A thesis submitted to the Department of Environmental Sciences and Policy of
Central European University in part fulfilment of the
Degree of Master of Science

Towards understanding private conservation in the Cape Winelands of South Africa: Developing a Theory of change

Maria Boukje HONIG

May 2013

Budapest

Erasmus Mundus Masters Course in Environmental Sciences, Policy and Management

MESPOM

This thesis is submitted in fulfillment of the Master of Science degree awarded as a result of successful completion of the Erasmus Mundus Masters course in Environmental Sciences, Policy and Management (MESPOM) jointly operated by the University of the Aegean (Greece), Central European University (Hungary), Lund University (Sweden) and the University of Manchester (United Kingdom).

Supported by the European Commission's Erasmus Mundus Programme

Education and Culture

Erasmus Mundus

Notes on copyright and the ownership of intellectual property rights:

(1) Copyright in text of this thesis rests with the Author. Copies (by any process) either in full, or of extracts, may be made only in accordance with instructions given by the Author and lodged in the Central European University Library. Details may be obtained from the Librarian. This page must form part of any such copies made. Further copies (by any process) of copies made in accordance with such instructions may not be made without the permission (in writing) of the Author.

(2) The ownership of any intellectual property rights which may be described in this thesis is vested in the Central European University, subject to any prior agreement to the contrary, and ma y not be made available for use by third parties without the written permission of the University, which will prescribe the terms and conditions of any such agreement.

(3) For bibliographic and reference purposes this thesis should be referred to as:

Honig, M.B.H. 2012. *Towards understanding private conservation in the Cape Winelands of South Africa: Developing a Theory of change.*
Master of Science thesis, Central European University, Budapest.

Further information on the conditions under which disclosures and exploitation may take place is available from the Head of the Department of Environmental Sciences and Policy, Central European University.

Author's declaration

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

Maria Boukje HONIG

CENTRAL EUROPEAN UNIVERSITY

ABSTRACT OF THESIS submitted by:
Maria Boukje HONIG for the degree of Master of Science and entitled:
Towards understanding private conservation in the Cape Winelands of South Africa: Developing a Theory of change

May, 2013.

This study aims to investigate the enabling conditions under which private biodiversity conservation change is most likely to take place using a case study of the Biodiversity and Wine Initiative (BWI) in the Cape Floral Region of South Africa. Using a conceptual framework drawn from organizational theory, this paper argues that Theory of change was constructed upon two findings. Firstly, it is crucial to understand the value system of the participant in order to identify how biodiversity conservation change takes place and strategize the intervention effectively. This finding aids in linking individual behavioural change theory and conservation initiatives, moving beyond behavioural change and considering the role of learning, values and personal agency of farmers. Secondly the programme adopted an inclusive approach to gain buy-in from these farmers and influenced change toward biodiversity conservation. In the current phase of the BWI, the inclusive approach may need some serious deliberation in light of the imminent risk of capacity constraints on the effectiveness and efficiency of the programme. However, BWI cannot be conceptualised as being fully inclusive, as it has also uses the exclusive feature of the BWI "Champion" tier for outstanding members and potentially other exclusive features in the future. It remains to be seen as to whether becoming predominantly an exclusive programme will solve the capacity-related risks. It is recommended that the BWI should consider strategies for developing farmer agency and increase its core capacity, in order to maintain the sustainability of the programme.

Keywords: Private biodiversity conservation; South Africa; Theory of change; agency; inclusive approach.

Acknowledgements

The journey over the last five months has been long and hard but to have finally come to this point of handing in my thesis, I can only think about all those who helped me get here. I am most grateful to Samantha Petersen, my co-supervisor, for all her persistent, attentive and caring guidance in the field and after. This is the second period in my life in which she has mentored me to achieve great things and for this I am eternally indebted to her. A big thank you to my supervisor László Pintér for his thorough and reliable supervision through cyberspace, a mode of communication that can be difficult for most but was made simpler by László's proactive, clear and constructive capacity to communicate and guide this way. I must also thank my parents and my partner Richard Slater-Jones who supported me through this period, helping meet my "basic needs" of eating, sleeping, being clothed and de-stressing me in the best ways they know how. I also received a lot of support and guidance from my dear friend Dylan McGarry who read and edited my work in its final stages, while simultaneously taking over the role of meeting my "basic needs" where my parents fell short. I am grateful to Antonia Sutter for coming to a few of my interviews with the farmers. Also, thank you Prof. Clifford Shearing and other researchers at the Centre of Criminology, University of Cape Town, for allowing me to present and discuss my findings, gaining huge insight from the wealth of professional and academic human resources at the centre. I am very grateful to Martin Albertus, Inge Kotse and Joan Isham from the Biodiversity and Wine Initiative for aiding my research, particularly in their capacity to help me network and get interviews, for explaining the operations of the programme and guiding me through my thinking. Last but not least, a massive thank you to all the participants of this study for the hours and hours of interesting discussions, insights shared and laughs had from the most beautiful farm settings in the Cape Floral Region of South Africa, without you all there would be no thesis.

List of Abbreviations

AMPR	Awareness, Motivation, Pathway, Payoff/Reward
BWI	Biodiversity and Wine Initiative
CFR	Cape Floral Region
EMP	Environmental Management Plan
IPW	Integrated Production of Wine
USP	Unique Selling Point
VBN Theory	Values-Beliefs-Norms Theory
WOSA	Wines of South Africa
WWF	World Wide Fund for Nature

List of Tables and Figures

Chapter 1 General Introduction

1.1 Background and motivation for the research

We are currently living beyond what is considered a safe operating space for humanity and the biosphere and exceeding a number of planetary boundaries (Rockström et al., 2009, Barnosky et al., 2012; WWF 2012). The current nature and scale of economic activity has already surpassed biophysical thresholds producing what Rittel and Webber (1973) classified as "wicked problems". As a consequence, environmental, economic, social and biophysical systems become increasingly more difficult to manage, with solutions often creating unforeseen new problems (Rittel & Webber,1973; Rockström et al., 2009). The crossing of planetary boundaries that result in biodiversity loss, ecological dysfunction and consequent impacts to human lives and economies demands a shift in perspective on the debate about how global conservation priorities should be set, who is responsible and practical mechanisms for conservation of biodiversity.

While global equity and poverty eradication dominate the global agenda, to achieve these goals we would need an economy that is 250 times bigger than it was 50 years ago (Jackson, 2009). However, even the current growth path, which is a small fraction of what is needed, is already in an unsustainable territory. An economic overhaul is needed to address these concerns and as Newell (2008:1073) cautions the dangers of private entities picking up the slack during such transformation, while the natural world carries the costs:

> *While it is appropriate that the states assumes primary responsibility for addressing the poverty of its citizens, the challenge is to avoid a situation in which wealth and profits are captured by private entities, while the social and environmental costs produced by the process of wealth creation are 'externalized', left to the state and the public to pay for and absorb.*

Although it may be the responsibility of the private sector to 'internalise' environmental and social costs of production, the end goal of becoming sustainable is indeed a moving target where everyone is responsible, with an end product approach to sustainability somewhat futile, and rather should be seen as an on-going process of social change (Wals et al., 2009).

In this study, I specifically consider the role of the private sector in such economic transformation and what potential there is for ecologically sustainable development. I investigate these realities and consider potential responses to these challenges in a specific context, and argue that engaging the private sector to address environmental risks is not only crucial to solving many of the key environmental challenges humans face but that the private sector will be willing, given certain enabling conditions, to reshape their businesses. Failing to do so, businesses will increase their own vulnerability that will affect their competitiveness and profitability by increasing their exposure to a variety of crucial liabilities such as operational, regulation, reputation and financial risks (UN Global Compact & IUCN, 2012). In addition, consider that within a transforming private sector there is room for new forms of economic investment that encourage personal human environmental agency, creating new possibilities for innovation and resilience, which could help rather than hinder future sustainable development.

There is growing recognition that the preservation of ecosystem services and biodiversity is unachievable by protected areas alone (WWF, 2003). With only 18 million km^2 of protected areas in the world (Jenkins et al., 2004), it is not surprising that much of the world's biodiversity falls outside the borders of these protected areas. The steady expansion of land-use practices puts increasing emphasis on the role of the private land owner in the conservation of rapidly disappearing natural habitats (Gallo et al., 2009). Today's mainstream natural resource management systems are fraught with barriers and weakness, preventing the effective conservation and management of these natural areas (McCarthy, 2007). The most commonly peddled of those are: poor compliance; inappropriate enforcement of environmental legislation; an inadequate legal framework; limited capacity within government; lack of

departmental co-ordination; lack of accountability, leadership or responsibility; and high bureaucratic hurdles (McCarthy, 2007). That being said, in the last decade there has been a significant shift in around how and why conservation should be practiced (Arsel & Büscher, 2012).

This 'new conservation' ethic is characterised by increasing decentralisation of government control over resources towards the local community level, a greater emphasis on human development and a neo-liberal approach to financing conservation through market mechanisms (Hulme & Murphree, 1999). Designing voluntary instruments to capture value through markets and create payments and support for implementing conservation in agriculture is becoming a mainstream approach to preserving ecosystem services (Jordan & Warner, 2010). These instruments have partially emerged from "virtuous circles" in rural development research that defines the positive feedback loops that integrate and enhance rural resources and assets that can be natural, human, social, cultural, political and financial (Selman & Knight, 2006).

The virtuous circles process is the joint production of commodity and non-commodity outputs including ecosystem services that, if working efficiently will deliver value from both (Selman & Knight, 2006). The expected overall benefits of implementing market-based measures would include the development of markets and alternative incentive systems; reduced costs to conserve land and maintain ecosystem services through payments and tax rebates; the provision of ecosystem services and amenities; and increased cooperation, integration and policy innovation internally and externally of the agriculture sector (Selman & Knight, 2006). Studies have shown the successful implementation of market-based instruments in agriculture in Australia, the United States and Western Europe (Selman & Knight, 2006; Batie, 2003; Steyaert & Jiggins, 2007), generating interest in other parts of the world.

In this thesis, I will explore the conditions under which change is most likely to take place in the context of private conservation through the use of voluntary mechanisms. In other words, the aim of this study will be to articulate a

Theory of change for the system. Theories of change (described in detail in chapter 2) have become a popular area of research in the last two decades in fields such as public policy, health, community participation and the environment (Darnton, 2008; Stein & Valters, 2012). Progress in change theory for environmental programmes and campaigns (such as recycling, waste reduction, conservation, household energy use and consumption etc.) has paid most of its attention to pro-environmental behaviour (Darnton, 2008; 2008; Stern, 2000), public and stakeholder attitudes (Michel-Guillou & Moser, 2006; Svenfelt et al., 2011; Wilson & Hart, 2000; Elmendorf, 2003; Fischer, 2010) and social norms and values (Ballet et al., 2007; Vollan, 2012; Elmendorf, 2003; Moon et al., 2012; Ostrom, 2005), to name a few.

In terms of land use and natural resource management, some theoretical foundation has emanated from modelling land use and land use change (Briassoulis, 2000). More recent research investigates how farm management responds to biodiversity conservation guidance provided through voluntary market-based mechanisms (Morris et al., 2000; Williams et al., 2012; Debby & Dick, 2012; Higgins et al., 2008; Doremus, 2003; Merenlender et al., 2004; Lewis et al., 2011). This area of research is proliferating, as the use of voluntary mechanisms becomes more popular in the current wave of decentralisation and privatisation of environmental management. However, despite the growing body of work in this area, there has been little focus on linking individual behavioural change theory with these conservation initiatives, and moving beyond behavioural change and considering the role of learning, values and personal agency. This justifies an investigation into this claim with the overall aim of adding empirical value to the field of conservation-oriented behavioural change research and considering the role of agency development of farmers. It should also be noted that throughout this paper I refer to wine farmers as ‘members’, ‘participants’ and ‘land-owners’.

In this study, I will explore the conditions under which change is most likely to take place in private conservation of biodiversity. I will do so using a case study approach.

1.1.1 Choice of study site

Well known throughout the world for its high biodiversity rates, South Africa contains three of the 34 internationally recognised “biodiversity hotspots” (Myers, 2003), the majority of which do not fall within protected areas. The Cape Floral Region (CFR) hotspot contains more species in 90,000 km^2 than the whole of Europe (Goldblatt & Manning 2002). There are two distinct vegetation types. The first is known as Fynbos, which covers 80 percent of the total land area (ca 90,000km^2) and the second is known as Renosterveld, which is largely located in the lowland areas and of which only four percent of the original coverage remains.

The last remnants of both these vegetation types are threatened by intensive agriculture, urban development and invasive alien species (Rouget et al., 2003). Until recently, the largest of these threats was the predicted expansion of viticulture (or wine farming) with nearly 95 percent of South Africa’ wine-growing taking place in the CFR (Rouget et al., 2003; Fairbanks et al., 2004). However, the impacts of climate change on the suitability and availability of land for viticulture are substantial (Hannah et al., 2012), leading to possible establishment of vineyards at higher elevations. This will increase the pressure and impacts on upland ecosystems and may lead to conversion of natural vegetation.

Currently, only 6.6 percent of South Africa’s terrestrial area is protected while more than 85 percent of the country is in the hands of private and communal landowners. Much of that privately held land is considered rich in biodiversity and in principle available for conservation (SANParks 2004). A similar ratio is evident in the CFR where the potential for private land conservation is nine times greater than that of statutory conservation areas (Gallo et al., 2009). This places responsibility on private landowners for protecting critical biodiversity areas, managing these areas effectively, and implementing best production practises.

In recent years, these responsibilities have gradually been taken up by private landowners of the CFR as they have become more aware of biodiversity and its value (to them and to society) and the failure of mainstream natural resource management to address conservation needs (BWI, 2012). There has been a popular uptake of voluntary market based instruments, also labelled as Business and Biodiversity Initiatives, for supporting biodiversity conservation, stewardship and best management practices of farms in the CFR, most notably in the wine, potato, rooibos, ostrich, fruit and flower sectors (Pence, 2012). Among them, is the Biodiversity and Wine Initiative (BWI), which was designed to address the aforementioned challenges and seize opportunities in the viticulture sector.

The BWI's aim is to protect and conserve threatened natural heritage within the Cape Winelands whilst maintaining productive viticulture through a collaborative effort by partnering with the South African wine industry and the conservation sector (BWI, 2012). The programme launch coincided with an industry initiative to develop a sustainability strategy, motivated by a desire by the industry to differentiate itself on global markets. This also provided the promise that a market mechanism could also incentivize environmentally friendly behaviour. The BWI's objectives are summarised below and detailed on their website (CAPE 2009; BWI 2012):

- "Prevent further loss of critically endangered or threatened habitats as a result of viticulture expansion";
- "Increase the total area set aside as natural habitat in contractual protected areas through landowner voluntary stewardship agreements; promote a mind-set shift and changes in farming practices that enhance habitats for biodiversity";
- "Mitigate farming practices that impact negatively on biodiversity, both in the vineyards and in surrounding natural habitat"; and
- "Raise consumer awareness through marketing the environmental and sustainable production practices adopted by the wine industry."

The benefits of the BWI include branding and securing niche markets; free extension support on sustainable farming methods and natural resource management; increasing conservation sector benefits from best practices in the wine industry; and the preservation of threatened habitats and ecosystem services (CAPE, 2009; BWI, 2012). The BWI also regularly organizes producer days and field trips. The theory was that through the extension service, producer days and field trips the farmers would be taken on a 'journey' leading to improved management and ultimately increased sustainability.

One of the main outputs of the programme is a set of Biodiversity Guidelines that have been developed to integrate into industry-wide guidelines for sustainable production, the Integrated Production of Wine (IPW) scheme. IPW standards are monitored by a process of regular self-evaluation and independent verification. The Biodiversity Guidelines aim to address key issues such as management of invasive alien plants, maintenance of buffers around wetlands and riparian areas, appropriate fire management and protection of priority vegetation types (BWI, 2012). Furthermore, all BWI producers must comply with the requirements of the IPW scheme as minimum criteria for being a BWI member.

As part of articulating a business case, the BWI continues to work closely with Wines of South Africa (WOSA), the industry's generic export marketing body, and producers themselves to incorporate biodiversity into a unique selling point in order to gain a competitive marketing advantage and point of differentiation in the global wine market. Additionally, the BWI encourages and facilitates the development of wine tourism routes for offering a unique product of both wine and the biodiversity to visitors to the farm. Creating biodiversity wine routes is a new ecotourism angle for South African wine tourism (BWI, 2012).

The CapeNature Stewardship Programme is a partner of the BWI, with the role of entering private landowners into formal or informal long-term contracts and secures prime critical endangered habitats in the landscape. These

contracts gain commitment from landowners to conserve land that is set-aside and then expected to be responsible for implementing best management practices or guidelines. Benefits to the landowner could include property rate and tax rebates, assistance with land management, alien plant clearing and positive media coverage. It is important to note that not all BWI members have signed up in formal stewardship agreements (Mortimer pers. comm.).

The BWI has a membership programme tiered into ‘champion’ and ‘member’ status. BWI Champions make a significant commitment, to conserving biodiversity and practicing environmentally sensitive management on the farm and in the cellar, by entering long-term stewardship agreements that are regularly audited by second or third parties (BWI, 2012). Producers must score a minimum of 75 percent for the entire IPW assessment for both farm and cellar and 85 percent on their BWI audit. BWI Champions must have a comprehensive Environmental Management Plan (EMP) that is developed and implemented and 10 percent of the total farm must be natural and set aside for conservation.

The BWI has been recognised as an exemplar of a “successful” intervention as a result of widespread adoption and associated behavioural shift to biodiversity conservation in the viticulture sector (Pence, 2012; BWI, 2012). Of the 102,000 hectares currently planted to vineyards, another 130,717 hectares of the remaining natural areas are in private landowner conservation stewardship agreements with the BWI (Pence, 2012; CAPE, 2009; BWI, 2012). This case study provides an opportunity to explore the more general question of how change takes place and how we bring about change in an agricultural system where engaging with private landowners is key.

1.2 Research aim and objectives

This study is an investigation of the enabling conditions under which biodiversity conservation change is most likely to take place in an agricultural

context. This is achieved through a case study approach investigating the wine farmers and partners participating in the Biodiversity and Wine Initiative in the Cape Floral Kingdom of South Africa.

Objectives:

1. To investigate the conditions and factors under which farmers in this case study have, and are likely to, reshape their practises towards biodiversity conservation and best management practices
2. Using these findings I refine existing theories of how change takes place with regard to biodiversity conservation more generally.

Chapter 2 Literature review

One would assume to bring about conservation change we need to change the way people engage earth systems, and to do this effectively we need to better understand how humans behave and how to influence their behaviour. I consider concepts, theories and models originating from four bodies of literature to inform this study i.e. behavioural theory, organisational theory, collaborative action research and economic theory. I conclude this chapter with a review of pertinent thoughts on the importance of developing a Theory of Change and the role of this concept in bringing about the changes desired in a system.

Behavioural theories and models have offered much to heighten our understanding of how to influence practices and drive change in a management system. Rational choice theory (Kolmuss & Agyeman, 2002) claims that the availability of information generates knowledge, which shapes individual awareness, leading to a change behaviour and action.

Knowledge → Awareness → Behaviour/Action

Similarly, Ramsey and Rickson (1977) argued that knowledge was linked to human attitudes and attitudes to behaviour (Ramsey & Rickson, 1977). In light of these theories, it has been traditionally understood that environmental education can change behaviour by making people more knowledgeable and therefore more aware of the environmental challenges that exist, which in turn wills action in more responsible ways. While these linear models seem logical, it is widely noted that in practice information alone is insufficient to lead to action (see for example Kolmuss & Agyeman, 2002; Demos/Green Alliance, 2003; Talbot et al., 2007). As a consequence, applying isolated efforts to improving knowledge through education does not lead to a change in behaviour (Schultz, 2011; Kellert, 1990). This is further supported by

Heberlein (2012) who describes the knowledge-deficit model or cognitive fix, which demonstrates that attitudes have little to do with behaviour. Despite these recent, environmental campaigns continue to focus their efforts on awareness-raising as a “silver bullet” solution to shifting individuals to environmentally responsible behaviour.

The Theory of Planned Behaviour is a model developed by (Ajzen, 1985), based on an earlier model, the Theory of Reasoned Action (Ajzen & Fishbein, 1980), which identifies three main contributing factors to human behaviour including:

1. **Behavioural beliefs:** behavioural outcomes that are evaluated and result in a positive or negative attitude towards the behaviour;
2. **Normative beliefs:** expectations of others, for example as perceived pressure by the group; and
3. **Control beliefs:** conditions that support or inhibit the behaviour – their evaluation contributes to forming perceived behavioural control.

These three factors feed into the formation of an intention to perform a behaviour, which, circumstances permitting (e.g. having the right tools available to act), leads to a performance of a behaviour. The Theory of Planned Behaviour is likened to the Model of Concern [Stern et al., 1995 – Figure 2.7, later developed into the Values-Beliefs-Norms (VBN) theory of environmentalism (Stern, 2000)]. Model of Concern similarly places beliefs above attitudes, being more broad-based expressions of a general worldview, and less specific to behaviour. However, (Stern, 2000) places personal values and norms before beliefs, as states that they are a more broad expression of behaviour and constructed earlier in life than beliefs and attitudes. (Stern, 2000) emphasizes that environmentally significant behaviour depends on a broad range of causal factors, both general and behaviour-specific and that a general theory of environmentalism may therefore not be very useful for changing specific behaviours. He goes on to say that because different kinds of environmentally significant behaviour have different important causal factors, each target behaviour should be theorized separately (Stern, 2000).

Rogers (1962) explores behaviour change in the Diffusion of Innovations theory as a diffusion process by which an innovation is communicated through certain channels over time among the members of a system. Rogers (1962) suggests that there are four main elements that influence the spread of a new idea: the innovation, communication channels, time, and a social system, all of which rely a great deal on human capital. Additionally, within the rate of adoption, there is a point at which an innovation reaches critical mass. The moment of critical mass, is what (Gladwell, 2000) terms a tipping point. It sufficient to achieve approximately 20 percent adoption of an innovation beyond, which points it "is often impossible to stop the further diffusion of a new idea" (Rogers, 2003: 274). A metaphor that best illustrates ways of contributing to tipping points is that by Braithwaite and Drahos (2001) termed "Ocean of Cascades", where he describes the effect of one grain of sand falling on a pyramid of sand and causing it to collapse, being likened to behaviour change in one individual leading to a change in behaviour of another and so on and so on, causing the entire system to change.

Organisational theory has made large contributions to identifying the conditions under which the organizations in the case studies have, and are likely to, reshape their practices (Simon, 1947; March & Simon, 1958; Cohen et al., 1972; Cyert and March 1963; March 1991). A conceptual framing that includes four elements – awareness, motivation, pathway and payoff/reward (AMPR) is explained here forward to aid in describing and summarising this contribution. The attention-based theory of the firm recognises the idea of *awareness*, or what Simon (1947) terms "attention" as the bottleneck of organizational activity (Simon 1947; March and Simon 1958; Cohen et al, 1972). This concept is related to the idea of bounded rationality, and states that individuals, who are exposed to streams of information and communication and shielded from others, react as they do because their rationality is limited by the information they have, the cognitive constraints of their minds, and the limited amount of time they have to make a decision. Simon (1947) emphasizes how the limits of rationality are the results of limits of attention, and attention and behaviour, once initiated in a particular direction, tend to persist in that direction (Cohen et al., 1972).

Barnard (1968) views *motivation* as being related to incentives and that the presence of incentives is crucial for driving individuals to act or to perform for the organization. Barnard (1968) noted that in addition to material inducements, personal non-material inducements (e.g. prestige, recognition, status) and ideal benefaction (the capacity of the organization to satisfy personal ideals) were also important incentives.

Pathway is the identification and selection of a course of action. Simon (1947) emphasizes that a Theory of organizations should be concerned with the process of decisions as well as with the process of action, indicating that alternative decisions pathways can be discovered. This is related to the idea of selection; if the individual or the organization follows one particular course of action other courses are foregone. A crucial question is under what conditions does the pathway achieve the goals intended.

Payoff or reward is a concept that links the participant to its task environment and can be viewed as a feedback mechanism from the attention, motivation and pathway. Positive feedback or reward may cause the participant to continue on the Pathway they chose. March and Simon (1958) explore the role of searching for solutions in organizations, stating that the search is partly random but not blind. They state that the choice made by an organization to do a deliberative new search is often triggered by a gap between satisfaction level and result (Cyert & March, 1963). Conditions that affect the aspiration level of the firm is therefore crucial as to how Payoff will relate to the other elements of the AMPR framework.

Collaborative action research partially focuses on understanding individual motivation to collaborate. It is implicitly understood that a motivation to act originates from values and while values seem abstract, they have been shown to influence many of our attitudes and behaviours. Motivation can arise from values that are extrinsic (that are centered on external approval or rewards e.g. wealth, material success, concern about image, social status, prestige, social power) and intrinsic [that are inherently rewarding to pursue e.g.

affiliation to friends and family, connection with nature, concern for others, self-acceptance, social justice, creativity (Holmes et al., 2011)]. The presence of external (crises, threats or opportunities) and internal (pressures, lack of resources or interests) incentives can motivate participants to collaborate. (Selin & Chevez, 1995) labels these types of motivations as 'consequential incentives' because of their ideal timing and the salience of the issues. (Emerson et al., 2012) further develops the notion of 'shared motivation', a condition of collaborative action that employs the self-reinforcing cycle of four elements of social behaviour: trust, mutual understanding, internal legitimacy and commitment. It is proposed that through repeated engagement, these elements will reinforce and cultivate each other over time, engendering shared motivation among stakeholders for collaboration.

Economic theory explores the concept of an individual's agency, which is an ability to act or ability to respond and it is linked to a person's personal and relational capacities (Sen, 1993). There are three types of agency: personal agency is one's own ability; relational agency is the ability to relate and work with others; and communal or collective agency is evident when people act in large groups, for example a farming co-operative. It is important to understand agency in attempting to influence and enable change-orientated action as it is primarily concerned with action, and the capacities that enable action. The economist, Amatya Sen (1993) claimed that economic theory should shift focus from the market capital and the bottom line, to valuing – economically-people's agency in what he termed the "Capabilities Theory": a theory of freedom. Sen (1993) identifies the participant's valued "beings" and the participant's personal experience of action as valued "doings", in this way doings are informed by beings, and not the other way around. Valued beings and doings could include but not limited to: spending time with family; exploring creative capacities; working, play, appreciation of beauty, etc. and can be seen to be intimately connected to values which motivate specific action. Consideration of the Capabilities theory in this study is crucial for understanding how to develop an intervention that best suits the capabilities of the participants themselves, that are liked to their values, values which inform their "beings" and "doings" rather than developing an intervention that

undermines them. In other words, it is important to develop an intervention that best suits the agency of the participants, with relation to their values and their capacities to live out these values.

Theories of change are commonly being applied to understand how partnerships change behaviour (Stein & Valters, 2012; Darnton, 2008; Weiss, 1995; Stern, 2000; Mason & Barnes, 2007). Partnerships require clear vision, but visions are often broad and ambitious and turning them into practice can be a challenge. In the same vein, the task of planning and evaluating those efforts for informing practice and identifying lessons learnt is also a challenge. For this reason, developing a foundation of good theory on which programmes can be grounded, is vital. A well-articulated Theory of change can offer a clear picture of the intended environmental programme activities, rationale, objectives and intended outcomes of change. Put another way, a well-constructed Theory of change represents a testable hypothesis of how collaborative inputs will contribute to achieving the desired outcomes (Weiss, 1995).

Theories of change are developed for a number of reasons. Stein and Valters (2012) broadly categorise four purposes after a wide investigation in the application and development of Theories of change in international development programming. A Theory of change plays a role in:

- **Strategic planning:** by assisting organisations and programmes to practically map the change process and its expected outcomes and facilitating project implementation (Rogers, 2012; Stein & Valters, 2012).
- **Programme communication:** description of its change process to participants and partners (Ellis et al., 2012; Stein & Valters, 2012).
- **As a thinking tool:** used to clarify and develop the theory behind a programme (OECD, 2008; Retolaza, 2011).
- **Programme monitoring and evaluation:** A well-articulated Theory of change can give the assurance that a programme is delivering the right

activities for the desired outcomes that can be reviewed over time (Weiss, 1995).

There is however the potential for abstraction if this change is not scaled down to the personal human experience. Amatya Sen's Capabilities theory brings the focus of transformation and change down to the scale of the individual human being, and their individual freedoms and agency (Sen, 1993). Theory of Change research and discourse shows useful synergies to the Capabilities Theory as it questions human agency and freedoms. Theories of change and theories of freedom are integrated within this study, as the specific site of change being investigated is the change within individual partnerships and actions (or agency) of farmers themselves and agents of change in BWI. For this reason, developing a Theory of change would also play a role in agency development and learning.

Boundary organisations (i.e. contemporary categorizations of non-state organisations that go beyond public awareness, and instead influence communities of practice through providing tools and extension support. See Guston (2001) for a detailed definition), are increasingly turning their interests to Theory of change research in order to strategize their intervention (Darnton 2008; Stein & Valters, 2012; INSP, 2005). Under these conditions, a Theory of change is not regarded as an end product or result but rather as an evolving, context-specific, strategic tool and a set of theories for how to influence change (Anderson, 2005). This can be related to Wals et al. (2009) definition of sustainability, which is also seen as an evolving on-going process. For an organisation or programme to transfer, transform or scale-up a Theory of change, its initial articulation should be broad and simple allowing flexibility for further articulation, testing and improvement to become a long-term living embodiment of best practices and lessons learnt, both at a personal and relational/communal level. It is argued, however, that this process should also reveal the appropriate boundaries, scope, and level of complexity needed for each Theory of change (Wigboldus & Brouwers, 2011). In summary a Theory of change does not only provide a guideline as to how change takes places, it can also guide an intervention to catalyse change.

Chapter 3 Methods

3.1 Research design

A case study approach was adopted in this study to understand how change was brought about and to articulate a Theory of change for the system. A case study is a "systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest" (Bromley 1990: 302). The case study approach implies that the cases (units of analysis) have the potential to carry out three objectives: 1) disprove theory b) build theory or c) be treated as a sample of the world (Yin, 2003). According to Yin (2003) the case study design must have five components: the research question(s), its propositions, its unit(s) of analysis, a determination of how the data are linked to the propositions and criteria to interpret the findings. With the exclusion of defining the research question and its propositions (outlined in chapter 1), the methods will tackle each of these components.

3.2 Conceptual Framework

The analytic frame used in this study emerges from organizational theory (Simon, 1947; March & Simon, 1958; Cyert & March, 1963; Cohen et al.,1972; March, 1991) and serves as a starting point for generating questions, hypotheses or propositions. Frames are fluid in qualitative research (Ragin, 1994) and build on constructivism, meaning that the world can be described and understood in various ways with each frame resting on certain assumptions. Lakoff's (2006) suggestion that "frames are mental structures that allow human beings to understand reality" implies that using frames, like theory, come from somewhere, serve a purpose and are never neutral. In other words, analytic framing is the practical use of theory on a certain topic, for some purpose and for the sake of: asking certain questions, including or excluding certain aspects or linking sometimes unrelated issues and concepts.

The analytic framework used in this study: Awareness, Motivation, Pathway and Payoff/Reward (AMPR) (originally described in Petersen et al., submitted manuscript) is a framework which provides a hypothetical framework with four categories grouping the independent variables developed through qualitative research approaches, in an attempt to develop a theory of change model (Jerneck & Olsson, 2011). Awareness, Motivation, Pathway, Payoff/Reward are labels that encompass a wide variety of meanings and typologies. For the purposes of this research they are defined as follows:

1. **Awareness:** In this framework 'Awareness' can refer to knowledge, knowing, being, sensibility to and that moment of enlightenment or 'when the penny drops'. For example, awareness references understandings within farms on the state of the biodiversity that they impact upon through their farming practices. It is important to note that my definition of the term awareness is broader than the acquisition of knowledge, but includes an altered sensibility or frame of reference that consequently sees humans connected to their natural environment.
2. **Motivation**: In this framework refers to incentives, inspiration, rationale and ambition. It refers to the drive of companies to change ecologically harmful practices. Motivation is also connected to Sen's (1993) idea of valued doings, or agency. The ability or capacity for action, which is then materialised in the next category: Pathway.
3. **Pathway**: refers to a logical course of action that would enable farmers to shift their ecological engagement practices.
4. **Payoff/Reward:** In this framework refers to benefits, rewards, outcomes, returns on investment and incentives. For example, the benefits or rewards that either had been realised or were expected to result from actions taken by the farm – while this can be seen as an element of motivation (payoffs are often anticipated) I have, in my framing treated it as a separate element.

3.3 Sample size and selection, data collection and analysis

The primary data collected in this study aimed to explore the elements of the AMPR framework. I conducted the interviews using an open-ended interview protocol that explored the four elements of the AMPR framework and also allowed exploration of new ideas and directions to gain richer insight and identify related and non-related concepts to the AMPR framework (Taylor-Powell, 1998), as this created space to further reveal and examine farmer's valued beings and doings, and therefore provide some understanding of their current agency capacity or capability. Firstly, asking questions that explored 'when', 'how' and 'why' the participant became aware or conscious of the environment and its link to the farming practices assisted in identifying their Awareness. Secondly, 'when', 'how' and 'why' the participant decided to partner with the BWI would explore their Motivation. Thirdly, Pathway was explored by looking at the institutional, practical and technological aspect of their partnership with BWI and involving 'what', 'how', 'with whom', 'where' and 'when' type questions.

At this stage, Conley and Moote (2003) make a noteworthy suggestion separating process and outcome in evaluations of partnerships to aid in the investigation of Pathway and Payoff/Reward. Process evaluations would ask questions such as 'What was the common vision/goal?' 'How did the common vision emerge?' 'What contributed to the success of the partnership?' and 'Who is involved?' While outcome evaluations would look at 'What are the changes in behaviour?' 'What technologies or mechanisms were adopted?' 'What policies changed?' 'What best management practices were developed?' and 'What was the impact on the ground'. This study has adopted both process and outcome based evaluations in exploring the Pathway and Payoff/Reward of the partnership. I initially developed interview questions prior to the first interview, which served as a script for moving myself closer to eliciting experience and meaning from participants in each succeeding interview, subsequently making small alterations to the original interview structure after the first four interviews.

Primary data for this study was gathered through semi-structured narrative interviews with partners of the BWI. Participants were emailed a short summary and consent form detailing the full nature of the research, how the research will be used in the study and their rights as research participants. It also informed them that records of the discussions were kept confidential and names would not be mentioned in any reports published, unless they wished to and specifically agreed to be quoted. It also stated that there was the possibility that knowledgeable readers may recognize people I quote or refer to indirectly in the analysis. A local contact at the Law Faculty Research Ethics Committee Administrator has reviewed the ethics plan to identify if any concerns about the research, its risk and benefits, or about their right as a research participant, arose.

A total of 37 interviews, averaging one and half hours each, were conducted with people from the following stakeholder groups: CapeNature (the provincial conservation authority), WOSA (industry's generic export marketing body), Integrated Production of Wine (industry's environmental certification scheme), staff of the Biodiversity and Wine Initiative, Department of Agriculture (LandCare), the wine producers, on-farm environmental officers and co-operative cellars. The interviewees are labelled in the results as F1-F28 for representatives of the farms (producers, cellars, environmental officers) and P1-P9 for the partners and staff of the BWI (LandCare, CapeNature and IPW).

A large sample size allows for a purposeful sampling strategy called ‘theory-based’ or ‘operational construct’ sampling (Taylor-Powell, 1998). This is the most effective way to explore manifestations of a theoretical construct of interest so as to expand and analyse it. Important to this strategy is selecting detailed cases that offer rich information to meet the purpose of conducting an in-depth analysis of the theoretical construct, thereby not aiming for representativeness or randomness as with a standard sampling strategy (Taylor-Powell 1998). The sample size is also based upon what is credible and the time and resources available (Taylor-Powell, 1998).

The transcribed interviews were used verbatim and coded using coding criteria, which were progressively refined as I coded using a reflexive systematic iterative process (see section 4.2). The coding criteria were categorised by the elements (AMPR) of the framework and the literature. Where the coded data did not fall inside the framework, the data were kept separate. These coded data formed the independent variables of the AMPR. Patterns, trends, links and disparity between the variables, concepts and the elements of the AMPR were explored through clustering, mind mapping and measuring frequencies. The use of metaphors, creating simplistic models and thematic maps conceptualized the data and assisted in taking definitions into the study and building typologies.

Chapter 4 Results

A total of 37 interviews were conducted over a period of two and half months between February and April of 2013. This represents 11% (25 of 222) of farms involved in BWI and all of BWI's major partners (two extension officers, the BWI programme manager, two government officials from CapeNature and LandCare, one industry representative, two international wine marketing representatives and the IPW programme manager). Of the 27 farmers (representing 25 farms), 52% were BWI "Champions" (14 of 27), 6% were regular members (10 of 178) and 0.6% from a cooperative cellar (1 of 17).

4.1 Biodiversity and Wine Initiative in context

A summary of a number of context parameters is provided in Table 1. The sample of farms (n=25) involved in this study is a combination of recently established farms versus existing farms. Farms were largely family owned and managed, with only 24% of the farms owned by shareholders. Almost half of the farms were already practicing alternative agriculture such as biodynamic or organic and have received awards pertaining to those practices. The majority (76%) of the farms are part of a conservancy and therefore already collaborating with their neighbours to conserve the natural land shared between them. Half (56%) of the farms were practicing eco-tourism on the conserved land and receiving financial gains from the enterprise either through the membership in the local conservancy or individually. Around a third (36%) of the farms are signed up in legally bound contractual agreements with the CapeNature Stewardship Programme, a voluntary parastatal programme. A conservancy is defined in this study as a voluntary agreement between private landowners, collaborating to manage their natural resources in an environmentally friendly manner (NACSA, 2003).

TABLE 1 SYSTEM CONTEXT OF 25 BWI FARMS INVESTIGATED

	TRUE	FALSE
New farm*	14	11
Member of a conservancy	19	6
Stewardship member with CapeNature	9	16
Practising eco-tourism	14	11
Organic, biodynamic, multifunctional, green award**	11	14
Shareholders	6	19

*Farms purchased in the 90's till present and converted into viticulture.
**A farm can adopt all or one of the mentioned practices and had a green award associated with that practice.

Partners of the BWI claimed that working with farms with owners of multiple generations were usually much harder to work with than new farm owners or what they termed 'lifestyle' farmers, especially on conservation-related projects. They identified 'lifestyle' farmers as farmers who did not earn their primary source of income from the farm or viticulture and have earned or are making their primary income from a separate business located off the farm. 'Lifestyle' farmers desire the countryside lifestyle and have the financial resources and background but lack the farming knowledge, making them more inclined to partner with external support like the BWI or CapeNature in order to gain the assistance necessary to deliver on conservation ideals. They are also identified as being more environmentally aware, younger and much more open to external input and advice.

One of the partners of the BWI (P6) stated that:

> *It differs from area to area. I mean if you take the Klein Karoo, if we had the people and the money, we could sign massive pieces of land over there. Ok of course you've got to look at the ecological value of it, but still...we have, we've got big pieces of stewardship land lying there, and you can double it. But that's just the type of people out there. Whereas when you working in the Sandveld, very economical driven development, etc. So there you've got work harder for a 2,000 or a 1,000 hectare piece of land, that's more valuable ecologically than the 30,000 hectare or whatever…You've got your landowner that sits in Johannesburg and probably comes to his piece of land twice a year and he's got the money and he signs it up for probably tax reasons or whatever. But I mean that's the incredible thing about*

stewardship, the social side of it, and I think there's a lot of hard work for us to understand that side of it.

4.2 Results utilizing AMPR framework

Table 2 shows the principles derived from the BWI partnership and how they are captured by the elements of the framework. I used an iterative systematic analysis, which consisted of consistent consultation of theory, reflexively comparing data and iteratively seeking trends in helping me to distil the principles in the table. An important finding evident in this table is the crosscutting nature of the principles, made visible by shading, across more than one element of the framework. The results will tackle each element of the framework and their principles separately**.**

TABLE 2 THE PRINCIPLES DERIVED FROM THE BWI PARTNERSHIP AND HOW THEY ARE CAPTURED BY THE FRAMEWORK, ORDERED BY COMBINATIONS OF A, M, P AND R

Principle	Description	Illustrative quote	A	M	P	R
Linking farming success and environmental sustainability	The connection that in order to be a successful farm in the long-term there is a need to explicitly consider environmental issues in farm management e.g. clearing alien invasive trees improves water security.)	F1: if we didn't have a natural system, and the thriving natural system that we do have, we wouldn't be able to farm the way we do farm.				
Environmental risk mitigation	The conservation practices adopted to reduce environmental risk. This is also an extrinsic value.	F19: a marsh just started forming at the bottom of the kloof and all years of rubble and nonsense that had been thrown and discarded just started rising and becoming marshy and we just realising we've got to clear this, to clear this mess (alien). And as we did that we discovered these pools. And what had happened is that the Bluegums had taken away this natural stream. And now we've got a 1000, 1300 litre stream, it's a big stream.				
Demonstration projects	Demonstration projects show how successfully BWI is working; convinces neighbours to join; offers experiential learning and knowledge sharing.	F21: I think a lot of the people at the BWI seeing us used as an example, so they (BWI) send a lot of people to us for advice. And when they have a workshop they will even invite someone from our farm to do...give lectures, presentations. Not only BWI, but like the Department of Agriculture, and WWF, so we've got, can I say, a high profile in the wine and conservation side of things.				
Alternative farming practices adopted	Any reference to linking sustainable and innovative farming practices, such as organic biodynamic with conservation.	F1: biodynamics...sort of synergistic role in agriculture. It's sort of like the homeopathy of agriculture to a degree, but it's getting all your different systems working together. And those nature strips (ecological set-asides), those strips that go throughout the farm are exceptionally important for us.				
Social/Eco Responsibility	Having an altruistic responsibility to nature and society. This is also an intrinsic value.	F19: My husband and myself, we have a massive responsibility. This is the first time that I really felt, kind of insignificant, that what we do actually connects us to the future, what we doing now has an impact in the next generation. When we're long forgotten, the impact we make now, and it only really dawned on me when we came to live on this farm, how very, very important it is.				
Connection with Nature	Having an intuitive sense of connection with the natural environment. This is also an intrinsic value.	F14: Ecologically those are the only benefits, that you actually see nature recovering and you use it going back to how it has probably always been, before man came and buggered it up in the first place.				
The value of first-hand experience	An environmental event triggered thinking or prior experience with the environmental management.	F4: the year 2000, we had a fire on the southern part of the farm, and shortly after that, a young American girl who was doing a PhD thesis in the regeneration of flora after fire showed up and asked me if she could go and look, which she did. And, um she got all excited and told me there were all sorts of weird and wonderful plants out there, and asked if she could bring out the UCT botany folk. So we were inundated with botanists from UCT, including Peter Goldblatt. But anyway, somebody at that time asked me at that time if anybody had spoken to me about conservation, which they hadn't, and nobody ever did. But I thought about it. I learnt a little bit about Renosterveld and decided then that we would put our side of the mountain into				

		conservation, so we in fact have 185 hectares now as a contract nature reserve.				
Upbringing and early exposure	The connection with nature was developed as a result of upbringing and early exposure to nature.	F6: I grew up in a family that hiked a lot in the mountains with Fynbos. …we've been fortunate enough to live on a farm where we've got access to mountain Fynbos and where we've often spent time hiking.				
Market advantage	Obtaining a market advantage from addressing or being seen to address environmental issues. This is also an extrinsic value.	F4: I think the motivation was solely again just for the image, to get the sticker. Number one was the economy. Make money. Make money, sell more wine, so sell green wine. The bottom line here at the moment for us at [this farm] is to make money, because it's like a huge black hole, it just sucks up money. I mean just the roads, you can imagine to maintain 900km of roads, it's just terrible. So the motivation is money.				
Shared motivation	Motivation that develops from trust, mutual understanding, internal legitimacy, commitment, shared vision (Emerson et al. 2012). It can develop between BWI and members or within the members.	P2: I want the whole industry to be sustainably accredited and ethically accredited. And I think that view is a vision shared by most of the leaders in the industry.				
Easy-win	Very little change in farm management was needed to join BWI.	F7: When we originally developed this farm, we took the elements of BWI into consideration while we did it. So it was an easy process. In fact when we had the audits here, it was almost like...there was nothing we had to put in place.				
Flexibility	The adaptability of the BWI to each specific organizational context is seen as a virtue.	F3: BWI is not a watchdog, I'll tell you that. There's certain things that you can negotiate, and be lenient, but in general there is some stern principles. They much more of a partner than some kind of auditing body.				
Champion	The importance of a champion to ensure implementation and guide others.	F26: For these sort of things to succeed you need individuals to drive it. It comes down to one or two persons that really needs to sell the whole idea to the rest of the community and the farm. we had a viticulturist, he's now retired but he's still consulting to us. He was very much involved with this whole initiative and driving it.				
Peer pressure	This is a social norm that encourages individuals to follow the group.	F26: You always need somebody to take the first step so this one farmer started doing this and that farmer started doing that and then the whole BWI thing was boosted really. Currently I think we are about 23 BWI champions so it's similar to the IPW drive.				
Physical farm characteristics	The attributes of the farm such as its size, availability of non-arable and or natural land.	F21: And I knew a portion of the farm was available for that purpose, it was undeveloped.				
Extension service	The services provided by the BWI including knowledge, networking, and guidance.	P5: At the beginning when the project started, the benefit is going to be the marketing benefit. The fact that they can use the BWI logo and that will make their wine sell better, that's what everyone thought. I think the benefits they get out of BWI is not that at all. The benefits to me is the fact that they're in contact with the project, we are almost forming like an information centre for them. They can come to us with any environmental query.				
Support and buy-in from senior management	The role of owners/shareholders/managers in driving top-down approach for implementation.	P4: The owner and his wife, they very much involved in organic and green and all that stuff, and they have certainly inspired all the way down and I think the people get rewarded too.				

Recognition and credibility	Joining BWI gives credibility, improves reputation and recognition.	P4: No I think it's not the seal, it's not the only carrot, but I think the seal is a reward if you are doing the right thing. If you doing the right thing you getting recognition for doing it by getting the seal and that sort of thing.				
Voluntary contract	A gentleman's agreement that is not legally binding.	F6: None of these farmers will put anything like that on paper. Ever. They'll all do voluntary conservation, but they won't sign their land into conservation for the long term				
An add-on from or connection to IPW	BWI was an outflow of IPW so it was an automatic decision to join.	F25: Remember before this BWI we had the IPW system, so I've always been part of that and I believe in that system. And so the BWI was you can almost say added, because nobody at that stage thought or talked about the natural areas on the farms.				
Development of human capital	The knowledge, skills and competences and other attributes embodied in individuals that are relevant to economic activity OECD (1998, p. 9)	F27: We're trying to teach our labourers and staff that you don't just see a snake and kill it or I've given a little talk at BWI before on bird control and how to prevent bird damage on wine and table grapes.				
Development of social capital	The features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions (Putnam, 1993, p. 167).	F16: And when we have attended seminars and things it's always good to chat to people and hear what they doing. Like before you go and spend R100 000 on something to keep the buck out, and the other guys tried it already and says definitely don't waste your time, those things are a huge benefit.				
Adaptation and on-going improvement	Any reference to making adjustments and changes to implementation when faced with new risks, barriers and opportunities.	F22: We do make mistakes, but we make every attempt to learn by the mistake. The fires for example knocked us back a great deal. But we now catching up with that and getting on with it. It was already being done but we're constantly looking at what we're doing and making necessary changes.				
Support and buy-in from staff	Using a bottom-up approach for implementation.	F19: That understand it. They do see the beauty. They do see what we doing. We had a staff that was just a job, now we have people that are buying into botany. Ja, and I think that is incredibly rewarding.				
Capacity	Resources that are essential to implementation including financial, human and ecological.	F20: Conservation costs money. If you want to clear some aliens, it costs money. If you want to train people to be field rangers it costs money. If you want to put a program forward, say to be part of research programs, it costs money.				
Monitoring and Audits	Audits are 2nd party monitoring of farmers by BWI of on the criteria of the membership. Internal monitoring gave structure to farm procedures, internal and external accountability formalised their work, measured progress.	F6: The audits are useful because it helps you keep track of what you said you would do. Especially with erosion which is a big farming problem. We had a mountain bike downhill race here on this farm which they asked us to close down because it was an erosion possibility, and so we did. And so you know you just work with people who help you with what's good practice and what's bad practice.				
Planning	This process identifies protocols, procedures, responsibilities and accountability.	F11: Obviously it's part of our management plan as well, so we've divided the whole farm into different blocks, different sections, so at least there's a plan and we've prioritised the bigger impact areas, so it will take longer.				
Time	Any reference to time, time-scale in terms of	F1: So it's labour to go in and clear it out. But it's not something you do once and it's done. And it's not something you do in a				

	planning and goal completion.	hurry. So after the original fire we spent...I'm estimating now, but it must have been a good 6 months clearing out the alien vegetation.				
Rules, guidelines, standards	The rules, regulations and standards to be complied with in order to maintain membership.	F11: But it's just a commitment that you will not develop any new land, that you will rather rehabilitate, and obviously playing 100% according to the rules as far as possible.				

4.2.1 Awareness

The respondents reported that there is widespread understanding and knowledge of the environmental challenges and best conservation practices in amongst BWI members. Environmental awareness was not only present before becoming a member but evident at any point in the framework, e.g. implementation of the EMPs raised the environmental awareness of the members. In other words, shifts in attitude towards conservation developed through the practices they had adopted, as they were forced to internalise the environmental challenges they faced and recognise the farm and the surrounding environment as one system. A total of 23 respondents also highlighted the importance of early childhood experiences in shaping their attitudes towards environmental issues and 22 respondents remarked that a personal experience such as a fire or flood was key to shifting their awareness. They commented that although they cognitively knew about the issues, this was only really brought home when they experienced the issue first-hand. This also aided their understanding of the links between environmental sustainability and business success, which up until recently had been perceived as external and disconnected from their farming practices. Some respondents were convinced of the benefits of conservation from their exposure to demonstration projects.

4.2.2 Motivation

A wide array of incentives, values, beliefs and conditions motivated interviewees to partner with the BWI such as peer pressure, voluntary contract and shared motivation (Table 2). An important feature here is the structure of a participant's motivation, which is composed of a variety of a

number of differing factors and conditions that can either encourage or discourage the development of an intention to act. A value map (Figure 1) illustrates the intrinsic and extrinsic values identified by the interviewees and the fluidity between the two, emphasising that a personal motivation is determined by neither one nor the other but rather varying levels of influence of either. It is important to iterate here that this study works with data that does not claim to speak for the subconscious or embodied motivations for action or agency but instead is only capable of working with the conscious and tangible expressions of the participants interviewed in the work. Therefore I cannot claim to show how the participants construct values but rather create a route map (Figure 1) of what they are experiencing and expressing. The double-sided arrow in Figure 1, shows the potential for change between intrinsic and extrinsic values.

Most respondents (92% or 23 farms) were motivated by a combination of intrinsic and extrinsic values to join the BWI. Two farms claimed they were only motivated by extrinsic values for joining the BWI.

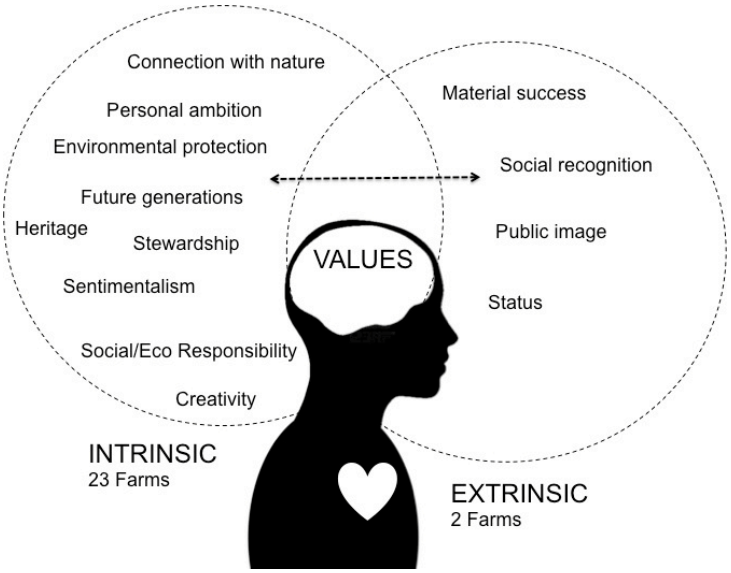

FIGURE 1 A DIAGRAM SHOWING A ROUTE MAP OF WHAT VALUES WERE OBSERVED IN THE STUDY. FLUIDITY BETWEEN INTRINSIC AND EXTRINSIC VALUES IS REPRESENTED BY A TWO-WAY ARROW AS THE VALUES ARE NOT DUALISTIC OR OPPOSITES.

This partner (P8) of the BWI believes that the intrinsic value to being connected to Nature was common amongst farmers of the CFR:

> *I think from what I've gathered from some landowners as well is they're happy to conserve and a lot of farmers are conservationists at heart because they're close to the land. One example also in Slanghoek is a farmer that has endangered habitat, has wetlands, a number of threatened species, he's looking after it, and he's clearing the aliens. He's not a BWI member and he's not a stewardship, and he was one of the first landowners that I started negotiating with for stewardship.*

Respondents reporting extrinsic value-driven motivations such as environmental risk mitigation and the desire to gain a market advantage were the second most frequently observed motivations. Respondents (68%) claimed that there was a motivation to increase profits via access new markets; differentiation; and generation of higher sales of products including wine and tourism. In terms of mitigating brand risk, interviewees acknowledged that including growing consumer awareness, pressure by retailors and compliance to global standards were also strong motivations to join the BWI.

Respondents also claimed that 'consequential incentives' (see Chapter 2 for description) motivated them to join BWI such as the availability of non-arable natural habitat (a physical farm characteristic); acquiring an "easy-win" (already practicing conservation through other voluntary and non-voluntary agreements); and adoption of an add-on from IPW. Amongst those respondents who were not signed up in binding contracts with CapeNature, stated that the voluntary nature of the BWI agreement motivated them to join BWI. It was regarded as a gentleman's agreement and gave them the flexibility of leaving the BWI when they felt they wanted to.

Many respondents stated that they had already shared the same vision and philosophy as the BWI and were committed to conservation one way or another but believed that BWI added credibility to their actions. Some interviewees claimed that peer pressure, by neighbours, members of their conservancy, the co-operative cellar for whom they produced, and champions

in the industry, also motivated becoming a members. Champions in this study were identified as BWI "Champions", neighbours, environmental officers, BWI extension officers and or large producers within a cellar. Respondents described champions as being reputable, responsible, respected, innovative and trusted industry members and key to their leadership was the ability to demonstrate the success of the programme. Demonstration projects was another mechanism that helped motivate buy in as it provided hard evidence of the pros and cons of joining the BWI and assisted in convincing members of its benefits.

4.2.3 Pathway

Prior to the BWI, many respondents were relatively aware of the environmental challenges facing the sector and the landscape they operate within, and a large number of them were motivated to address these challenges. However, many respondents reported that they, for a variety of reasons (such as they lacked the skills, tools and or guidance) did not know how to take action. In the AMPR framework, we would argue that prior to BWI there were only limited Pathways. The exception being Cape Nature's Stewardship Programme, but this was limited in its focus as recognised in this statement by a partner of the BWI (P9):

> *CapeNature is only involved with landowners that's potential stewardship individuals. BWI is throwing the net much wider than that, over a much bigger range of landowners. They are an extension of the CapeNature staff, almost. And LandCare staff for that matter.*

BWI provided a clear Pathway for action through the extension services and the label.

A) Constraints and cautions

Although, this Pathway has enabled action and positive conservation outcomes, respondents reported a number of constraints. Capacity was the most frequently commented on as a key element in implementation of the programme. Capacity in this study refers to the availability of time, skills, and

resources required for implementation. WWF provides the human and financial capital of the BWI whilst private, government or external service providers provide for human and financial capital for implementation of conservation on the farm. Respondents stated that funds were leveraged through conservancies, government support or invested privately. They also described that the availability of time was critical to the success of the programme but also a highly limiting capacity constraint, particularly with respect to the necessary paperwork and administration. There was regular reference to the lengthy time-scale of becoming a BWI "Champion" due to the implementation of a detailed and extensive EMP and the associated recordkeeping and monitoring required for audit purposes. This is clearly shown by the quote from this farmer (F4):

> *it's a long-term plan with BWI, it's not something that...like at the moment we've got a 5 year plan. So it's such a long-term plan, it's almost a 50-year plan, because it's not just the clearing, it's the eradication of the seed bank, which is almost impossible.*

This respondent (P8) claimed that long-term buy in and implementation was contingent upon farmers actually investing capital in the conservation effort:

> *There's a lot of buy in to projects especially with the alien clearing projects on the rivers at the moment. But once again there's no security for the land in the projects that they do. There's buy in into the projects in terms of farmers actually physically having to get financial input into the projects which I think is good for the sustainability, that they're taking some kind of ownership of it. And creating that important enabling environment that they can get to a stage where they receive enough assistance that they can maintain it on their own.*

B) Success factors and enabling conditions

1. *The importance of a champion to ensure implementation*: Respondents identified champions that drove implementation of the BWI and in most cases the champions were the same as those that motivated them to join.
2. *Alternative farming practices adopted:* Eleven respondents referred frequently to their shift to alternative farming techniques such as organic and biodynamic as being important to their awareness, performing conservation on the farm and making an explicit link

between private conservation practices and alternative forms of farming.

3. *Planning:* The EMP management plan provided a framework for engagement and guided procedures and assisted in budget design. Members of the BWI highlighted the simplicity and ease of the BWI Excel *spreadsheet* management plan versus a document EMP in terms of checking and ticking goals and targets.
4. *Flexibility:* Respondents saw the adaptability of the BWI to each specific organizational context as being a virtue. By not playing a watchdog role and being lenient with the criteria, respondents felt they had creative room to meet the goals of the programme.
5. *Extension service*: The extension services provided by the BWI were identified as being of major importance to the implementation of biodiversity conservation. BWI provided knowledge and networking as a service. The extension officers were described as being experienced, trustworthy, providing a quality service and their longevity in the programme established a relationship between them and the farmer.
6. *The role of monitoring and auditing:* Respondents recognised the importance of monitoring and recordkeeping and exclaimed that this gave structure to their procedures; supported internal and external accountability; and measured progress towards planned goals. Monitoring was different to auditing in that monitoring was self-awareness of a system while auditing was an evaluation of a system. BWI 2nd party audits play a regulatory role; ensuring participant's follow the agreed criteria and are conducted by second and third parties. This activity ensures compliance and aids in the evaluating the outcomes of the collaborative system. Many interviewees identified planning as an essential process to achieving their desired goal.
7. *The value of demonstration projects:* Demonstration of positive ecological and reputational outcomes of the BWI provides both a motivation to join BWI and aids others seeking advice and support. This was particularly evident amongst neighbouring farms as similar physical conditions provide similar challenges and demonstration

projects were the fastest and most visible way of showing how a Pathway produced the results sought for by implementer.

8. *Linking farming success and environmental sustainability:* A business case for biodiversity conservation was developed for increasing on-farm efficiency and value through the implementation of best practices in farm management. Respondents spoke of solid waste and wastewater management and increasing energy efficiency. In terms of biodiversity conservation implementation, interviewees described practices such as alien invasive species clearing, replanting indigenous vegetation, creating fire breaks and removing traps and fences. An additional economic-driven motivation was the ability to increase farm value, termed as illustrated in the quote by this farmer (F17):

> *[Company] was managed by guys with some strong financial backgrounds, and my motivation to them was whatever we invest in this property, I will bring back three-fold return if we ever have to dispose of it. From the sale of the property. So for example if I'm going to spend R10 million clearing alien vegetation, I believe that would add more than R30 million to the value of the property, if we were to dispose of it, because there's no other farm that's pristine. My point was the investment made in the land itself would not be lost, so it's not a sunk investment as such, but one that would have a tangible base to it if they ever chose to dispose of the property.*

9. *The development of social and human capital:* Developing social and human capital was reliant on experiential and participatory education, some of which was achieved through working with the BWI. Many respondents also felt that a lot of the experiential learning came from the auditing processes. Respondents referred to the importance of collaboration in developing social and human capital through activities such as leveraging and pooling resources and sharing knowledge and experience, for example eco-tourism. There was greater emphasis on non-BWI related collaboration, i.e. collaboration between farmers in their conservancy and or in their CapeNature or LandCare partnerships. There was very little reference to BWI related collaboration, i.e. collaboration between BWI members, and many

interviewees explained that there was very little communication between members.

C) Challenges and opportunities of market based initiatives

Some members commented that the BWI did not act sufficiently as watchdog over "green-washing" of the label and that they lacked the 'regulatory teeth' needed to enforce the best practice code of conduct as members were not held by legal obligation to their membership. In conjunction with this view, BWI adopted responsive regulation, i.e. graduated sanctions, for cases of non-compliance and this was seen by some participants as being as an inadequate form of punishment. Responsive regulation applies best when there is good a level of trust, communication and reciprocity between participants of a collaborative effort, subsequently an offense can be assessed in context and specific to the offender, thereby adjusting the penalty accordingly.

Interviewees used biodiversity as a USP in the marketing and branding of their wine products. They also developed a business case through eco-tourism including wine and biodiversity routes, mountain biking and hiking trails and lodging and accommodation in the set-aside areas. This respondent (F26) elaborates on the use of biodiversity as a USP:

> *That separates us, it's a marketing tool and second to that we also name two of our wines directly because of what we've achieved with the championship that we have. One of our red wines is called the Caracal and the other one is called the Owl Post. So there's a direct relation between what we've done and this is what we have.*

D) Inclusiveness and exclusiveness

During its elementary development, BWI adopted a highly inclusive approach to gain wide and diverse membership. At a certain point when the membership was beginning to grow exponentially, the programme transitioned into a more exclusive form of management, particularly with the development of "Championship" status. Only a few members have converted into "Champions" (a total of 27 in 2013). The members of the BWI collectively own most of the land where natural and endangered habitats can be found,

thereby achieving a lion's share of the conservation goals of the programme. A partner of the BWI (P5) expressed here they had reached a plateau:

> *First of all we have almost too many farms on-board, we can't really take a lot more on with the capacity we have. And it has also reached like a plateau. I think in the last 5 or 6 years everyone who's really interested in BWI has come on-board. So at the moment we will allow members to come on-board if they contact us and really show interest, and then they still have to meet our criteria, which is now much more based on their aims and we have to sort of fit in with that. So our BWI criteria has also totally changed from when we started in 2006 up to where we are now. In the beginning it was looking for that critical mass, we just wanted to get people on-board, they only needed 2 hectares of natural area, they had to really do the minimum. Where now we are zooming in onto just the critical, endangered areas. So definitely stricter criteria. Which I'm not agreeing with always so it's becoming more exclusive than inclusive. It was very inclusive in the beginning. And my idea was keep it inclusive because that's your member-level, then you can become very exclusive to the champion-level. Everyone can at least be part of the project and then move up to the champion-level.*

4.2.4 Payoff/Reward

In general respondents expressed their satisfaction with the BWI partnership and highlighted the benefits of gains in biodiversity; reputational improvement; recognition for their effort; and reduced environmental risk (Table 2). Only 12 of the respondents believed that the partnership had resulted in a market related benefits, while the majority called for a new emphasis on assistance with marketing. A total of 15 respondents recognised the indirect financial gains generated from increased farming efficiency from sustainable practices such as reduced energy, water and waste, waste etc. and changes in cost benefit ratio. However, most of the respondents expressed their concern that some aspects of good practice associated with guidelines within the initiatives (such as alien invasive clearing), were financially unviable, especially within the current economic crisis. Many respondents expressed that despite the fact that the label did not directly result in increased sales or a price premium, there was however an intangible marketing benefit. Amongst those respondents, some identified that being a member of the BWI helped them to "tell their conservation story", which appeared to be of interest to consumers and buyers and there was general agreement that this helps to sell the wine.

In contrast, a few of the respondents did not expect their membership and practices to result in financial gain and that improvement to reputation and increased recognition was where the value of the initiative lay and that this could translate in the future to some economic advantage.

4.3 Two proposed models based on AMPR framing to bring about conservation change

Key research findings can be summarised by two models (Figure 2 and Figure 3) offering a suggestion of how the parameters in the AMPR model relate to one another dependant on whether motivations are intrinsic or extrinsic. Furthermore, these models provides some insight into where interventions of the BWI could be best performed and could form the basis for a Theory of Change for such interventions.

In the first model, the participant is driven predominantly by intrinsic values. In this case, I argue that an Awareness of the key environmental issues is a pre-condition and that the relationship between Awareness and Motivation is tightly coupled and heavily influenced by upbringing and exposure, links to the value system and therefore forms part of their predominantly intrinsic form of Motivation. In model 1 (Figure 2), I treat Payoff both as an element of Motivation (Payoffs are often anticipated) and Pathway (as a participant acts by say, putting land aside for conservation so he immediately feels good by his action) and consider that it is not appropriate to treat it as a separate element. A further finding is that peer pressure played an important role in influencing others. In this model, the key point of intervention (label 1. in Figure 2) is by providing a Pathway through securing land for conservation. This model achieves a cascade of change through a repetitive and mutually reinforcing cycle of the various steps of Awareness, Motivation and Pathway. As a consequence, Payoff is achieved but is not necessary to maintain the cycle.

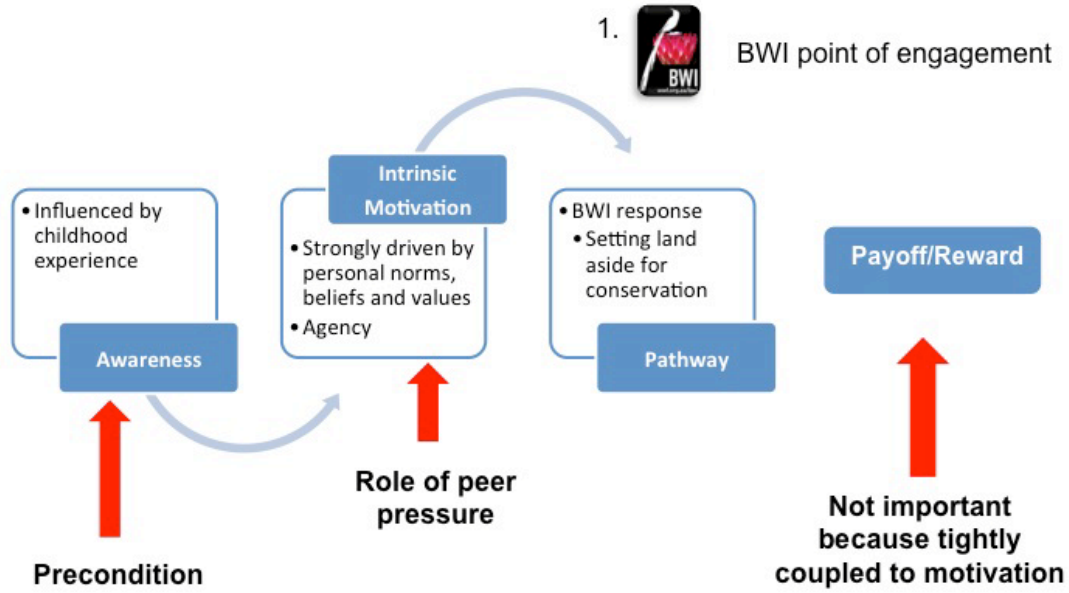

FIGURE 2: MODEL1 OF INTRINSIC VALUE DRIVEN PATHWAY

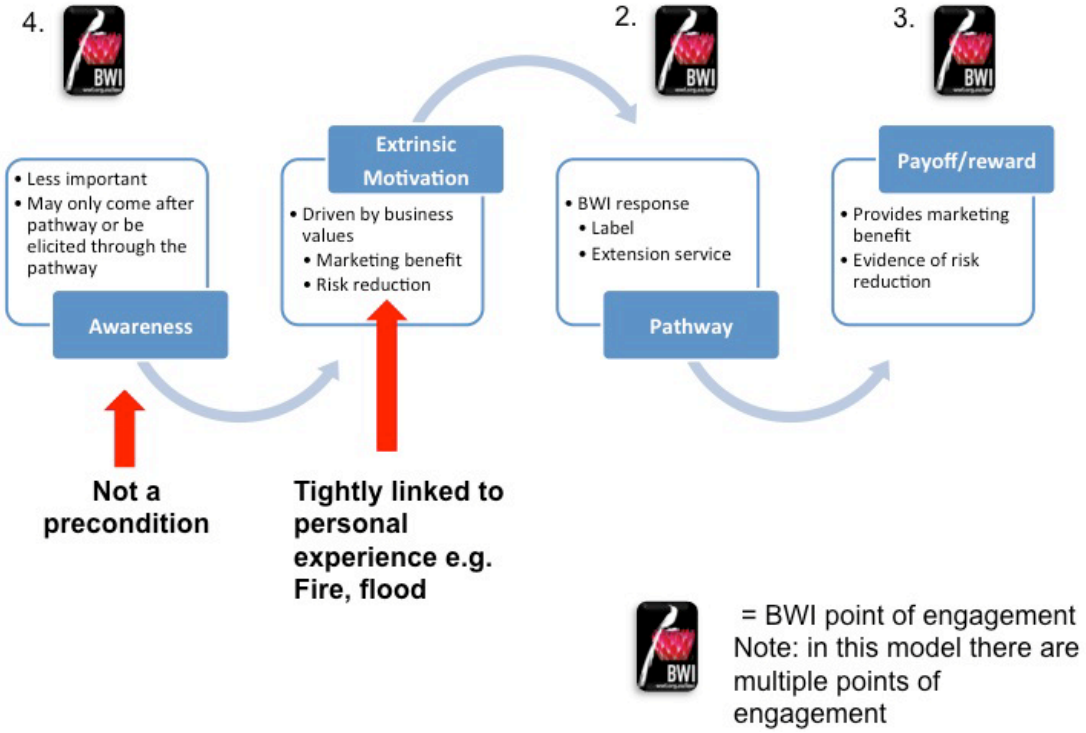

FIGURE 3: MODEL 2 OF EXTRINSIC VALUE DRIVEN PATHWAY

In the second model (Figure 3) the participant is driven predominantly by extrinsic values such as the desire for market advantage or risk reduction (For example environmental risk of fire, floods etc.). In this model, I argue that

Awareness of environmental issues is not a pre-condition. For example, a desire for a market advantage could be completely unrelated to an understanding of environmental issues and in fact does not require any understanding. A motivation to reduce on-farm risk is often tightly linked to personal experience (e.g. a fire on the farm or nearby farm which had devastating effects). This could lead the participant to want to reduce this risk, but again not require an understanding of the links between some of the key environmental issues such as alien invasive plant species and environmental risks on the farm such as the threat of fire and water scarcity.

In this case, an initiative such as BWI has three key points of intervention. Firstly, to best respond to these participants the intervention should focus on developing a market that recognises the label and delivers some market advantage and/or focus the Pathway on risk reduction through, for example offering an extension service (intervention point 2. in Figure 3). Secondly, the initiative should then demonstrate the value to the farm by using catalysts, such as demonstration projects (intervention point 3. in Figure 3). And thirdly, the initiative should explicitly develop activities to deepen the understanding and awareness of environmental issues (intervention point 4. in Figure 3). This is also critical to deepening the engagement and to bring about conservation change. The extrinsic Payoff is necessary as it forms a positive feedback loop to the participant's Motivation and ensures that the system cascades easily bringing about the change it envisages. This model achieves a cascade of change through a repetitive and mutually reinforcing cycle of the various steps of Awareness, Motivation, Pathway and Payoff. Intervention points are critical to maintain the cycle and result in a cascade.

Both models have the potential to result in a cascade and achieve positive, on-going change, the difference between them is the structure of the Motivation of the participant and how this affects where, when and how the intervention should take place. This research provides some preliminary evidence that a cascade of the system seems to be maintained through a coupling of the extrinsic and intrinsic Motivation. Intrinsic values can be generated through the development of social capital such as shared

motivation, trust, reciprocity and new champions in the system. In the cases where extrinsic Motivation of the owners/shareholders drove action, the formation of champions took place. The champions, who were neither an owner nor a shareholder, had the intrinsic motivation to maintain the conservation efforts on the farm. As one of the champions (F22) testifies much of the Pathway was motivated from their persistent support and motivation:

> *This probably sounds bigheaded, but a lot...a great reason why this work was done was because we sat on them (shareholders).*

Chapter 5 Discussion

This study is an investigation of the enabling conditions for shifting farm management to respond to biodiversity conservation through voluntary mechanisms. The BWI has been recognised as a 'successful' intervention due to a widespread shift in on-farm management to conservation-oriented and best management practices in the CFR, South Africa (Pence, 2012; BWI, 2012). I assert that the change that was brought about in this system took place in a context that consisted of a host of influences that create opportunities and constraints affecting the dynamics and performance of the partnership at the outset and over time. Our conceptual framework, Awareness, Motivation, Pathway, Payoff/Reward (AMPR), primarily originating from organisational theory, was used to identify the influences emerging from this system and the drivers that generate the energy for the initiation of the partnership and set its initial direction. The framework explores more complex aspects of the social system including values, system context and agency, drawing out typologies and concepts. Finally, the AMPR framework also aids in identifying the costs and benefits of the partnership and can be used to conduct a high-level evaluation. In so doing, the AMPR framework espouses the construction of a Theory of change for the system context. This study argues that the Theory of change for the BWI constructed upon two findings: a) the importance of understanding the value system of the participant in order to strategize the intervention and b) the adoption of inclusive approach to gain buy-in and trigger a cascade of change (see chapter 2 for a definition on 'Ocean of Cascades').

5.1 A discussion of the AMPR elements of the BWI

5.1.1 Awareness

The awareness of participants of this study incorporated a number of different factors, origins, influences and conditions. Firstly, awareness of the environmental problem among the intrinsically motivated participants was crucial to encouraging action, a finding well supported by the literature (Wilson & Hart, 2001; Hanley et al., 2012; Wilson & Hart, 2000; Sutherland et al., 2012; Emery & Franks, 2012). Secondly, the participants could develop a greater awareness of the environment through the process of becoming a member, a finding supported by Selman (2001), who claimed that in the process of becoming a steward, heightened awareness of environmental pressures will lead to developing support and finally active participation in environmental planning and sustainable development. Wade (1994) stated that if resource users observe scarcity or crisis in the natural resource base, they are more likely to invest in self-organization, supporting the third finding of the awareness amongst members that originated from first-hand experience of environmental threats and crises.

5.1.2 Motivation

A lot of work has been conducted to date to understand farmers' willingness to participate in voluntary mechanisms (Wilson & Hart, 2000; Toogood et al., 2004; Brodt et al., 2006; Pannell et al., 2006; Sharpley & Vass, 2006; Mendham et al., 2007). Valbuena et al. (2010) examined how the diversity of farmers' decision-making, based on ability and willingness, can influence the landscape structure in a region. This study argues that intrinsic and extrinsic values also had a large role in determining the motivation of the participants (Holmes et al., 2011). Intrinsic motivations were the most frequently observed and seen to be crucial to overall motivation of participants. In contrast, the extrinsic motivation of market advantage was also seen to be crucial to farmer motivation. Normative beliefs (Göckeritz et al., 2010; Ajzen, 1985) such as peer pressure had a large role to play in motivating members to join BWI, although according to Göckeritz et al. (2010), normative beliefs influence conservation behaviour through a rather unconscious, peripheral route of information processing, and for this reason it may be difficult to clearly identify this driver through the interview method used in this study. Champions in the

wine industry have had an important role to play as front-runners and innovators and lead by example (Rogers, 1962) so that others would follow.

Selin and Chevez (1995) concept of 'consequential incentives', labelled as such because of their ideal timing and the salience of the issues, were identified in this study to be factors such as the availability of non-arable natural habitat (a physical farm characteristic), "easy-win", and follow on from IPW. The concept of 'shared motivation' by Emerson et al. (2012) was a key motivator for partnering with the BWI as participants claimed that they shared the same vision and philosophy as the BWI. The members were already committed to the same cause as some were already practicing conservation ("easy-win") but BWI legitimised their actions and gave them the recognition they needed for their efforts. This can also be seen as a validation of their valued 'beings' and 'doings' as expressed in Sen's (1993) capabilities theory of freedom. A shared belief amongst the community around the problem being targeted, and the possible solutions, is likely to improve the manner in which private land conservation programmes are received (Pretty & Smith, 2004; Sabatier et al., 2005).

The voluntary nature of the agreement motivated some participants to join the BWI. This is an important finding in light of the fact that the ultimate goal of the BWI is to shift as many farms into binding contractual agreements as possible (BWI, 2012). This finding is also supported by the small percentage of farms that are already signed up in legally bound contractual agreements with the CapeNature Stewardship Programme, also reported in this study. This success could be related to the affirmation of freedom of the farmers, and their individual values. The results show that farmers were tending to choose voluntary agreements more readily than involuntary agreements, which is supported by other studies (Valbuena et al., 2010; Wilson & Hart, 2000; Downsborough et al., 2011), forfeiting the ability to legally secure the land that has been set-aside for conservation.

5.1.3 Pathway

Capacity constraints are no stranger to traditional environmental resource management, incentivising collaboration to pool, leverage, share and distribute resources to address the insufficiencies (Ostrom, 1990; Vollan & Ostrom, 2010). Of course, the presence of sufficient resources, time and capacity needs to be sustained in the long-term in order for a partnership to have long-term gains. New forms of knowledge production are becoming increasingly important to environmental management as it is increasingly being accepted that social capital, adaptive capacity and other beneficial social outcomes that maintain partnerships will not result from traditional top-down learning approaches (Warner, 2008). Mainstream capacity building programmes and workshops are often inadequately designed for the negotiated and multidisciplinary design of private land conservation schemes and necessitate the use of experiential, participatory and social learning processes to gain staff buy-in, build trust and develop agency (Jordan & Warner, 2010; Cooke et al., 2012; Jansujwicz & Calhoun, 2010; Mills, 2012; Morris, 2004; Ballet et al., 2007; Pretty, 2003).

One of the agents of change identified in the Pathway is the extension officer. The extension officer provides important tools, guidance and social capital necessary for implementation (e.g. Chambers et al., 1993; Ward & Lowe, 1994; Clark & Murdoch, 1997; Gray et al., 1997). Sen's (1993) idea of relational agency (the ability to relate and work with others) was made evident from the trust, open communication, sharing of knowledge and experience, and reciprocity between the extension officers and the farmers, crucial to bringing about change in the system. An important factor in shaping farmer attitudes towards conservation schemes was the information provision through extension support services (detailing initiative objectives, eligibility criteria, management agreements etc.) (Wilson & Hart, 2001). There are also a growing number of "lifestyle" wine farmers in the Western Cape, changing the context in which conservation can be implemented. As noted in this study, these younger, inexperienced, more open-minded participants are more willing to be open to working with extension officers. Similar results have been found in other cases studies where voluntary environmental schemes are being implemented (Morris & Potter, 1995; Carruthers & Vanclay, 2012).

Another key catalyst in the Pathway is the importance of a champion, a finding that is in line with private conservation case study research emanating from USA and Australia (Jansujwicz & Calhoun, 2010; Cooke et al., 2012). The role of a champion in this context is to be a decision-maker tasked with one or more responsibilities depending on the area of concern i.e. funding, facilitation, representing the "voice" of others, developing, public awareness raising to name a few (Ansell & Gash, 2008). In most cases, their role can appear important to other participants at the outset or become critical during moments of conflict or deliberation.

The shift by some members into alternative farming techniques such as organic and biodynamic served as being important pre-cursor to implementation of private conservation on the farm, confirming the findings of another study showing that prior experience in environmentally friendly farming practices increases the likelihood of supporting the adoption and implementation of a new environmental scheme (Wilson & Hart, 2001). Shifting to organic and biodynamic practices also raises the awareness of the individual of seeing the system as more holistically (Pretty, 2008).

Second and third party audits lead to greater compliance and thus lower costs of monitoring (Ostrom, 1990; Rustagi et al., 2010). Ostrom (1990) claims that monitoring works well when applied with graduated sanctions (penalties for non-compliance that depend on the seriousness and context of the offense). This is also known as responsive regulation (Ayres & Braithwaite, 1992). The flexibility of the programme, identified as the non-prescriptive set of recommended practices, maximises the potential for farmer buy-in, sense of freedom and ownership of the solutions developed and innovativeness in the approach taken, leading to wider adoption (Carruthers, 2005). An EMP articulated on an easy-to-use Excel spreadsheet permits flexibility and simplicity as no two farms are the same (Vanclay, 2004). It also simplifies implementation and saves time and effort. While much effort in agricultural industries has gone into the development of a variety of best management practices, farmers see many as being restrictive, complicated and not suited

to their particular circumstances (Burton & Paragahawewa, 2011). Nonetheless an EMP is a useful tool as it identifies protocols, procedures, and responsibilities, critical in developing internal accountability (Holley et al., 2012).

5.1.4 Payoff/Reward

Having clear goals and specific targets and indicators helped measure progress towards outcomes. These were more simply articulated in the management plans for all members and more extensively detailed in the management plans for BWI Champions. The outcomes of the programme were grouped into ecological, social, and financial. At this stage, it is also important to separate outcomes and outputs. Outputs or level 1 type of partnership activities are mostly tangible (e.g. plans, agreements, attendance at meetings, development of common vision). Outcomes, labelled 2nd and 3rd order effects of outputs (Innes & Booher, 1999) can be intangible and tangible (e.g. increased species diversity, increased trust) and are much more difficult to measure (Ferreyra & Beard, 2007; Jansujwicz & Calhoun, 2010). Environmental outcomes fall out of the investigative capacity of this study. In contrast, it was feasible to collate a qualitative understanding of the social outcomes such as social and human capital.

While behaviour change is desirable in the system, its maintenance through avenues such as the development of social capital (hence the development of personal and relational agency) is crucial. Social capital, an integral aspect to learning, is defined as the social connections and the attendant norms, trust and reciprocity associated with these connections (Burgess et al., 2000; Putnam, 1993). In the context of private conservation, social capital refers to the links between: farmers and farmers (bonding social capital); farmers and society, particularly the local community (bridging social capital) and; farmers and institutions (linking social capital) (Putnam, 1993). Most research on evaluating partnerships in private land conservation has focussed on the social context, with the most commonly observed social outcomes being trust, legitimacy and social capital (Cooke et al., 2012; Wilson & Hart, 2001; Burton

& Schwarz, 2013; Mills, 2012; Jansujwicz & Calhoun, 2010). In this study, it appears that BWI farmers did not collaborate sufficiently resulting in a general lack of social capital, an important feature of successful voluntary conservation initiatives (Wilson & Hart, 2001; Ballet et al., 2007).

The shift towards conservation-oriented attitudes of farmers through collaborative efforts was seen as one key indicator for assessing the 'effectiveness' of agri-environmental policy introduced in Australia (Wilson & Hart, 2001). In other words a policy was doing 'well' if it contributed to long-term changes in the way farmers think about biodiversity and their perceived need for conservation management.

The results showed that all but one (24 of 25) of the participants wanted to keep their BWI membership or championship status due to their satisfaction with the partnership and the gains in biodiversity; reputational improvement; recognition for their effort; and reduced environmental risk. However the general dissatisfaction in market related benefits cannot be underestimated in light of the financial unsustainability of the Pathway, especially within the current economic crisis. This is a similar result to what Pence (2012) identified in a ground-truthing investigation on all the Business and Biodiversity Initiatives in the Western Cape in 2010. Despite the indirect financial gains from increased farming efficiency and changes in cost benefit ratio there was a general call for either new emphasis on assistance with marketing or leveraging funds in another way to maintain implementation efforts.

5.2 Behavioural theories and models

Morris & Potter (1995) differentiates farmers based on their levels of commitment and sympathy with the wider objectives of conservation schemes. They identify a participation spectrum with non-adopters at the one end and active adopters on the other. Among the adopters, passive adopters seem to be more motivated by financial incentives, and are more likely to have carried out small-scale conservation work and have a minimal change in

attitude as a result of participation. Active adopters, however on the other end show motivation influenced by environmental and altruistic reasons, and were more likely to carry out large scale conservation, and have a noticeable change in their thinking as a result of participation. Some members of the BWI may have started as a passive adopter and then shifted to an active adopter with increased investment of time, money, development of human and social capital and having received some anticipated Payoff. This could be a site to observe agency development. This finding supports another study, which has shown that with greater personal involvement in conservation the efforts to conserve increase over time (Göckeritz et al., 2010). As informant (F8) testifies:

> *I think that initially what happens is the idea is as an add-on, so to get a little bit of extra marketing or whatever, but as they get more involved in the whole conservation side of things and see how things work, and they've obviously now spent some money on it, then the environment becomes a bit of an asset to them and they are then willing to do the conservation side of it just for the sake of conservation. So BWI might have taken them just one step to recognise the environment and then the farmers take it further than that, which I think is great.*

Intrinsic values, for example having a social and ecological responsibility to the system, can cascade change through a system through a catalyst, for example peer pressure (Morris & Potter, 1995). Essentially, a cascade of change takes place as behavioural change spreads from neighbour to neighbour. One could use an analogy from war literature titled "islands of civility" - people and places that represent a potential solution to conflicts have the potential to be strengthened by outsiders who want to build peace (Kaldor, 2007). It is critical to identify those "islands" of sustainability, a term actually coined by Peter Wallner and Michael Narodoslavsky in the early nineties while working at STENUM GmbH and the Technical University of Graz in Austria, so that we can connect and reinforce those connections in order for change to spread horizontally in farming communities. An alternative theory is proposed by (Rogers, 1962) espouses that diffusion is the process by which an innovation is communicated through certain channels over time among the members of a system, also known as the diffusion of innovations theory. Similar to the principles identified in the Pathway of the BWI, Rogers (1962)

suggests that there are four main elements that influence the spread of a new idea: the innovation, communication channels, time, and a social system, all of which rely a great deal on human capital. Additionally, within the rate of adoption, there is a point at which an innovation reaches critical mass.

On the other hand, the risk of participants being predominantly extrinsically motivated, for example by marketing advantages, may not cascade change in the system, as those who participate want to gain a competitive advantage or a first mover advantage over others. While this may seem implicit, it was more difficult to find evidence for in this study.

The action that emerges from Awareness and Motivation, can equate to the associated agency of the farmers to navigate a given Pathway. As described in chapter 2, agency is an ability to act or ability to respond and its linked to a person's personal and relational capacities (Sen, 1993). Considering the capabilities theory in this study, its important for institutions, such as the BWI, to consider how their Pathway best fit the capabilities of the farmers themselves and how these link to their valued "beings" and "doings" of the farmers rather than attempting to create pathways that undermine basic valued beings and doings. Essentially developing a Pathway that best suits the agency of the participants and encourages personal and relational freedoms. There is a genuine concern that under the current economic climate the wine industry will not have the resources to maintain their conservation efforts (Pence, 2012). A capabilities approach invests in the human being, in creative human capital, as it is enabling valued beings and doings, and personal creative freedom to flourish and therefore be utilised during times of struggle, or during challenging economic periods, or when ecological and economic goals are out of balance, precisely when creative and enterprising ingenuity is needed most.

This being said, all 27 farmers commented on how crucial it was to develop a clear business case for biodiversity conservation and best management, which clearly articulated financial, governance, market and ecological case for conservation. However, participants did not make an explicit business case

link between the costs of conservation e.g., alien invasive plant species removal, and the benefits, e.g. increased ecosystem services, as they mostly only sought direct market benefit in the Payoff, as this informed member suggested (F15):

> *I think that's a question of money; all these farmers have a heart for the veld and a heart for the plants, and that's why I feel if I'm telling a farmer, and I will do it personally, if I can convince him that this little flower is the only place in the country where this little flower is growing, he won't plough it. But if that same flower is growing on 20 other farms, how will I convince him not to plough it? I think fair trade did a good job on marketing the idea of me buying or paying extra on this bottle of wine and I know the profit will go to the people on the farm. Why can't we do the same with nature? You will do it if you want to do it. And if he loves nature and he loves the veld, he will do it. If he's not getting any financial benefit, you will have a big task of convincing him.*

This result is similar to that found in Carruthers (2005) study. It also points to the importance of the capabilities approach (Sen, 1993), particularly under the current economic climate, in illustrating the need for a market benefit in order to continue to provide funding for implementation. In summary, the aim of the programme should be to support farmer agency until they reach a mature stage in their EMP after which they can conduct conservation sustainably and self-sufficiently.

5.3 Using an inclusive approach

There are two inherent assumptions in wanting to rally support from farmers to join the BWI, a) they have the capacity to change their natural environment and b) they are likely to be motivated to collaborate. The aim of the BWI is to generate sufficient adoption of what was previously considered a rare behaviour or practice in a social system so that the rate of adoption becomes self-sustaining and a critical mass/threshold is reached. To this aim, the BWI has utilised two opposing design features for collaborating with farmers including inclusive and exclusive approaches. In this study, an inclusive approach is defined as a design feature that attracts the participation of any affected group or person (Chrislip & Larson, 1994; Cohen & Sabel, 1997) to respond to the socio-ecological needs of the system. Conversely, an

exclusive approach is defined as a design feature that attracts key players in the system (Schuckman, 2001) who have the ability to leverage the rest of the affected parties to respond to the socio-ecological needs of the system (Rogers, 1962). The assumptions of using an inclusive approach in the BWI context would be:

a) All (or the majority) farms are of equal importance to conservation; there are no key farms that have the greatest impact on the environment or own the majority of the land containing critical biodiversity.
b) Or targeting key farms requires the entire sector to shift because the key farms are insufficiently motivated to move on their own.

The BWI adopted an inclusive approach to grow their membership, reach critical mass and become recognised in the South African wine industry as a key player. My findings argue that the BWI adopted this approach based on second assumption and that they have already succeeded in achieving the goal of securing into voluntary conservation, more than 50% of the critically endangered habitats of the CFR. Despite the programme's use of more exclusive features such as the development of the "BWI Champion" tier of the programme (BWI, 2012) and other planned ideas (Isham, pers. comm.), the BWI continues to embrace an inclusive approach to gain industry wide support.

It is broadly accepted in practice and research that getting the "right" people to the table is important (Ansell & Gash, 2008; Carlson, 2007; Carpenter & Kennedy, 2001; Emerson et al., 2009). Inclusiveness and representativeness emphasizes diversity in terms of the necessity of a diversity of perspectives to promote creativity in a deliberative setting and produce decisions that take a broader view of who will benefit or be harmed by an action (Beierle and Cayford, 2002; Sirianni, 2009). Experience has revealed that these sorts of mechanisms can only be successful when they are well resourced over a long-term period (ten to 20 years) and there is a clear need and goal that everyone buys into. There are high risks involved in adopting an inclusive

approach including exhausting already limited resources, the high transaction costs and yielding little benefit or desired changes in the short to medium term (Fung, 2003). In other words, a large proportion of the resources is used to administer and service the collaboration and may exhaust capacity, limit conservation outcomes and limited delivery on member's expectation. Consequently, the inclusive nature may result in inaction because agreement is not easily achieved and lowest common denominator thinking prevails.

Despite the fact that the BWI chose an inclusive approach to develop support, many non-state organisations will often adopt a fulcrum approach as an intervention in order to reach a wider target audience with the scarce resources they have available. The exclusive approach can work well if those players a) are motivated to enter in the partnership; b) are leaders in the system and able to shift all the others; c) are strategic partners, e.g. own most of the natural land and d) do not have vested interests in maintaining the status quo. The advantage of this approach is that it is small, flexible and can catalyse dynamic change over a relatively short time period (three to five years). Thus it may be more efficient and effective than an inclusive approach in certain circumstances. Another objective behind adopting this strategy is to ensure the programme becomes self-financing and remove its dependence on donor funding. A criticism of this approach is that it may be elitist and undemocratic. It has been argued that institutions who adopt an exclusive approach do not encourage sharing in the system and these institutions are more likely to fail than systems that have more inclusive institutions, also known as participative parity (Nicholson & Seidman, 1995; Diamond, 2011).

The BWI is considered successful because it has reached a critical mass in terms of buy-in and support, however its real success relies on its staying power. This study has shown that the programme is now starting to realise the shortcomings of the inclusive nature of their programme as it runs the risk of its own entrapment brought on by the lack of capacity to provide services to all of its members. Additionally, the programme has and continues to adopt a some exclusive features as it turns its focus on private land containing critically endangered habitats and it remains to be seen whether this transition

in management will solve the capacity constraints as well as solve the risks to the sustainability of the programme in light of the criticisms of using an exclusive approach aforementioned in this section.

5.4 Further research: strengths and limitations of the framework and data

The framework AMPR was found to be useful in the context of the BWI for a number of reasons. It aided in organising and making more succinct the large number of variables that was produced from the analysis. This is useful as it is becoming more and more difficult to deal with the continually evolving lists of variables being developed from investigations into collaborative efforts over the last few decades (Conley & Moote, 2003; Emerson et al., 2012; Ostrom, 2009; Ostrom et al., 1994). The framework also highlighted the importance of certain principles of the BWI partnership made evident by their crosscutting nature across the elements of the framework. The linking nature of these principles aided in the conceptualisation of the major findings in this study. The framework also gave structure to the interview and data analysis protocols.

Despite the theoretically meaningful findings in this study, we should note a few framing issues with AMPR framework. Firstly, the framework does not adequately explore positive and negative feedback loops in the system. Secondly, despite this study's identification of individual values, a major feature that is not adequately incorporated in the framework are aspects of the individual including culture, beliefs, norms, learning and agency. Thirdly, the framework is very broad in its scope and can omit details that may be relevant to understanding the system organisation such the failures, barriers and areas of improvement. These features are not explicitly accounted for in the model unless the Payoff is split into benefits and costs. Finally, an intuitive process is required to extract a Theory of change from the application of the AMPR framework, as its not entirely self-evident at first as to what how to construct the major concepts that are derived from the data.

I should also note some limitations of the data. A study aiming to develop theory must acknowledge the principles of theory testing i.e. the triangulation of methods and the use of refutable hypotheses (Conley & Moote, 2003). This study did not make use of additional methods and would gain enormous value from further quantitative investigation into the claims to both ground-truth some of the findings and explain some of the cause and effect aspects of the study. By conducting additional investigations and ground-truthing exercises using mixed methods such as GIS measuring land use change, one can further explore how farming practices resulted in changes in the biophysical system. That being said, this study had a comparatively large sample size than most studies using a semi-structured interview and qualitative data analysis approaches and this may not always be feasible with short time-scales and scarce resources.

5.5 Conclusions and Recommendations

This study aimed to investigate the enabling conditions under which biodiversity conservation change is most likely to take place in an agricultural context. This is achieved through a case study approach investigating the wine farmers and partners participating in the BWI in the CFR of South Africa. This study argues that the Theory of change for the BWI constructed upon two findings: a) the importance of understanding the value system of the participant in order to strategize the intervention and b) the adoption of inclusive approach to gain buy-in and trigger a cascade of change (see chapter 2 for a definition on ‘Ocean of Cascades’).

Farmers were predominantly motivated by intrinsic values to conserve biodiversity on their farms. However, the cases that lay outside of the group, the extrinsically motivated farmers, support our argument that an interventionist must consider the motivational structure of potential members. A model for more intrinsically motivated participants requires that an interventionist should focus their efforts more on the Pathway within model

and thereby achieve a cascade of change through a repetitive and mutually reinforcing cycle through the steps Awareness, Motivation and Pathway. A model for more extrinsically motivated participants requires that an interventionist focus their efforts at Awareness, Pathway and Payoff/Reward in the model and thereby achieve a cascade of change through a repetitive and mutually reinforcing cycle through the steps Awareness, Motivation, Pathway and Payoff/Reward. Additionally, in considering the capabilities theory, its important for institutions, such as the BWI, to develop the capabilities of the farmers themselves and how these link to their valued "beings" and "doings" of the farmers rather than attempting to create pathways that undermine their values and freedoms. The framework also aided in exploring other enabling conditions and features in this study, identified herein as principles. Many of these are commonly touted in the literature including: developing social and human capital; the role of champions and peer pressure; and developing a clear business case for biodiversity conservation, to name a few. These finding responds to the general call for showing a link between individual behavioural change theory and conservation initiatives, and moving beyond behavioural change and considering the role of learning, values and personal agency.

The programme adopted an inclusive approach to reach a critical mass. In the current phase of the programme, using this approach may need some serious deliberation in light of the imminent risk of capacity constraints on the sustainability of the programme. However, BWI cannot be conceptualised as being fully inclusive, as it has also adopted an exclusive feature of the "BWI Champion" tier. While the BWI maintains inclusiveness to gain further industry wide buy-in, it remains to be seen as to whether becoming an exclusive programme will ensure its sustainability. Nevertheless, the BWI should focus its efforts on increasing its core capacity at least in the near future, in order to ensure their sustainability.

5.6 References

Ajzen, I. (1985) From Intentions to Actions: A Theory of Planned Behavior. In: P. D. J. Kuhl & D. J. Beckmann eds. *Action Control*. SSSP Springer Series in Social Psychology. Springer Berlin Heidelberg, pp.11–39. Available from: <http://link.springer.com/chapter/10.1007/978-3-642-69746-3_2> [Accessed 5th January 2013].

Ajzen, I. (2001). Nature and operation of attitudes. *Annu. Rev. Psychol*., 52: 27-58.

Ajzen, I. & Fishbein, M. (1980) *Understanding attitudes and predicting social behavior*. Prentice-Hall.

Anderson, A. (2004) *Theory of Change as a tool for strategic planning: a report on early experiences*. The Aspen Institute: Roundtable on Community Change. Available from: <http://www.aspeninstitute.org/publications/theory-change-tool-strategic-planning-report-early-experiences> [Accessed 1 December 2012].

Ansell, C. & Gash, A. (2008) Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, 18 (4), pp.543–571.

Arsel, M. & Büscher, B. (2012) Nature™ Inc.: Changes and Continuities in Neoliberal Conservation and Market-based Environmental Policy. *Development and Change*, 43 (1), pp.53–78.

Ayres, I. & Braithwaite, J. (1992) *Responsive Regulation:Transcending the Deregulation Debate*. Oxford University Press.

Ballet, J., Sirven, N. & Requiers-Desjardins, M. (2007) Social Capital and Natural Resource Management A Critical Perspective. The Journal of Environment & Development, 16 (4), pp.355–374.

Barnard, C.I. (1968) *The Functions of the Executive*. Harvard University Press.

Batie, S.S. (2003) The Multifunctional Attributes of Northeastern Agriculture: A Research Agenda. *Agricultural and Resource Economics Review*, 32 (1). Available from: <http://ideas.repec.org/a/ags/arerjl/31342.html> [Accessed 20 May 2013].

Beierle, T.A. & Jerry, C. (2002) *Democracy in practice*. Washington, DC: Resources for the Future.

Biodiversity & Wine Initiative (2012) Website. Available from: <http://www.wwf.org.za/what_we_do/outstanding_places/fynbos/biodiversity___wine_initiative/index.cfm> [Accessed 2 December 2012].

Braithwaite, J. & Drahos, P. (2001) The globalisation of regulation. *The Journal of Political Philosophy*, 9, pp.103-128.

Briassoulis, H. (2000) Analysis of land use change: theoretical and modelling approaches. In: S. Loveridge ed. *WebBook of Regional Science*. Regional Research Institute, West Virginia University, Morgantown, West Virginia. Available from: <http://www.rri.wvu.edu/WebBook/Briassoulis/contents.htm> [Accessed 30 December 2012].

Brodt, S., Klonsky, K. & Tourte, L. (2006) Farmer goals and management styles: implications for advancing biologically based agriculture. *Agricultural Systems* 89, pp.90-105.

Bromley, D.B. (1990) Academic contributions to psychological counselling: I. A philosophy of science for the study of individual cases. *Counselling Psychology Quarterly*, 3(3), pp. 299-307.

Burgess, J., Clark, J. & Harrison, C.M. (2000) Knowledges in action: an actor network analysis of a wetland agri-environment scheme*,* 35, pp.119-132.

Burton, R.J.F. & Paragahawewa, U.H. (2011) Creating culturally sustainable agri-environmental schemes. *Journal of Rural Studies*, 27, pp.95-104.

Burton, R.J.F. & Schwarz, G. (2013) Result-oriented agri-environmental schemes in Europe and their potential for promoting behavioural change. Land Use Policy, 30 (1), pp.628–641.

Cape Action for People and the Environment (CAPE) (2009) *Biodiversity and Wine Initiative (BWI): Stewardship within an industry context*. Case study summary [Online]. Available from: <http://www.capeaction.org.za/index.php?C=casestudy&A=display&id=425> [Accessed November 22 2012].

Carlson, C. (2007) *A practical guide to collaborative governance*. Portland, OR: Policy Consensus Initiative.

Carpenter, S.L., & Kennedy, W.J.D. (2001) *Managing public disputes: A practical guide for government, business, and citizen's groups*. San Francisco, CA: Jossey-Bass.

Carruthers, G. (2005) *Adoption of Environmental Management Systems in agriculture: Analysis of 40 case studies*. Publication No. 05/032. Rural Industries Research and Development Corporation, Canberra.

Carruthers, G. (2005) *Adoption of Environmental Management Systems in Agriculture: Analysis of 40*

Case Studies. Publication No. 05/032. Rural Industries Research and Development Corporation, Canberra.
Carruthers, G. & Vanclay, F. (2012) The intrinsic features of Environmental Management Systems that facilitate adoption and encourage innovation in primary industries. *Journal of Environmental Management*, 110, pp.125–134.
Chambers, R.,Pacey, A. & Thrupp L.A. eds (1993) *Farmer first: farmer innovation and agricultural research,* London: Intermediate Technology.
Chrislip, D. & Larson, C.E. (1994) *Collaborative leadership: How citizens and civic leaders can make a difference.* San Francisco, CA: Jossey-Bass.
Clark, J. & Murdoch, J. (1997) Local knowledge and the precarious extension of scientific networks: a reflection on three case studies. *Sociologia Ruralis,* 37 (1), pp.38–60.
Cohen, J. & Sabel, C. (1997) Directly-deliverative polyarchy. *European Law Journal*, 3(4), pp.313-342.
Cohen, M.D., March, J.G. & Olsen, J.P. (1972) A Garbage Can Model of Organizational Choice. *Administrative Science Quarterly*, 17 (1), pp.1–25.
Conley, A. & Moote, M.A. (2003) Evaluating Collaborative Natural ResourceManagement. *Society & Natural Resources*, 16 (5), pp.371–386.
Cooke, B., Langford, W.T., Gordon, A. & Bekessy, S. (2012) Social context and the role of collaborative policy making for private land conservation. *Journal of Environmental Planning and Management*, 55 (4), pp.469–485.
Cyert, R.M. & March, J.G. (1963) *A Behavioral Theory of the Firm*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
Darnton, 2008. *An overview of behaviour change models and their uses*. Government Social research (GSR). Centre for Sustainable Development, University of Westminster.
Demos / Green Alliance (2003) *Carrots, sticks and sermons: influencing public behavior for environmental goals*. A Demos/Green Alliance Report for Defra.
Diamond, J. (2011) *Collapse: How Societies Choose to Fail or Succeed*. Revised Edition. Penguin Books.
Doremus, H. (2003) A policy portfolio approach to biodiversity protection on private lands. *Environmental Science & Policy,* 6 (3), pp.217–232.
Downsborough, L., Shackleton, C.M. & Knight, A.T. (2011) The potential for voluntary instruments to achieve conservation planning goals: the case of conservancies in South Africa. *Oryx*, 45 (03), pp.357–364.
Dr. Debby, F.M. & Dick, K. (2012) Conservation Approaches to Protecting Critical Habitats and Species on Private Property. *Natural Areas Journal*, 32 (2), pp.190–198.
Elmendorf, C.S. (2003) Ideas, incentives, gifts, and governance: Toward conservation stewardship of private land, in cultural and psychological perspective. University of Illinois Law Review, 2003 (2), pp.423–505.
Emerson, K., Nabatchi, T. & Balogh, S. (2012) An Integrative Framework for Collaborative Governance. *Journal of Public Administration Research & Theory,* 22 (1), pp.1–29.
Emerson, K., Orr, P.J., Keyes, D.L. & McKnight, K.M. (2009) Environmental conflict resolution: Evaluating performance outcomes and contributing factors. *Conflict Resolution Quarterly*, 27, pp.27–64.
Emery, S.B. & Franks, J.R. (2012) The potential for collaborative agri-environment schemes in England: Can a well-designed collaborative approach address farmers' concerns with current schemes? *Journal of Rural Studies*, 28 (3), pp.218–231.
Fairbanks, D.H.K., Hughes, C.J. & Turpie, J.K. (2004) Potential impact of viticulture expansion on habitat types in the Cape Floristic Region, South Africa. *Biodiversity and Conservation*, 13 (6), pp.1075–1100.
Ferreyra, C. & Beard, P. (2007) Participatory evaluation of collaborative and integrated water management: Insights from the field. *Journal of Environmental Planning and Management*, 50 (2), pp.271–296.
Fischer, A. (2010) On the Role of Ideas of Human Nature in Shaping Attitudes Towards Environmental Governance. *Human Ecology*, 38 (1), pp.123–135.
Gallo, J.A., Pasquini, L., Reyers, B. & Cowling, R.M. (2009) The role of private conservation areas in biodiversity representation and target achievement within the Little Karoo region, South Africa. *Biological Conservation*, 142 (2), pp.446–454.
Gladwell, M. (2000) *The Tipping Point: How Little Things Can Make a Big Difference*. 1st ed. Little, Brown and Company.

Göckeritz, S., Schultz, P.W., Rendón, T., Cialdini, R.B., Goldstein, N.J. & Griskevicius, V. (2010) Descriptive normative beliefs and conservation behavior: The moderating roles of personal involvement and injunctive normative beliefs. *European Journal of Social Psychology*, 40 (3), pp.514–523.

Goldblatt, P. & Manning, J.C. (2002) Plant diversity of the Cape region of southern Africa. *Annals of the Missouri Botanical Gardens,* 89, pp.281–302.

Gray, I., Dunn, T. & Phillips, E. (1997) Power, interests and the extension of sustainable agriculture. *Sociologia Ruralis,* 37 (1), pp.97–113.

Guston, D.H. (2001) Boundary Organizations in Environmental Policy and Science: An Introduction. *Science, Technology, & Human Values*, 26 (4), pp.399–408.

Hanley, N., Acs, S., Dallimer, M., Gaston, K.J., Graves, A., Morris, J. & Armsworth, P.R. (2012) Farm-scale ecological and economic impacts of agricultural change in the uplands. *Land Use Policy*, 29 (3), pp.587–597.

Hawkins, H.J., Stanway, R., Koopman, R., Maree, K. & Job, N. (2011) *Ground-truthing of the 2010 baseline report 2010: Contribution of C.A.P.E. Business and Biodiversity Initiatives to conservation of critical biodiversity, landscape connectivity and ecological support areas*. Unpublished report for GreenChoice Alliance, Conservation South Africa, Kirstenbosch, South Africa.

Heberlein, T.A. (2012) Navigating environmental attitudes. *Conservation biology*, 26(4), pp.583–585.

Higgins, V., Dibden, J. & Cocklin, C. (2008) Building alternative agri-food networks: Certification, embeddedness and agri-environmental governance. *Journal of Rural Studies*, 24 (1), pp.15–27.

Holley, C., Gunningham, N. & Shearing, C. (2012) *The new environmental governance*. Great Britain: Earthscan.

Holmes, T., Blackmore, E., Hawkins, R. & Wakeford, T. (2011) *The Common cause handbook*. The public interest research centre. Wales, United Kingdom.

Hulme, D. & Murphree, M. (2001) *African wildlife and livelihoods.* Oxford: James Currey Ltd.

Innes, J. E., & Booher, D. E. (1999) Consensus building and complex adaptive systems. *Journal of the American Planning Association*, 65, pp.412–423.

INTERNATIONAL NETWORK ON STRATEGIC PHILANTHROPY (INSP) (2005) *Theory of Change Tool Manual*. Available from: <http://www.dochas.ie/Shared/Files/4/Theory_of_Change_Tool_Manual.pdf> [Accessed 2nd January 2012].

International Union for Conservation of Nature (IUCN) (2008) *IUCN – private sector relations 2009–2012*. Proposal to the 4th World Conservation Congress. IUCN, Gland, Switzerland. Available from: <http://cmsdata.iucn.org/downloads/iucn_private_sector_relations_2009_2012.pdf> [Accessed 22 November 2012].

Jackson, T. (2009) *Prosperity without Growth: The Transition to a Sustainable Economy*. London: Earthscan.

Jansujwicz, J.S. & Calhoun, A.J.K. (2010) Protecting Natural Resources on Private Lands: The Role of Collaboration in Land-Use Planning. In: S. C. Trombulak & R. F. Baldwin eds*. Landscape-scale Conservation Planning*. Springer Netherlands, pp.205–233. Available from: <http://link.springer.com/chapter/10.1007/978-90-481-9575-6_10> [Accessed 22 November 2012].

Jenkins, M., Scherr, S.J. & Inbar, M. (2004) Markets for biodiversity services. *Environment,* 46(6), pp. 32-42.

Jerneck, A. & Olsson, L. (2011) Breaking out of sustainability impasses: How to apply frame analysis, reframing and transition theory to global health challenges. Environmental Innovation and Societal Transitions, 1 (2), pp.255–271.

Jordan, N. & Warner, K.D. (2010) Enhancing the Multifunctionality of US Agriculture*. BioScience*, 60 (1), pp.60–66.

Kaldor, M. (2007) *Old and new wars: organized violence in a global era*. Stanford: Stanford University Press.

Kellert, S. (1990) *Public attitudes and beliefs about the wolf and its restoration in Michigan*. Madison, Wisconsin: HBRS.

Kollmuss, A & Agyeman, J. (2002) Mind the gap. *Environmental Education Research,* 8 (3), pp.239-260.

Lakoff, G. (2006) *Simple framing*. Rockridge Institute, pp.1–8.

Lewis, D.J., Plantinga, A.J., Nelson, E. & Polasky, S. (2011) The efficiency of voluntary incentive policies for preventing biodiversity loss. *Resource and Energy Economics*, 33 (1), pp.192–211.
March, J. (1991) Exploration and Exploitation in Organizational Learning. *Organization Science*, 2, pp.101–123.
March, J.G. & Simon, H.A. (1958) *Organizations*. Wiley.
Mason, P. & Barnes, M. (2007) Constructing Theories of Change Methods and Sources. *Evaluation*, 13 (2), pp.151–170.
McCarthy, J. (2007) States of nature: Theorizing the state in environmental governance. *Review of International Political Economy*, 14 (1), pp.176–194.
Mendham, E., Millar, J. & Curtis, A. (2007) Landholder participation in native vegetation management in irrigation areas. *Ecological Management & Restoration*, 8, pp.42-48.
Merenlender, A.M., Huntsinger, L., Guthey, G. & Fairfax, S.K. (2004) Patronatos Agrarios y Servicios de Conservación: ¿Quién Está Conservando Qué para Quién? *Conservation Biology*, 18 (1), pp.65–76.
Michel-Guillou, E. & Moser, G. (2006) Commitment of farmers to environmental protection: From social pressure to environmental conscience. *Journal of Environmental Psychology*, 26 (3), pp.227–235.
Mills, J. (2012) Exploring the social benefits of agri-environment schemes in England. *Journal of Rural Studies*. Available from: <http://www.sciencedirect.com/science/article/pii/S0743016712000745> [Accessed 14 November 2012].
Moon, K., Marshall, N. & Cocklin, C. (2012) Personal circumstances and social characteristics as determinants of landholder participation in biodiversity conservation programs. *Journal of Environmental Management*, 113 (0), pp.292–300.
Morris, C. (2004) Networks of agri-environmental policy implementation: a case study of England's Countryside Stewardship Scheme. *Land Use Policy*, 21 (2), pp.177–191.
Morris, C. & Potter, C. (1995) Recruiting the new conservationists: Farmers' adoption of agri-environmental schemes in the U.K. *Journal of Rural Studies*, 11 (1), pp.51–63.
Morris, J., Mills, J. & Crawford, I.M. (2000) Promoting farmer uptake of agri-environment schemes: the Countryside Stewardship Arable Options Scheme. *Land Use Policy*, 17 (3), pp.241–254.
Mortimer, Garth. Manager of CapeNature, Boland, Western Cape. Formal Interview. Rawsonville, 05 April 2013.
Myers, N. (2003) Biodiversity hotspots revisited. *BioScience,* 53, pp.916–917.
Newburn, D., Reed, S., Berck, P. & Merenlender, A. (2005) Economía y Cambio en el Uso de Suelo en la Priorización de la Conservación de Tierras Privadas. *Conservation Biology*, 19 (5), pp.1411–1420.
Newell, P. (2008) CSR and the Limits of Capital. *Development and Change*, 39 (6), pp.1063–1078.
Nicholson, L. & Seidman, S. (1995) *Social Postmodernism: Beyond Identity Politics*. Cambridge University Press.
OECD Development Assistance Committee (2008) *Guidance on evaluation conflict prevention and peacebuilding activities*. Paris. Available from: <http://www.oecd.org/dac/evaluationofdevelopmentprogrammes/dcdndep/39774573.pdf> [Accessed 05 January 2013].
Organization for Economic Cooperation and Development (OECD) (1998) *Human Capital Investment: an International Comparison Organization for Economic Cooperation and Development*. Centre for Educational Research and Innovation, Paris.
Ostrom, E. (1990) *Governing the commons: the evolution of institutions for collective action*. Cambridge□; New York, Cambridge University Press.
Ostrom, E. (2005) *Understanding institutional diversity. Woodstock*, Princeton University Press. Available from: <http://catalogue.library.manchester.ac.uk/items/3037325> [Accessed 27 November 2012].
Ostrom, E. (2009) A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science*, 325 (5939), pp.419–422.
Ostrom, E., Gardner, R. & Walker, J.H. (1994) *Rules, Games, and Common-Pool Resources*. University of Michigan Press.
Pannell, D.J., Marshall, G.R., Barr, N., Curtis, A., Vanclay, F. & Wilkinson, R. (2006) Understanding and promoting adoption of conservation practices by rural landholders. *Australian Journal of Experimental Agriculture,* 46, pp.1407-1424.
Pence, G.Q.K. (2012) *Contribution of C.A.P.E. Business and Biodiversity Initiatives to conservation of*

critical biodiversity, landscape connectivity and ecological support areas: Post-baseline assessment 2010. A Green Choice Alliance project. Unpublished Project Report. Conservation South Africa, Kirstenbosch, South Africa.
Petersen, S., Shearing, C. & Nel, D. (submitted manuscript) The role of corporates in reconnecting society to nature and reversing environmental degradation.
Pretty, J. (2003) Social Capital and the Collective Management of Resources. *Science,* 302 (5652), pp.1912–1914.
Pretty, J. (2008) Agricultural sustainability: concepts, principles and evidence. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 363 (1491), pp.447–465.
Pretty, J., & Smith, D. (2004) Social capital in biodiversity conservation and management. *Conservation Biology*, 18, pp.631–638.
Putnam, R.D., Leonardi, R., & Nanetti, R. (1993) *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
Ramsey, C.E. & Rickson, R.E. (1977). Environmental knowledge and attitudes. *Journal of Environmental Education*, 8(1), pp.10-18.
Retolaza, I. (2011) *Theory of Change: A thinking and action approach to navigate in the complexity of social change processes*. Hivos/UNDP/Democratic Dialogue. Available from: <http://www.democraticdialoguenetwork.org/documents/view.pl?f_id=1811> [Accessed 1 December 2012].
Rittel, H.W.J. & Webber, M.M. (1973) Dilemmas in a general theory of planning. *Policy Sciences,* 4, pp.155-169.
Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E.F., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H.J., Nykvist, B., de Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V. J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P. & Foley, J.A. (2009) A safe operating space for humanity. *Nature,* 461 (7263), pp. 472–475.
Rogers, E.M. (1962) Diffusion of innovations. Free Press of Glencoe.
Rogers, E.M. (2003). *Diffusion of innovations*. 5th ed. New York: Free Press.
Rogers, P.J. (2012) Introduction to impact evaluation. *Impact Evaluations Notes*, March (1).
Rouget, M., Richardson, D.M., Cowling, R.M., Lloyd, J.W. & Lombard, A.T. (2003) Current patterns of habitat transformation and future threats to biodiversity in terrestrial ecosystems of the Cape Floristic Region, South Africa. *Biological Conservation,* 112 (1–2), pp.63–85.
Rustagi, D., Engel, S. & Kosfeld, M. (2010) Conditional Cooperation and Costly Monitoring Explain Success in Forest Commons Management. *Science*, 330 (6006), pp.961–965.
Sabatier, P. A., Focht, W., Lubell, M., Trachtenberg, Z., Vedlitz, A., & Matlock, M. (2005) *Swimming upstream: Collaborative approaches to watershed management*. Cambridge, MA: MIT Press.
Scholes, B. (2002) *Biodiversity conservation outside of formally protected areas.* Unpublished Report to CSIR Environmentek, Pretoria, South Africa.
Schuckman, M. (2001) Making hard choices: A collaborative governance model for the biodiversity context. *Washington University Law Quarterly,* 79 pp.343.
Schultz, P.W. (2011) Conservation means behaviour. *Conservation Biology,* 25, pp.1080–1083.
Selin, S. & Chevez, D. (1995) Developing a collaborative model for environmental planning and management. *Environmental Management*, 19 (2), pp.189–195.
Selman, P. (2001) Social Capital, Sustainability and Environmental Planning. *Planning Theory & Practice*, 2 (1), pp.13–30.
Selman, P. & Knight, M. (2006) On the nature of virtuous change in cultural landscapes: Exploring sustainability through qualitative models. *Landscape Research*, 31 (3), pp.295–307.
Sen, A.K. (1993). Capability and well-being. In: M. Nussbaum, M & A. Sen eds. *The Quality of Life.* pp.30-55. Oxford: Oxford University Press.
Sharpley, R. & Vass, A. (2006) Tourism, farming and diversification: an attitudinal study. *Tourism Management,* 27, pp.1040-1052.
Simon, H.A. (1947) *Administrative behavior: a study of decision-making processes in administrative organization*. Macmillan Co.
Sirianni, C. (2009) *Investing in democracy engaging citizens in collaborative governance*. Washington, DC: Brookings Institution.
South African National Parks (SANParks) (2004) *The park management plan process.* Available from: <http://www.sanparks.org/conservation/park_man/> [Accessed 12 December 2012].

Stein, D. & Valters, C. (2012) *Understanding 'Theory of Change' in international development: a review of existing knowledge*. JSRP Paper 1. The justice and security research programme (JSRP), The London School of Economics and Political Science.
Stern, P., Dietz, T. & Guagnano, G. (1995) The New Ecological Paradigm in Social-Psychological Context. *Environment and Behaviour,* 27 (6), pp.723-743.
Stern, P.C. (2000) New Environmental Theories: Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues*, 56 (3), pp.407–424.
Steyaert, P. & Jiggins, J. (2007) Governance of complex environmental situations through social learning: a synthesis of SLIM's lessons for research, policy and practice*. Environmental Science & Policy*, 10 (6), pp.575–586.
Sutherland, L.-A., Gabriel, D., Hathaway-Jenkins, L., Pascual, U., Schmutz, U., Rigby, D., Godwin, R., Sait, S.M., Sakrabani, R., Kunin, W.E., Benton, T.G. & Stagl, S. (2012) The 'Neighbourhood Effect': A multidisciplinary assessment of the case for farmer co-ordination in agri-environmental programmes. *Land Use Policy*, 29 (3), pp.502–512.
Svenfelt, Å., Engström, R. & Svane, Ö. (2011) Decreasing energy use in buildings by 50% by 2050 — A backcasting study using stakeholder groups. *Technological Forecasting and Social Change*, 78 (5), pp.785–796.
Talbot, C. (2007) *Understanding Consumers: What influences their behaviour?* Clare Talbot at the DWP Strategic Analysis Unit.
Taylor-Powell, E. (1998) *Questionnaire design: asking questions with a purpose*. Madison, WI, University of Wisconsin - Extension: Cooperative Extension Publications. Available from: <http://learningstore.uwex.edu/assets/pdfs/g3658-2.pdf> [Accessed 1 December 2012].
Toogood, M., Gilbert, K. & Rientjes, S. (2004) Farmers and the environment: assessing the factors that affect farmers' willingness and ability to cooperate with biodiversity policies. In: *BIOfACT*, p.40.
UN Global Compact and IUCN (2012) *A framework for corporate action on biodiversity and ecosystem services*.
Valbuena, D., Bregt, A.K., McAlpine, C., Verburg, P.H. & Seabrook, L. (2010) An agent-based approach to explore the effect of voluntary mechanisms on land use change: A case in rural Queensland, Australia. *Journal of Environmental Management*, 91 (12), pp.2615–2625.
Vanclay, F. (2004) Social principles for agricultural extension to assist in the promotion of natural resource management. *Australian Journal of Experimental Agriculture,* 44 (3), pp.213-222.
Vollan, B. (2012) Pitfalls of Externally Initiated Collective Action: A Case Study from South Africa. *World Development*, 40 (4), pp.758–770.
Vollan, B. & Ostrom, E. (2010) Cooperation and the Commons. *Science*, 330 (6006), pp.923–924.
Wade, R. (1994) *Village republics: Economic conditions for collective action in South India*. San Francisco, California: Institute of Contemporary Studies Press.
Wals, A., van der Hoeven, N., & Blanken, H. (2009). *The acoustics of social learning: Designing learning processes that contribute to a more sustainable world*. The Netherlands: Wageningen Academic Publishers.
Ward, N. & Lowe, P. (1994) Shifting values in agriculture: the farm family and pollution regulation. *Journal of Rural Studies,* 10 (2), pp. 173–184.
Warner, K.D. (2008) Agroecology as participatory science: Emerging alternatives to technology transfer extension practice. *Science, Technology and Human Values,* 33, pp.754–777.
Weiss, C.H. (1995) Nothing as Practical as Good Theory: Exploring Theory-Based Evaluation for Comprehensive Community Initiatives for Children and Families. In: New Approaches to Evaluating Community Initiatives Volume 1 Concepts, Methods, and Contexts. Washington DC, The Aspen Institute.
Wigboldus, S. & Brouwers, J. (2011). *Rigid plan or vague vision: How precise does a theory of change need to be*? Hivos E-dialogues. Available from: <http://www.hivos.nl/eng/Hivos-Knowledge-Programme/Themes/Theory-of-Change/E-dialogues/E-dialogue-2> [Accessed 1 December 2012].
Williams, K.J., Reeson, A.F., Drielsma, M.J. & Love, J. (2012) Optimised whole-landscape ecological metrics for effective delivery of connectivity-focused conservation incentive payments. *Ecological Economics*, 81, pp.48–59.
Wilson, G.A. & Hart, K. (2000) Financial imperative or conservation concern? EU farmers' motivations for participation in voluntary agri-environmental schemes*. Environment and Planning A*, 32 (12), pp.2161 – 2185.
Wilson, G.A. & Hart, K. (2001) Farmer Participation in Agri-Environmental Schemes: Towards Conservation-Oriented Thinking? *Sociologia Ruralis*, 41 (2), pp.254–274.

World Wide Fund for Nature (WWF) (2003) From goodwill to payments for environmental services: a survey of financing options for sustainable natural resource management in developing countries. In: P. Gutman ed. *WWF Macroeconomics for Sustainable Development Program Office*. Available from: <http://assets.panda.org/downloads/fin_alt.pdf> [Accessed 22 November 2012].

World Wide Fund for Nature (WWF) (2012) *Living planet report 2012*. WWF International, Gland, Switzerland.

Yin, R.K. (1994) *Case study research: design and methods*. 2nd ed. Newbury Park, CA: Sage Publications.