunting which is a criminal offence. It is often the tourists who meet the requirements to obtain permits as many of them do have the right hunting tools (Interviewee: 21/07/14). The idea of only allowing the use of rifles and not dogs is according to Dressler et al (2010:8) influenced by the protection-oriented management practices which are promoted by conservation organizations such as Cape Nature. The assumption is that pre-existing subsistence livelihoods need to be improved and become modern and so in the process towards this modernity, locals are subjected to criminalization (Dressler et al (2010:8)). Illegal hunting is neither good for the nature reserve nor the inhabitants as it creates problems for both parties. For the nature reserve, illegal hunting implies difficulty with the management of wildlife while for the hunting inhabitants it means arrests and subjection to payment of fines, an issues raised by the community conservation manager as one of the challenges facing the nature reserve. When asked about how they dealt with the problem illegal hunting of wild animals and or harvesting of other natural resources, the conservation manager raised that they had quarterly meetings with the inhabitants to raise their awareness of the consequences associated with such acts (Interviewee: 21/07/14). Addressing the problem only by raising the awareness of the inhabitants about its consequences seem to miss the bigger issue, which is the permit system that is designed in ways that make it difficult for the inhabitants to access.

⁶ Fynbos is a certain type of vegetation that contains a wide range of plant species, it is common in the Western Cape and mostly used for medicinal purposes. (www.sanbi.org)

⁷ Proteas are a variety of winter flower species, very common in the Western Cape (www.sanbi.org)

Overall there is not a single CBNRM programme in which the inhabitants of Nuweberg are participating. The only members of the settlement that are involved in conservation activities such as fire management, cutting the trees and removing invasive plants are those employed by Cape Nature. According to the inhabitants CBNRM is something that exists on paper in the government policies but is not for them as nobody has come up with a clear explanation and how they could make it work to meet their livelihood needs (interviewee 24/07/14). The reasons for the non-functioning of CBNRM raised by Cape Nature differ totally from those of the inhabitants.

According to the nature reserve manager, the problem with CBNRM in Nuweberg is that the inhabitants do not come to Cape Nature to ask for opportunities. Cape Nature expects that if people have ideas they must take the initiative and not wait to be approached *“there are opportunities like making crafts and sell it to tourists, but that has to come from the people. The sky is the limit, people must grab the opportunity that’s all.”* (Interviewee 24/07/14).

Putting the blame on the inhabitants for not taking initiative for the non-existence of a functional CBNRM programme resembles the thinking demonstrated by proponents such as Mbaiwa (2004) and Boggs (2004) who also attribute the failure of CBNRM in Botswana to the local people's poor understanding of this conservation tool. Again this could be linked to the attitude of Cape Nature towards CBNRM and raises questions about its stated objective to create livelihoods for the inhabitants.

The problem with CBNRM in Nuweberg is that it is top-down, the institutional conditions such as obtaining permits and the fact that Cape Nature decides on which natural resources are to be conserved and how, all make it difficult for the inhabitants to fully participate. Barret et al (2001:499) suggest that discussions on institutions appropriate for biodiversity conservation should focus on how institutions work at multiple levels and explore which set up works best for various types of conservation. As things currently stand in Nuweberg, conservation and CBNRM activities developed by Cape Nature do not accommodate small-scale agriculture nor do they make other land-based livelihood opportunities easily accessible.

3.2 Relationship between Conservation and Agriculture: Perspectives from Paradigm A vs Paradigm B

According to SPP the primary function of agriculture should be to provide food, enhance social relations and this should be done in an ecologically and environmentally just manner. SPP's ideas stem from those of Via Campesina and are based on the notion of food sovereignty. In order to do this, SPP secures funds to assist farmers including those of Nuweberg to purchase tools and equipment such as wheel-barrows for the gardens, give technical training on how to farm in an agroecological way, and in some occasions provide seeds and seedlings. Training is done in many forms, depending on the content, for instance if the training is on soil preparation and fertility improvement then it takes place on site, in one of the gardens. Other forms of learning include farmer-to-farmer exchanges and workshops, bringing together small-scale farmers from the different provinces where SPP has networks (Interviewee: 29/07/14).

Farmers are discouraged from using improved seeds, fertilizers and pesticides but instead encouraged to use only animal manure, compost and integrated pest management methods and to grow mixed crops, herbs and fruits trees. All these farming methods are concerned with protecting biodiversity and conserving water. From this point of view the programmes manager at SPP sees a strong connection between nature conservation and agriculture and highlights that what is standing in the way of agroecology is how mainstream conservationists implement conservation. He expressed that *“we see nature conservation as the construction of enclosures to keep people away that is all what it is”* (Interviewee: 29/07/14)

The farmers in Nuweberg also see a very close connection between nature conservation and agriculture. One of the farmers highlighted that they were used to farming without using any chemicals and pruning trees and had many years of experience. Nowadays, however, they encounter minor challenges because with the changes in climate the soil and seasons are no longer the same. The farmer added that it is necessary to learn new ways to adapt to these conditions and SPP facilitates that function. She further explained that they did not use pesticides but only applied agroecological methods with the help from SPP. Overall SPP and the inhabitants, through practicing and promoting agroecology, challenge the separation of agriculture from conservation, or people from the environment and push for alternative practices that connect the two while enabling the advancement of the inhabitants' livelihoods.

Proponents of Paradigm B tend to differ in their views. According to the nature reserve manager, there could be ways to allow agricultural production to take place in the reserve, in fact the biosphere reserve was developed for that purpose (Interviewee: 24/07/14). The reserve manager explained that for agriculture to happen it would require zoning and demarcation of land. Preferably agricultural projects should take place in a space that is already disturbed. By disturbed "*I mean space that does not have nature*" (Interviewee: 24/07/14). The manager added that "*I am not saying it cannot be done, the minute we go into protected areas, each piece of land has to be de-proclaimed first, which is another process which involves public participation, ministry and this takes a very long time*". (Interviewee: 24/07/14). When asked to elaborate on their understanding of nature the manager explained that a piece of land that only has grass or no grass at all but only soil is regarded as land that does not have nature and needs rehabilitation by putting various plants to match the vegetation of the area. Once the land has been rehabilitated it should not be touched (Interviewee: 24/07/14).

This view on nature is similar to what is explained by West et al (2006:255) in the previous chapter regarding the European nature/culture division⁸ between people and places. The thinking about nature and people within Cape Nature demonstrates the same logic that exists in the international domain. Institutions such as the IUCN advance Western ideas of nature and culture, through their categories of separating people from the environment through the nature reserves (West et al 2006:256). Leach et al (1999:231) find it problematic that programmes such as CBNRM are built upon the notion of balance and harmony as the way that nature is interpreted and unfortunately this remains a guide for many nature reserve managers. This is what creates enclosures to keep people away and only allows in activities that bring in profits such as hunting, camping and hiking.

Cape Nature's understanding of agriculture is influenced by ideas linked with the model of farming that the department of agriculture supports. Referring to other nearby nature reserves where Cape Nature works, the community conservation manager mentioned that they were working very close with the department of agriculture especially around the issue of increasing household food security⁹. Such initiatives include setting up vegetable tunnels and providing seeds and fertilizers to various households. Farmers are encouraged to increase their productivity and they receive training to help them achieve this. The department of agriculture also helps them to look for market opportunities at local supermarkets. This however has not been done in Nuweberg because the land issue is still not resolved (Interviewee: 21/07/14).

⁸ This separation is discussed in the broader debates about the neoliberal agenda that commodifies biodiversity or nature (West et al 2006:256). This is beyond the scope of this paper however it is worth mentioning here just to give context.

⁹ Food security in this case refers to households having food gardens (could be as small as the size of the door) from which members can consume vegetables at any given period. (Interviewee at Cape Nature: 21/07/14)

The official at the department of agriculture responsible for the CRDP affirmed this understanding of agriculture, stating that “*the department is very good at supporting small-scale farmers, we provide them with training, fertilizers, pesticides and seed scoops. They need to be able to increase their productivity and eventually, there must be a bigger plan where they move beyond subsistence*” (Interviewee: 28/07/14). The goal of moving farmers from subsistence to commercial levels through intensification sums up the dominant logic behind the South African agricultural paradigm.

The problem of lack of access to food and poverty amongst small-scale farmers is believed to be due to low yields and so farmers are encouraged to use fertilizers, pesticides and improved seeds in order to increase the yields (Jacobs and Baiphethi 2009:466). Tomlinson (2013:88) suggests that behind this line of thinking is a larger political project which aims to maintain the dominant system of food production system and is capitalistic in nature. It is the agribusinesses that are supplying the inputs necessary for agricultural intensification that have used the crisis of food insecurity as an opportunity to generate profits. Agriculture is used as a “servant of economic growth” (McMichael and Schneider 2011:119). The problem here is that the challenges of small-scale farmers are often reduced to one thing, i.e. productivity, without addressing the broader political context in which farmers operate such as access to land, water and other natural resources.

The understanding of agriculture and conservation and the relationship between the two that is demonstrated by the local municipality is also more inclined with Cape Nature’s ideas yet accommodating to the ideas of SPP and Nuweberg inhabitants. The sustainable manager at the municipality explained that they look at sustainability at all levels i.e. social, environmental and economic. Further explaining that it was critical to look at income generating options within environmental and nature conservation. This may have to overlap with tourism, such as adding value to agricultural products by putting in a picnic basket for tourists. In conclusion she added that “*we need to look at what the environment offers regarding economic opportunities, such as agriculture. Promote urban agriculture, ensure that there is food at the household and then link it to tourism and other opportunities.*” (Interviewee: 24/07/14). The suggestions put forward by the sustainable manager demonstrates the importance of agriculture as a livelihood strategy and how this could be done in a way that benefits the inhabitants and the visitors of the nature reserve at the same time. Even though the municipality seem to be less concerned about which type of agriculture should be pursued, their ideas provide a good space to explore opportunities for merging conservation with agriculture.

The department of Public Works takes no clear position on whether or not agriculture and nature conservation are compatible. Instead, their interest appears to be focused on any land use activity that is able to bring revenue. The official at Public Works stated that their department was mainly responsible for the upgrading of infrastructure such as the roads and houses in Nuweberg and issuing of lease agreements to land users at a particular time (Interviewee: 22/07/14). When asked about the outcomes of engagement with the department, one respondent highlighted that “*Public Works does not come out straight with the answer. They say they are waiting for municipality to take over the provision of services such as water, electricity and waste disposal. We do not want to be under the municipality because we are poor we will not be able to afford rent. If we cannot pay the rent, we will be evicted. We do not want to go anywhere, we will die here.*” (Interviewee: 24/07/14). This brings us to the issue of land access and availability and how the competing views on conservation and agriculture influence it.

3.3. Difficulties with Access to Land

All actors that were interviewed in this study raised the issue of land unavailability as a major constraint. However they differed in their explanation on the type of land, its uses and why it was not available. For the members of Nuweberg farming households the unavailability of land is not because of lack of land but rather because the land suitable for farming is reserved for conservation by Cape Nature and some of it has been leased out to a private company that is cultivating pine tree plantations.

The inhabitants of Nuweberg want secure access to land primarily to practice agroecology in order to increase their household food access by consuming the produce and generating income through selling. This is better articulated by one of the inhabitants stating that *“We want land to produce food. Our question is, why don’t they give us land? We want to farm to put food on the table. Now they want to give us land that is not suitable for farming, land that has lots of rocks and situated where there are lots of baboons. This is not what we want. We want land nearby the houses (Interviewee: 24/07/14)*. This raises questions of land tenure in Nuweberg which is about the terms and conditions under which the land is held and used, thus it is a legal but also a social concept (Bruce 1998:1). Land does not come alone but is carries other natural resources such as trees, water and various animal and plant species which implies that for one to access and utilize these there needs also to be resource tenure (Bruce 1998:1). Currently the inhabitants do not have any legal access to the land and other natural resources that they wish to utilize and this is compromising their social reproduction abilities.

It is clear that land unavailability is relative, it depends on who is asking for land and what their purpose is. Currently a large part of the land is available for conservation by Cape Nature while some is used for pine tree plantations by a private company and is not available for agriculture. Unavailability is relative. The idea to prioritize land for nature conservation while marginalizing land-based livelihoods for the inhabitants is explained by Brockington and Igoe (2006: 426), who suggest that providing more space for biodiversity conservation often requires preventing any other land-based activities performed by the people living in such spaces. There is however a twist in Nuweberg with regards to land uses that are being prioritized. The twist here is that growing trees in a form of a plantation is in line with industrial agricultural practices of monoculture¹⁰ and this contradicts biodiversity conservation. A conclusion can thus be drawn to say that in Nuweberg suitable land seem to be made available for uses that generate profits for the concerned actors.

Due to frustration with the process of negotiating for land that has taken a number of years, some of the members of the community have given up. In the beginning there were between 25 and 30 households that were part of the farmers ‘association, but according to the chairperson today only 15 households are currently active. These are mainly households headed by old aged citizens who receive government grants and this help free up time which otherwise would have been used to do occasional jobs in the surrounding areas (*Interviewee: 27/07/14*). A neighbor (who came to greet as we were doing the interview outside on the veranda) informally mentioned that if people were to have access to land, then they would increase their livelihood options, rather than to rely only on occasional jobs in the surrounding farms.

A similar view on the reason why land is unavailable to the inhabitants of Nuweberg is expressed by SPP whose main role is to facilitate the process of land access through land reform specifically security of tenure.

¹⁰ Monoculture is basically the cultivation of a single crop in one given area; in the case of Nuweberg one could say it is the replacement of natural forest with pine trees.

SPP believes that when it comes to land access in Nuweberg the government is giving priority to biodiversity conservation and pine tree plantations, none of provide livelihoods for the majority of the inhabitants. According to SPP, giving inhabitants secure access to land that is suitable for farming should also be a priority especially given the history of apartheid government which prevented local people from accessing natural resources in protected areas and led to retrenchments in the area (*Interviewee: 29/07/14*).

The idea that land-based livelihoods are crucial in rural areas of South Africa is also clear from the study across the regions of South Africa done by Shackleton et al (2001:583) suggesting that land-based activities i.e. crop production, livestock keeping, natural resource harvesting accounted for 57% of the total value per household annually. The authors highlight that given the rate of retrenchment in various sectors, the important role of land-based livelihoods should be recognized by policy makers as it may play a huge role in sustaining the unemployed (Shackleton et al 2001:594).

Policy makers that are involved in Nuweberg are the various government departments and evidence from this case shows that such a recognition for the role of land-based livelihoods suggested by Shackleton et al (2001) is missing. In an interview with the coordinator of the CRDP at the department of agriculture regarding their role in Nuweberg, the official explained that farming would not be possible because land was not adequate. This information on land unavailability was taken from their colleagues at the department of public works. The official at the department of public works articulated that currently the department is leasing land out to Cape Pine, a private company that grows pine plantations. The lease is coming to an end in 2016 after Cape Pine removes the trees that are currently growing there. When asked if there were plans to give the portion of that land to the inhabitants of Nuweberg for agricultural purposes, the deputy director for the disposal of property said she did not know yet as they were still waiting for the minister to approve the land transfer a process that takes long with a lot of red tape and procedures (*Interviewee: 22/07/14*). The nature reserve manager highlighted that the land would most likely be transferred to Cape Nature after Cape Pine is out. Some of the land could be given to communities for community forestry and Cape Nature “*will rehabilitate the land and put nature back to it*” (*Interviewee: 24/07/14*). From this explanation there is no visible sign that providing land for land-based livelihoods is part of the plan in the near future, both from the side of Cape Nature and the government.

In the view of Cape Nature, the land is limited as it is mountainous. The reserve manager expressed that “*the fact of the matter is that there is no land, so farming would be unsustainable. Normally given that this is a bioreserve, land would need to be demarcated in order to allow for farming, however in the case on Nuweberg there is no land available for farming.*” A conclusion drawn here is that from the perspective of Nuweberg inhabitants and SPP there is land available, all that is required is for the government to give access to the inhabitants, however for the rest of the actors involved there is no land available for farming. There seems to be a close link between ideas about mainstream conservation and conventional agriculture that is demonstrated by its proponents, and the notion of land unavailability. The proposed paradigm shift by Perfecto et al (2010) towards combining conservation and agriculture would thus need to engage among other things with the issue of land access through land reform as per the suggestion of SPP.

Chapter 4: What would it take to link conservation with agriculture in Nuweberg? Discussion and Implications

So far this research paper has shown that in Nuweberg the dominant thinking around conservation and agriculture has not accommodated the land-based livelihood needs of the inhabitants particularly agroecological farming. A paradigm shift to recognize small-scale farmers as conservationists in their own right (Perfecto et al 2010) would require primarily that CBNRM be reconstructed in a way that enables it to meet its original goal to achieve social justice (Dressler et al 2010:6). In this chapter we revisit the prevailing debates relating to human nature relationships discussed in chapter 2 and engage in more depth with those that would most likely enable the linking of conservation with agriculture. In the attempt to do that the chapter begins by looking at what the perceived incompatibility of agriculture and conservation has meant for the inhabitants of Nuweberg. Against the barriers that are preventing the inhabitants from practicing agroecological farming discussed in chapter 3 the chapter proceeds to explore the opportunities, paying attention to the different actors involved and what it would mean for each. This discussion will lead to the conclusion of the paper in chapter 5.

4.1 Protection through Separation: A Problematic discourse

One major consequence of the ideas of pristine nature accompanied by the protectionist conservation management style that has influenced the way that nature conservation authorities carry out this task, is that land access has been denied to the inhabitants of protected areas (Adams and Hutton 2007, Brockington and Igoe 2006, Geisler 2004). Such ideas about nature cause and perpetuate the perceived incompatibility of conservation and agriculture. In Nuweberg it is the inhabitants, most of whom are unemployed, that through this process are further marginalized and this is legitimized by the rhetoric that protecting nature is important to human welfare (Geisler 2004:69).

The separation of people from nature has actually separated people from the land that they need to derive their livelihoods from. The only land-based livelihood activity that is currently taking place in Nuweberg is household food gardening which is done by 15 households in their small backyards (approximately 5m x 5m). Most of the old people are not employed, particularly those that used to work in the pine plantations but were later retrenched, and nowadays they receive old age monthly grants from the government. The majority of the inhabitants are youth that have to find employment, which is very scarce. A few work at Cape Nature (firefighting and removal of alien trees in the mountain), while others provide casual labor at the neighboring farms in Grabouw. The department of public works also provides casual employment mainly road maintenance inside the reserve. There is a private company that is operating bungee jumping which is offered to tourists, and through this a few young people of Nuweberg are offered seasonal employment. All of this is to say that the existing livelihood activities are not adequate and consistent, there is a huge need for access to more land for crop production and livestock keeping and this is what the inhabitants of this settlement have been asking for during the past seven years.

For the people of Nuweberg, most of whom were taken from different parts of the province during apartheid period and were brought to this settlement to provide labor in forestry and the nature reserve, land is more than a resource required for farming (Interviewee 24/07/14). There is a desire amongst the inhabitants for land ownership and security of tenure to compensate for the injustices of the past associated with land laws (Native Land Act of 1913, Natives Trust and Land Act of 1936 and the Group Areas Act of 1950) that restricted access and ownership of land by black and so called colored people (Hall 2009). For this reason land has both an economic and a social function.

The human/nature separation perpetuates the idea of seeing land only as a commodity while ignoring its social function, a view that is demonstrated by mainstream conservationists and conventional agriculturalists in the type of land uses they advance and the motivation behind them. The current conservation activities in Nuweberg illustrate this logic. Moving forward to address this issue requires an exploration of ways in which land and the natural resources attached to it could be utilized to serve different objectives for economic gain but also achieving social justice. Possible ways of doing this are explored in the next section.

4.2 Opportunities for a new paradigm: linking conservation and agriculture through agroecology

4.2.1 Securing Land Access and Farming Support

It has been established that in Nuweberg there is land available but currently it is not accessible for the purpose of farming given that it is a nature reserve. This research paper has also established that more land will be available for a different land use after the contract with Cape Pine has come to an end and, it is likely to be given to Cape Nature to rehabilitate, this could be a good opportunity for the inhabitants to also get access to some of that land. For such an opportunity to be used in a way that would benefit the inhabitants in terms of their livelihoods and Cape Nature to meet its conservation objective, it would require that policy makers in government acknowledge the importance of land redistribution and its role in enhancing household food production in rural areas (Hall 2009:28).

There have been family and communal-based projects supported in the context of state land disposal programmes, given to black farmers in the form of ownership or long leases with various tenure arrangements. Given that such land redistribution does not occur on the basis of market transactions but through tenure upgrade on state land or direct transfers, household food production has been feasible (Hall 2009:29). Such a model could work in Nuweberg since it is on state land and also given the small population size of 45 households which makes it easier to identify and profile and also the fact that household farming is already happening and was an initiative from the ground.

Post settlement support to land reform beneficiaries has largely been identified as the major weakness of the programme in South Africa (Lahiff 2007:1590). The provision of technical support to farmers is largely the role of the department of agriculture, however a number of NGOs such as SPP do also play this role in their limited capacity. The most prevalent reason for poor post-settlement support is the combination of the government's expectation that farmers engage in commercial agriculture and lack of staff and financial capacity in the department of agriculture to reach all the farmers (Lahiff 2007:1590).

The case of Nuweberg, however, has some advantages to escape such challenges. The department of agriculture has already identified Nuweberg settlement as a priority area in the region to be supported within its CRDP initiative (Interviewee: 27/07/14), SPP is already supporting the farmers with technical support pertaining to agroecological farming and there is rich farming and tree management experience within the members of the settlement.

In addition there is Cape Nature with a mandate from the government and resources to support the inhabitants pursue and/or enhance their land-based livelihoods through CBNRM. From this pool of resourceful institutions the inhabitants could be well supported with basic equipment such as water tanks for harvesting of rain water, fencing to keep the livestock away from the crop plots, various plants and trees to integrate with the crops just to name a few. This would require that all these actors re-think their intervention strategies individually and collectively as they are already part of the working committee, such as space has a potential and could be strengthened for more positive outcomes.

In the next sessions a brief discussion of what those individual actor strategies could entail, looking at reviving CBNRM and strengthening agroecology as the two key areas.

4.2.2 *Reviving CBNRM*

A lot of skepticism has been raised about the potential of CBNRM to conserve natural resources while providing opportunities for livelihoods of the inhabitants of protected areas (Blaikie 2006, Kumar 2005, Leach et al 1999). However, some commentators insist that there is still hope (Büscher and Whande 2007, Dressler et al 2010). A starting point would be a brief reminder about why CBNRM as a policy instrument was developed particularly in South Africa, and to look at those elements that make it weak and use those as entry points to strengthen this tool.

The idea to implement CBNRM came about during the early 1980s in response to structures of apartheid and neo-colonial government which prevented local people from accessing natural resources. However the institutional set up to support CBNRM was market-based, which led to its failure (Dressler et al 2010:9). Even though later in 1994 when apartheid ended, the new government together with the conservationists tried to advance more people-oriented conservation policies, the existing structures made it difficult for CBNRM to grow (Dressler et al 2010:9). In addition to being market-based (like the case of wildlife management in Botswana) the conception and implementation of CBNRM have been criticized for being top-down with a lack of clarity on what natural resources are to be managed and how (Blaikie 2006, Kumar 2005). These shortcomings possess entry points to explore opportunities to make CBNRM work in Nuweberg and also in other similar cases elsewhere. In the next sessions a look at what the implications for the various actors involved in Nuweberg would be in this regard is provided.

The community and natural resources components of CBNRM are missing in the sense that those that are meant to manage the natural resources do not know that this is what is expected of them nor do they know which resources are to be managed and under which conditions. This would require an acknowledgement of the CBNRM shortcomings from Cape Nature followed by a commitment to go back to the drawing board in an attempt to start examining the issues afresh. A bottom-up as opposed to top-down approach would likely be more effective and have a higher chance of yielding positive results. After all, CBNRM was founded on the assumption that the people living in a particular environment would be best positioned to conserve and manage it given their familiarity and experience with the area (Kumar 2005).

A bottom-up approach in the revival process of CBNRM is likely to give a clearer picture of what knowledge and skills relating to nature conservation and natural resource management exist and how these can be used optimally to meet the objectives of all the main parties. This would create a more equal level for engagement between Cape Nature and the inhabitants which currently is missing and is making it difficult for the inhabitants to access the programmes and necessary support that are meant to help them. In addition this would make it much easier for the municipality, department of agriculture and SPP to also align their kinds of interventions accordingly.

Changes in policy at the top would need to be informed by practices and experiences on the ground, there is an opportunity for such in Nuweberg's case.

4.2.3 Strengthening the Support for agroecology

The ecological damages such as the loss of biodiversity, soil erosion and water pollution associated with the industrial model of agriculture have been discussed by many scholars (Altieri 1998, 2009, Holt-Giménez 2008, Weis 2007, 2010). An alternative model of farming such as agroecology is not only an option for people that seek to farm inside or near protected areas. It is a model that has been advocated globally for poorly-resourced small-scale farmers because it increases food productivity while enhancing biodiversity and is low on input costs (Altieri 1998). In South Africa (and many other countries) this story is unfortunately less popular in the government agricultural support discourse and as a result is has not made it into policy yet.

Attempts have been made by SPP in collaboration with other national NGOs, community based organizations and FSC, to persuade the government department of agriculture both nationally and provincially to develop agroecology policy (SPP 2012). The response from government has been the development of a national agroecology strategy which, if successfully implemented, could in the future lead to an agroecology policy (DAFF 2013). The strategy basically acknowledges that small-scale farmers should be free to practice agroecology and the government should support this, however a detailed explanation of what this would mean in practice is lacking. Also there appears to be a lack of understanding of what agroecology is about and tries to achieve. For the SPP network the existence of the agroecology strategy provides a point of entry into policy negotiations which could be strengthened. Agroecology as a farming practice could be used as a tool to challenge the romanticized idea of the wilderness that continues to influence how mainstream conservationists view agriculture as a threat to conservation (Adams and Hutton 2007:154).

I. Implications for Cape Nature

An understanding by conservationists that there are various kinds of agriculture such as agroecology which have a potential to support biodiversity conservation is crucial. Often mainstream conservationists and policy makers do not have a thorough understanding of how dynamic the species they are conserving and managing are and refuse to engage across science and social science disciplines that are usually well informed about such, in a particular area (Perfecto et al 2010:97). A challenge for the conservationists at Cape Nature is to be open to explore other scientific knowledge that already exists out there, starting with what the farmers in Nuweberg know and are doing in their backyards, engage with research in this field to learn from cases where agriculture and conservation have been linked successfully.

II. Implications for the department of agriculture

The department of agriculture is primarily responsible for the provision of agricultural support to small-scale farmers through extension services. The delivery of extension support includes providing information on improved technologies, training and marketing to help farmers increase productivity and improve livelihoods. Farmers are provided with seeds, particularly drought resistant maize, fertilizers and pesticides all of which is associated with the dominant conventional model of intensification in order to increase productivity (Wiggins 2009, Altieri 2009). The common model of extension delivery is top-down in nature and this is quite problematic because it is a one-size fit all approach that is based on the assumption that all small-scale farmers in the country practice the same kind of agriculture (Turner and De Satgé 2012).

The problem with this approach is that it does not accommodate the needs of the farmers that practice alternative forms of agriculture such as agroecology in Nuweberg. The challenge for the department of agriculture, particularly extension services, is to recognize this limitation and explore alternative approaches through working closely with NGOs such as SPP and learning from the farmers' experiences on the ground. NGOs tend to provide extension support where the state is inadequate, and their strategies emphasize developmental roles beyond agriculture, partly informed by their understanding of the nature of rural livelihoods (Turner and De Satgé 2012).

In the view of Anderson and Feder (2004:43) for instance, effective extension involves sufficient and timely access to relevant advice, giving enough space for farmers to adopt the new technology and to assess whether it suits their socio-economic and agroecological conditions. They suggest that farmers should be viewed as social actors who do their own trials all the time and spread the information through their own networks. The farmer to farmer learning exchanges that SPP facilitates are a possible platform also for the involved staff members of the department of agriculture to participate, in that way begin to re-work their intervention strategy through learning from others and this would ultimately inform policy.

III. Implications for SPP

SPP emulates the worldview of LVC by focusing its work on the promotion of agro-ecology and supporting the building of rural social movements towards attaining food sovereignty. This NGO has a long history and experience in doing advocacy work relating to land reform and alternative agriculture, a useful and required strength to help take this task forward, however there is always room to improve by re-strategizing ones approach (Interviewee 29/07/14). SPP is currently part of TA, a collaboration of nine land and agricultural sector NGOs working in nine provinces of South Africa to strengthen civil society and to support and connect community struggles in land and agrarian transformation (Tshintsha Amakhaya 2012). Altieri (2009:111) suggests that a move towards a socially just and environmentally friendly type of agriculture such as agroecology would require a coordinated international effort, pulling together various social movements in the rural sector and civil society organizations, to put political pressure on various governments.

TA provides a great opportunity for learning and sharing of experiences between the NGOs and the various groups of farmers and activists they support, in order to help strengthen their advocacy work for a greater impact. Earlier in this research paper it was established that agroecology apart from being a science it is a political tool to transform industrial agriculture (Altieri 1998). In practice this would require that SPP and its network document cases of land access for agroecological production, demonstrating how the land was accessed, which tenure arrangements seem more appropriate and to show how it is enhancing livelihoods and biodiversity and link that to academic social research on the same issues. This would mean strengthening relationships with academic institutions to have continuous dialogues on how to link research with policy, in that way strengthening their advocacy capacity which is likely to bring about desirable results.

Chapter 5: Conclusion

This research has sought to explain the reasons why agriculture and conservation are perceived as separate issues in protected areas, how this separation impacts the livelihoods of inhabitants, which political institutions facilitate or address this and how the situation can be improved. The paper was approached from a political ecology perspective in order to provide a critical analysis of the relationships between theory and primary data pertaining to land and environmental management and the way nature is understood.

Through investigating various approaches to conservation and agriculture obtained from the literature review and primary data, the paper established the sources of tension between conservation and agriculture. The tension stems from the competing ideas about human/nature relationships and how the various actors in the study have different understandings of the meanings, roles and practices of conservation and agriculture. The problematic view is the one that separates humans from nature and as a result separates inhabitants of Nuweberg from the land, a primary resource that is required for land-based livelihoods. This view is, unfortunately, the dominant one that is held by policy makers and conservationists, mainly the government department of agriculture and Cape Nature.

While the government and Cape Nature's policies for small-scale farmer development and natural resource management under CBNRM were developed with the intention of enhancing the livelihoods of the farmers and inhabitants of protected areas, their interventions have actually done the opposite. Evidence from the primary data has suggested that policies informed by the human/nature separation have marginalized people's land-based livelihoods. Agriculture in particular has not been considered but instead it has been seen as the biggest threat to conservation. The government department of agriculture has perpetuated this separation by only supporting one model of farming i.e. industrial agriculture which has negative ecological consequences at odds with biodiversity conservation. From the side of Cape Nature the human/nature division has been perpetuated through top-down approaches to CBNRM; the organization shows no interest in learning about agroecological farming practices that are already taking place inside the settlement.

This paper maintains that conservation and agroecological farming are actually compatible and that there are opportunities to link conservation and agriculture in Nuweberg and beyond. This is a possible task that requires well-thought strategies to turn the weaknesses of CBNRM into an opportunity to expand agroecology. The government remains the institution with the most responsibility to support small-scale farmers in South Africa. However, it has not taken up this task in a way that would yield desirable results across various categories of farmers. Farmers that practice alternative methods of farming such as agroecology have not been catered for. Similarly Cape Nature has not provided support for land-based livelihoods through CBNRM in a way that meets both its objectives and those of the inhabitants. Illegal harvesting of natural resources and hunting coupled with high level of unemployment in the area will most likely continue, until such time that intervention programmes of the government and Cape Nature are re-visited and adjusted to address the marginalization of livelihoods.

NGOs, social movements and small-scale farmers in South Africa and beyond continue to push for the transformation of industrial agriculture through the adoption of agroecology as an alternative model. The farmers of Nuweberg are part of this struggle. With support from SPP and the network of agroecological farmers they are showing resistance to industrial agriculture. This, however, is still limited and has not caused any changes in policy yet. For a bigger impact to happen different advocacy strategies may be necessary. It is beyond the scope of this paper to provide a detailed account of such strategies but this could be a possible area for future research. Future research may seek to explore cases where agriculture, in this case agroecology or even related farming practices and conservation have actually been linked and produced desirable

results, paying attention to actions that influenced the development of enabling policies and the kinds of livelihood trajectories that resulted from it.

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Appendices

Appendix 1: List of informants

Name of participant	Name of institution	Date of interview
1. Monwabisi	Cape Nature	21/07/14
2. Sabelo	Cape Nature	24/07/14
3. Lilian Krieger	Nuweberg	25/07/14
4. Davine Slingers	Nuweberg	25/07/14
5. Marcia Olifant	Nuweberg	25/07/14
6. Karlene Cloete	Nuweberg	25/07/14
7. Este Wessels	Public Works	22/07/14
8. Emma Patientia	Department of Agriculture	28/07/14
9. Annelie Rossouw	Theewaterskloof Municipality	24/07/14
10. Henry Fredericks	Surplus People Project	29/07/14