

Collective stewardship and pathways to change: understanding pro-social values, connectedness to nature and empathic capacity to cultivate ecocentrism in rural communities of North Sulawesi, Indonesia



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communities of North Sulawesi, Indonesia

Submitted by **Harry Henry Benjamin Hilser** to the University of Exeter
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Abstract

Drawing from multiple research traditions, I investigated pro-social and pro-environmental behaviours and assessed potential of behaviour change strategies, focusing on addressing hunting as a practice. An immersive 14-month ethnographic study involving participant observations, interviews, and focus groups explored the cognitive, social, and spiritual histories of four rural communities in North Sulawesi, Indonesia. Particular attention was paid to the individualistic elements of attitudes, values, and beliefs, along with the social norms and perceived behavioural control governing these variables.

My research revealed highly pro-social communities, with empathic tendencies and care-giving values, demonstrating latent potential for conservation advocacy. Expression of these values is dependent on several loci of control, particularly normative pressures of close communal living and religious doctrine. Land stewardship through participation in resource management initiatives generates responsibility toward wildlife and natural areas. I discovered the heterogenization of old and new belief systems to have major implications for control and acceptance of behaviours and how likely people partake in practices related to the environment. Next, a strong affinity for nature was recorded, demonstrated by preferences for natural settings, awe and wonder of nature, human-animal relations including expression of empathic and compassionate predispositions. I noted a growing phenomenon of cultural erosion and loss of traditional ecological knowledge. A call for preservationism reflected the wish to avert breakdown of ancient cultural roots and identities, and the wisdom which connects people to the natural world. Finally, I experienced emergent environmental identities and openness to change, with a transition toward pride over exploitation of native wildlife, suggesting potential pathways to ecocentrism and thus more sustainable lifestyles. I distilled these insights into a strategic theory of change. This includes developing campaign messages which promote pro-sociality and environmental citizenship; working within the governing structures of societal control, particularly belief systems; and speaking to pre-existing communal values and social norms surrounding the acceptance of exploitative practices related to the natural world. Emergent from this research is a nuanced understanding of cultural dynamism and the links between pro-social and pro-environmental behaviours, which may help to normalise more harmonious relationships between people and nature.

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Chapter One. Introduction

1.1. Background and rationale to the study

This study builds upon the growing discourse surrounding the sustainability of human behaviour, following a trend toward measuring connection to nature and the contention that this association may be an important predictor of behaviour and subjective wellbeing. This notion of oneness with nature has a rich and varied history. From the ecological curiosity and revelations of pioneering naturalists such as Aldo Leopold (1968) and Wendell Berry (2015), to the development of philosophies such as biophilia (Wilson, 1984) and deep ecology (Bragg, 1996). Progressing through environmental and social justice to eco-socialism, with contemporary attempts to deal with the entrenchment of the capitalistic, materialist-consumerist society in the modern world, there exists a distinct commonality of the focal unit of concern: our interactions and interdependence with the natural world. Now, increasing global evidence of biophilia and the Gaia hypothesis (42) demonstrates the connections between humans and nature that contribute to life satisfaction and wellbeing (Ann & Douglas, 2020; Chang et al., 2020; Coulthard, 2020; Xue et al., 2019). Recent meta-analyses indicate that facilitating a stronger connection to nature may also result in greater engagement in conservation (Ives et al., 2017; Whitburn et al., 2019). Social psychology has proved to be an invaluable research tradition in which these notions have been embodied, shedding light on how our actions are shaped by a multifaceted dynamic of individualistic characteristics and social conditions.

The sub-discipline of environmental psychology emerged as early as the 1950s, alert to social issues involving the natural environment and resource use (Aronson et al., 2009). Throughout the discipline's evolution, a shift in focus from the physical environment to sustainable development reiterates the necessity of understanding behaviour in context; humans within their environment, and as part of a system. From this, in the late 1990s conservation psychology was attributed to the mainstream, multi-disciplinary efforts to embrace psychology within the natural world and respond to the movement's political focus on global challenges burgeoning with the environment, such as the climate crisis, pollution and biodiversity loss. Carol Saunders, during the popularisation of the discipline, defined conservation psychology as:

“the scientific study of the reciprocal relationships between humans and the rest of nature, with a particular focus on how to encourage conservation of the natural world” (Saunders, 2003:138).

Building on the study of these relationships, sociology ranges from the micro level of individual agency and interaction to the macro level of systems and social structure. Environmental governance often goes beyond the individual, and involves attempting to alter the reproduction of practices, systems, and networks in order to become more sustainable, underscoring the importance of understanding multiple levels (Spurling et al., 2013).

It is through this bidirectional, relational lens of human behaviour and our place within, or as a part of, nature that this study has been designed. I seek to bring focus to the notion of interdependence and capture the role of other-oriented values and empathic sensibilities on the preservation or exploitation of natural resources. Garnered from a deep and enduring curiosity concerning human behaviour and unity with the natural world, the overarching aim of this research is to explore the mechanisms of conservation advocacy and pro-environmental behaviour (PEB), defined in this study as behaviour that *“harms the environment as little as possible or even benefits the environment”* (Steg & Vlek, 2009:309). The theoretical underpinnings of this are crystallised through an empirical case-study to explore the key constructs which shape our behaviours, enabling direct assessment of these mechanisms and opening the opportunity to nurture the changes required to become more sustainable.

I have taken a trilateral approach to engaging with this challenging aim. Firstly, the complex theoretical and conceptual bases of conservation advocacy and behaviour are explored. I bring attention to the critical role of pro-sociality and how our social interactions with one another can affect our relationship with nature, and vice-versa. Observing the world as a singular, interdependent entity which incorporates all living systems on a biospheric level follows systems thinking (Midgley, 2003); the biosphere referring to the matrix of ecological and evolutionary processes (Vernadsky, 1998). I focus the exploration of literature on three of the most commonly scrutinised components of human behaviour and intention, to combine into what I denote for this research as one’s “advocacy

profile” (89), consisting of attitudes, values, and beliefs. This is further contextualised with prominent theories of behavioural motivation which help to understand the dynamics of these constructs, and their interaction with socio-structural forces such as perceived behavioural control and social norms.

Secondly, I examine human relationships with nature, and particularly the sense of connectedness towards nature. One’s recognition of inclusion within the environment can be considered as egoistic, altruistic or biospheric (Stern & Dietz, 1994) and may be key in understanding assemblages of attitudes, values or beliefs, and the relationship between people and place. It is important to acknowledge what the source of an individual’s level of inclusion is, and how *lack* of inclusion can be mitigated or rectified. By reasoning that inducing empathy (36) can improve attitudes and behaviour, it has been widely examined in relation to PEB (Bennett et al., 2005; Wesley Schultz, 2000; Vining, 2003). My explorations of the literature and empirical study uncover lessons in empathy applied to environmental frameworks (Berenguer, 2007). I explore how environmental identity (EI) (44) follows this notion of interdependence with nature, as a genre of self-concept encouraging cognitive and emotional connections between self and nature. Notions of collaboration and participation working across new distributed models fit in with the modern interpretation of connectivity and a broader level empathic consciousness. Connection to the environment is paramount to one’s capacity for advocacy, but the level of receptiveness to act upon this attitudinal foundation is largely dependent on the scale of one’s vested interest in the resources, and a combination of socio-psychological barriers and enablers. Research suggests that any activity that reduces an individual’s perceived separation between self and nature will lead to an increase in that individual’s biospheric concern (Schultz, 2000; Soga & Gaston, 2016; Whitburn et al., 2019). Therefore, it is logical to design research that investigates human-nature relationships, and subsequent interventions that promote a sense of unity.

Thirdly and finally, progressing organically from the previous two focal research spheres, I look into applied behavioural change science in the milieu of biodiversity conservation, and ask how effective various strategies might be in promoting advocacy and PEB. The coalescence of these aspects brings focus towards how one might be consistent with one’s advocacy profiles, overcoming

the value-action gap (55) and other motivational barriers whilst embracing enabling mechanisms. The structural-agency debate playing out across the social-psychological and sociological fields is illuminated by social practice theory (56). This offers a bold re-conceptualisation of the foundations for behaviour change and poignant consideration for the rationalisation of this research. Bolstered by insights from this research and targeting key individual agents at specific societal leverage points (249; Meadows, 1999), I explore the foundations for behaviour change and the most relevant frameworks to address a conservation problem and its associated practices. Through a deductive process I then build on the theories related to the empirical findings to develop a strategic and systematic, deeply contextualised theory of change (262). Limitations of the research and recommendations for further study are given in the concluding remarks.

Often misconstrued as an ambiguous construct, advocacy nestles itself within the domain of environmental ethics, more related to tendencies for support and should be regarded as a markedly different notion than behaviour. By exploring participants' advocacy profiles contextualised within the sociological and normative conditions that govern these factors, we may be able to shed light on how people act towards the environment. I ensured that my research study was an iterative process, meaning it was conducted in a repetitive and systematic manner to ensure cohesiveness. Limitations and challenges are acknowledged in the ambitious nature of the study design and importantly regarding aspects of the personal research journey, including research time management within the split-site part-time arrangement in which it was undertaken. The importance of the cycle of doctorateness (Trafford & Leshem, 2008) has been carefully considered and forms the driving framework for this study design.

To support the exploration of the three composite theoretical territories described above, a pragmatist-oriented mixed-methods data collection methodology is adopted. This involves a focus on qualitative data, bringing to life original quantitative data collected utilising an index for connectedness to nature. Four locations became the sites for consecutive months of immersive ethnographic fieldwork, focusing on hunting practice, wildlife trade and consumption of bushmeat as key practices. I unravel the symbolic, mystical and normative

meaning garnered from the documentation of spiritual and Traditional Ecological Knowledge (TEK: Berkes, 2012) via participant observations, ethnographic interviews and focus groups. Collectively, this offers a more nuanced, idiosyncratic narrative for a deepened understanding of connectedness to nature and the cultural roots of human behaviour.

Everyone (even academics seeking objectivity) is influenced by their worldview, ethics, and values, with Western thought is typically rooted in an anthropocentric worldview. Despite great progress on some environmental fronts, it has become increasingly clear that this provides an insufficient basis for preserving the planet's biodiversity and ecosystem function. The biosphere, or ecosphere (with inclusion of geological abiotic processes also), is the common term to denote the regions of the surface and atmosphere of the earth and its totality of living organisms (Huggett, 1999). I identify with the term "ecocentrism" as the worldview which I feel is most relevant to this research for several reasons (Curry, 2020):

1. The research which supports the importance of encouraging intrinsic (inherent) value of nature (212) is congruent with advocating an ecocentric worldview that finds intrinsic value in all of nature and the biosphere.
2. The animistic reverence of all elements of nature, incorporating the biosphere in its entirety, in the belief that all creatures, objects, and places possess a spiritual essence, with a supernatural power organising and animating the material universe (67).
3. Ecocentrism is the broadest of worldviews aligning with systems thinking, recognising interdependence, and encompassing the associations between all things living and inanimate in our world, beyond the biosphere to include environmental systems and abiotic aspects as interconnected wholes.

This study progresses from this notion of ecocentrism to support the practical application of *in-situ* conservation in a biodiversity hotspot at the North-eastern tip of the island of Sulawesi in Indonesia. Hunting represents the leading threat to this biodiversity, fuelled by a trend of consumption at rates beyond sustainable levels (Bennett & Robinson, 2000; Lee et al., 2005). Therefore, conservation efforts in the area focus on working together with local communities to both

understand and alter illegal and unsustainable hunting behaviours and their adjacent practices (i.e., trade and consumption of bushmeat, as well as illegal logging and other exploitative natural resource practices, often termed “overharvesting”). Region-wide awareness-raising campaigns have been conducted by NGOs working in the region, including the organisation for which I am Director, Selamatkan Yaki (SY: “Save the monkeys”). SY aims to reduce threats to the Critically Endangered Sulawesi crested black macaque (*Macaca nigra*) through community empowerment and strategic barrier removal, to encourage pride in endemic wildlife and educate people on the risks associated with bushmeat consumption (Hilser et al., 2014). However, there remains a need for a data-driven, holistic, multi-stakeholder strategy to mitigate the illegal wildlife trade in the region, based on a nuanced understanding of community needs and the diverse forces and dynamics of social living. This relates to a further goal, of enhancing the efficacy of conservation strategies through research innovation and adoption of broader perspectives across disciplines. Pragmatist research has the potential to contribute to biodiversity conservation by focusing on the delivery of practical outcomes and by being contextually situated without committing too heavily on a singular philosophical perspective. A direct feedback mechanism is in development which may open up opportunity of cross-fertilisation of the theories tested and developed (through a blended inductive-deductive approach) and the knowledge gained in this research to promote best practice for *in-situ* conservation approaches.

1.2. Gap in knowledge

Throughout the formulation of the conceptual framework for this study, I discovered major gaps remaining in our understanding regarding the mechanisms of behaviour change. In particular with regard to the role of key constructs such as empathy, environmental identity, pro-sociality, and the relationship of these to exploitative natural resource extraction such as hunting practices. This may be perceived as existing across a continuum of theory to practice, whereby notable disconnects remain between intellectual and applied frameworks. Conservation practitioners rarely understand the key social psychological determinants of their targets’ or sociological factors shaping the

societies and cultures which require change in order to become more sustainable (Moon & Blackman, 2014).

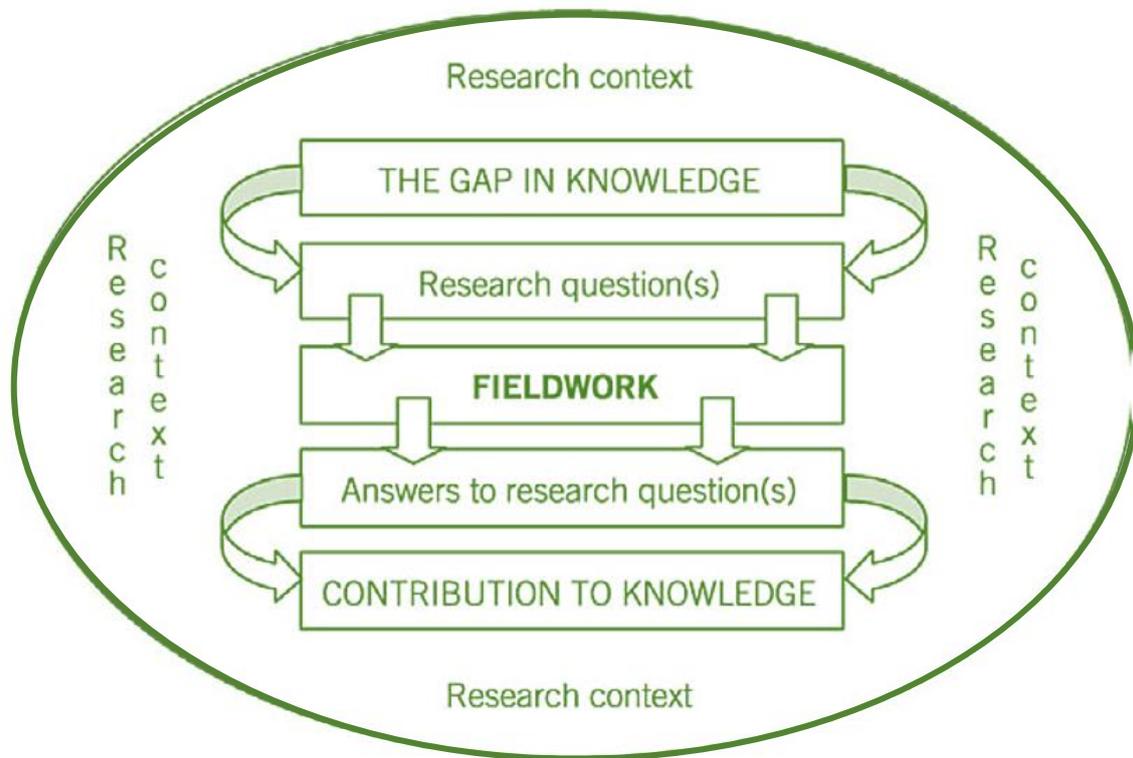


Figure 1. The basis of research context and my proposed contribution to knowledge. (Leshem & Trafford, 2007).

Recent calls for further study into the dynamics of pro-sociality and pro-environmentalism have been noted during exploration of the relevant corpus of literature, illuminating the current gap in knowledge and requirement for fieldwork, through the systematic process identified in Fig. 1.

Notably, this study responds to calls for impact-oriented application of findings of human-nature connection (Ives et al., 2017), the call for pro-social education (Brown et al., 2012), and for studies into the role of affect, religious and spiritual perceptions, psychological dispositions, and ethical values, in hindering or promoting pro-environmental behavior (Taylor et al., 2020); leading toward calls for a “biospheric sustainability science” (Folke et al., 2016).

1.3. Aims and Objectives

I focus this study on a plurality of theoretical and academic questions, and also questions of practical benefit to conservation. These questions have arisen from an immersion in a range of research traditions covering multiple intellectual arenas. Representing the study's statement of purpose (Trafford & Leshem, 2008), the overarching aim outlined here is encapsulated by the three study objectives below it, which embody the intention of my study.

1.3.1. Research aim

To explore the mechanisms of conservation advocacy and action, connectedness to nature and the potential to change behaviour of rural communities in North Sulawesi, Indonesia.

1.3.2. Research objectives

1. **To explore** pro-sociality and the factors that affect pro-environmentalism
2. **To examine** the role of connectedness to nature in human behaviour
3. **To assess** the potential of different strategies to promote conservation advocacy

All objectives refer specifically to rural communities in North Sulawesi, Indonesia. The first two research objectives are addressed in empirical Chapters Five and Six respectively and discussed in Chapter Seven. The final objective is addressed in Chapter Eight through review of the findings of the two foundational chapters.

1.4. Intended outcomes: Research impact

Due to the dual-level format of this study, namely incorporating the theoretical angle to the research (deductive research approach), and applied conservation practice (inductive approach) there are a distinct set of outcomes intended to be reached as a result of the study:

1. Set of recommendations for natural scientists to address anthropogenic threats to biodiversity conservation through social science approaches.
2. Advanced understanding of behaviour change mechanisms.
3. Indication of key considerations of different strategies to affect conservation advocacy.

This research project aims to satisfy the following two scholarly features, as described by Leshem and Trafford (2007) as combining disparate concepts in new ways to investigate a conventional issue; and to identify new and emerging issues worthy of investigation and explanation.

1.5. Thesis structure

This thesis is structured largely around a substantive review of the relevant corpus of literature, and the subsequent theoretical underpinnings in relation to the overarching aim of the study (16). Three central themes are focused on, the central discourse and theoretical debates of which connect with one another and align with the research objectives and related concepts. These theoretical foundations coalesce into a conceptual framework (59), which is then followed by contextualisation of the study with a historical and socio-demographic profile of society in North Sulawesi, Indonesia (64). The methodology section then details and justifies the rationale for the ethnographic methods adopted to collect the evidence to support the investigation of the research objectives (79). The first and second of the three themes, which engage with pro-sociality and connectedness to nature respectively, are presented in two empirical chapters (103, 163). Each of these comprises rich ethnographic accounts and direct quotes to support my conceptual explorations, along with intellectual analyses of the reflections within the relevant sphere being investigated. The final theme, which builds on the third objective and is attentive to the applied, impact-oriented perspective, is crystallised within the discussion, collating the research insights to develop a strategic theory of change (199). Finally, I conclude by summarising the findings of each research objective, reflect on the limitations of the study, and provide a series of practical recommendations and calls for further study (262).

Chapter Two. Literature review and conceptual framework

2.1. The importance of understanding human behaviour in the context of environmental management

This investigation into conservation advocacy has been shaped by a substantial and diverse corpus of literature. This chapter briefly outlines the theoretical underpinnings dominant throughout the supportive reading, the discourse of which has been influenced by my own direct experience in the field and buttressed by extensive reviews of other research. This broad literature review progresses toward a conceptual framework at the end of the chapter [\(60\)](#).

Within the social sciences there is a distinction between positivistic and social constructivist approaches to understanding human behaviour. The cited studies and theoretical underpinnings presented in this chapter are broadly encompassing of both of these paradigms, appreciating the distinction while maintaining the pragmatic epistemological positioning described in the methodology [\(80\)](#) and contextualised practically in my discussion [\(251\)](#).

Advocacy is a term infrequently used in the fields of conservation or social science, yet it represents the fundamental basis of the goals of this challenging area of research (Johnson & Mappin, 2009). Simply put, advocacy is the process of developing support for a particular cause, policy, or movement; for conservation this might include enabling access to funding, garnering political support, or motivating local community members to protect nature or become part of a community outreach programme. Ultimately, advocacy facilitates the necessary steps for mitigation of a detrimental behaviour that may be negatively impacting a particular habitat or species. However, advocacy is commonly typified as a solely political process with the aim to influence public-policy and resource allocation decisions within political, economic, and social systems and institutions. Further to this, the distinction between advocacy and education is often blurred. While education denotes a more instrumental step-wise process, advocacy supposes connotations of a state of being (Jickling, 2003). For this study, while multiple terms from environmental education, conservation, and sustainability are referred to, I maintain a position of both the *attitudinal and*

behavioural forms of advocacy as the central loci of interest; with a focus therefore on conservation advocacy, expanding upon the notion of PEB.

The following accounts focus on the discourse and paradigmatic trends apparent throughout the relevant bodies of literature, predominantly drawing upon primary resources throughout the social science research traditions. I have drawn particular attention to three central domains, directly related to the overarching aim of the study, and its constituent objectives. These three subsections are logical in their intellectual flow and are inherently related to the research design (281). First, I outline the fundamental basis for human behaviour and explore some of the key motivational mechanisms to understand observations from my ethnographic fieldwork. Within this first section, I take a deep dive into pro-sociality which has emerged as a dominant theme in this study and thus mandates a comprehensive appraisal. As this chapter will demonstrate, pro-sociality forms the basis for all social exchange and subsequently dictates the conditions for the extension of positive attitudes, values, beliefs, and behavioural interactions with the biosphere. Helping one another, whether manifested through empathy, altruism, and by dynamics of motivational mechanisms, represents the foundations of societies. Given the aim of this research, pro-sociality and the connection to pro-environmentalism thus represents a salient area for a review of the literature.

Our oneness with and sense of unity towards the natural world is scrutinised next, with a broad stance covering notions of environmental identity, empathy, and value-orientations. To understand the pathways to greater harmony between people and nature, one must first understand the relationships, their cultural roots, and both historical and contemporary socio-cultural manifestations. This section bridges the often-abstract conceptual processes of behaviour framed within the connections between humans and the natural world.

Finally, an integrative applied perspective is taken to draw attention to the potential practical application of my research findings, shining light on appropriate mechanisms for change. Barriers to change are critical to understand to ensure efficacy of interventions; I consider these first from a positivist values perspective. I then draw attention to sociology and social practice theory, as a lens for which

we might uncover sharper insights into generating advocacy and shifting behaviours. This guides the ultimate goal of designing effective theories of change to build best practice in biodiversity conservation. Before leading into the contextual foundations for the study area and the sample communities, I draw the three sections presented in this chapter together to establish the groundwork for understanding the cohesion between the theoretical and empirical elements of my research.

I begin by exploring human behaviour, positioned at the basis of what it means to be pro-environmental. I approach this complex area of behaviour by focussing on three central factors which I perceive as most salient to this research, namely the individualistic elements of attitudes, values, and beliefs, while also considering the social norms and perceived behavioural control governing these variables.

2.2. Exploring mechanisms of Pro-environmental Behaviour [Objective one]

Conservation problems can be reduced if more people engage consistently in pro-environmental actions (Steg & Vlek, 2009). Following this, to be able to reduce the threats to biodiversity and promote human health and wellbeing, one must first understand the motivations, dynamics and resilience of the behaviours causing the threats; as well as the practices related to those behaviours and into which people, as agents, are recruited [\(56\)](#).

An important starting point is with regard to sustainable lifestyles and everyday actions and practices. On the drive to work, for example, one might listen to the radio and hear of the continued change in the climate, threats to the natural environment and the ever-burgeoning sustainability policy debate across the private and public sectors. Lobbying to local government by writing letters or drafting petitions, calling for improved infrastructure or policies affecting transport systems might be an individual response to such perceived challenges, as might acting more consciously with regards to energy saving within the home, or reducing consumption of meat or single use plastics. Widely accessible information increasingly reiterates that environmental challenges such as the

climate crisis are caused by unsustainable patterns of human activity, and that they will demand large-scale changes to everyday life across all sectors of society. Although the impact of collective action of individuals has been questioned, there is substantial evidence that changing individual behaviour can reduce environmental impacts (Eden, 1993; Chan, 1998). The enactment of everyday activities such as car-sharing, reducing driving speed, and lowering the thermostat on central and water heating have been estimated to dramatically reduce household carbon emissions by almost a third (Gardner & Stern, 2008). This is in line with the emergence of green consumerism as eco-awareness in contemporary Western market economies increases, embracing the idea of ethical consumers expressing their political beliefs in everyday life by selectively consuming the most environmentally favourable products or services (Boström & Klintman, 2008; Sparks & Shepherd, 1992).

Globally, policy responses to such challenges have taken on new and innovative forms, attempting to promote proenvironmental behaviour and sustainable consumption. In the UK for example, the Department for Environment, Food and Rural Affairs Sustainable Development Strategy (DEFRA, 2005, 2006, 2008) has invested heavily in formulating active policies for the promotion of more sustainable consumption behaviours. DEFRA represents a leading authority in shaping policy debate around sustainability and has frequently underscored the role of individual citizens in overconsumption and affecting change. Policies have typically focused on discouraging individuals from enacting current unsustainable activities and substituting them with existing or new alternatives. The extent to which sustainable consumption or proenvironmental behaviour change is within the capacity of individual agents, or whether more fundamental societal level alterations are required, has maintained its position throughout these policy debates. Psychological research forms the backbone of the strategies, which can aid in compartmentalising sustainable development issues systematically. For example, the model of the four E's: Enable, Engage, Encourage and Exemplify, symbolises the instruments that represent government policies directed at changing (consumption) behaviours from a national policy perspective (DEFRA, 2005). Despite these drives for recognising agency of change embedded within the citizens, there appears to be less evidence for specific adoption of

Environmental Citizenship (see 2.4.2.: [48](#)) in UK policy (Dobson, 2010) or further afield with relevance to biodiversity conservation.

The citizen-consumer construct demonstrates that behaviours in the home represent relatively simple and convenient ways to make lifestyle changes (Lockie, 2009; Scammell, 2000). The perspective that 'command and control' approaches to governance have only limited success in changing behaviours is widely supported (Gunningham, 2009; Pahl-Wostl, 2009). The classical fiscal alternatives to EC enforce political and institutional change, largely considered beyond the realm of the state and market. There exists substantial evidence for this effect of transcending conventional regulatory approaches, and empowering citizens with choices and active roles in environmental management resulting in environmental benefits (Agyeman et al., 2006; Burgess et al., 1998; Kersty Hobson, 2013; Jagers et al., 2014). Similarly, a growing body of literature builds upon the green consumerism concept and addresses green governmentality, focusing on new governance forms and the responsabilisation processes (Soneryd & Ugglå, 2015; Gilg et al., 2005; Kim, 2015). However, green consumerism as a movement has been criticised as potentially deferring from the broader social and political dimensions implicit in the concept of sustainable development, and that when being communicated on a policy level should retain focus on justice and equity and the inherent governance required for sustainability (Agyeman et al., 2006).

The majority of research exploring the mechanisms of fostering sustainable behaviour has been focused on every day actions, mostly set within the socio-cultural conditions of a western context (Fudge et al., 2013; Gardner & Stern, 2008; Harris, 2013). Literature searches reveal swathes of studies assessing the means to support transition to more sustainable transport behaviour (Bamberg et al., 2007; Gössling, et al., 2009; Watson, 2012), recycling behaviour (Chan, 1998; Pratarelli, 2010) and energy consumption (Shippee, 1980; Shove, 2004) amongst other areas related to the sustainable development agenda. However, behaviour change science for biodiversity conservation is limited, as is evidence for transnational comparative analyses (Kahn, 1999). Socio-cultural context constitutes influential normative power within the demographic, social and cultural factors which are at times undervalued.

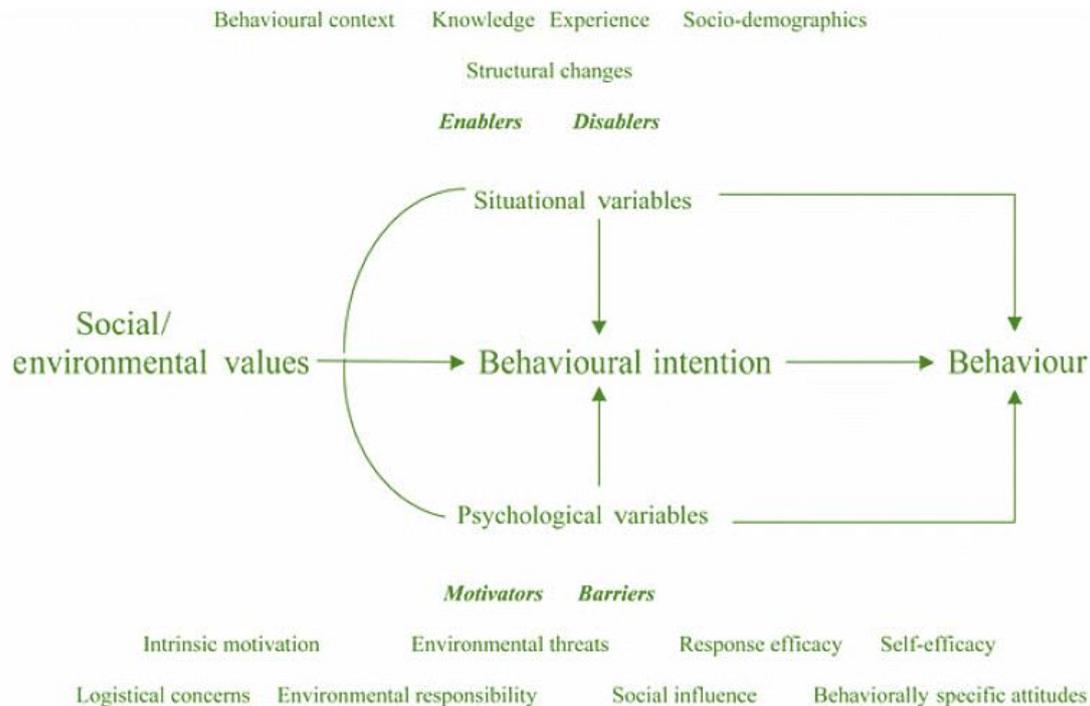


Figure 2. Detailed conceptual framework for PEB. (Barr & Gilg, 2007).

The factors that influence pro-environmental concern and behaviour are highly varied and complex, ranging from personal factors such as knowledge and self-construal, cognitive biases, sense of control and values, and social factors such as norms, beliefs, and cultural variation (see Gifford & Nilsson, 2014 for a comprehensive review). Identifying the core elements and processes within a conceptual framework of environmental behaviour, Barr and Gilg (2007) draw on social psychology to pinpoint a set of attitudinal constructs known to influence environmental action (Fig. 2). Barr (2012: 103) further crystallises these antecedent constructs and causal chains into three approaches within an investigation of environmental action as follows:

- 1. Exploring environmental practices:** understanding how environmental actions are related to each other and daily practices.
- 2. Identifying lifestyle groups:** appreciating the potential lifestyle segments that may be evident in the population; and,
- 3. Examining barriers to and motivations for action:** using lifestyle groups and our understanding of environmental practices to identify the possible ways in which behaviour can be encouraged.

These three stages have been carefully addressed within this research project, by designing an immersive ethnographic study to uncover nuanced detail of the study groups and their behavioural motivations, along with pathways and barriers to change. Numerous models of human behaviour have been constructed to identify behavioural determinants, seeking to explain the motivational mechanisms that may be at work in order to better understand the route to foster pro-environmentalism. While a multitude of individual and structural variables may be considered, these models' typically home in on attitudes, values, and beliefs, and of the individual as predictors of behaviour. The most widely applied model is Ajzen's (1991) Theory of Planned Behaviour (TPB), an extension of the Theory of Reasoned Action (TRA: Fishbein & Ajzen, 1975). According to the TPB, there are several distinct proximal predictors of behaviour, which include the behavioural intention, attitudes towards the behaviour and the perceptions of norms or conventions towards such behaviour, which are mediated by perceived behaviour control. The central assumption of the theory is that intention is the only direct psychological determinant of behaviour. The openness of the model to include additional variables has been one of the central drivers of its popularity, with various iterations of the model developed each adding other factors such as belief salience, self-identity, moral norms and affective beliefs amongst others (Sutton & Douglas, 2013). However, it has been criticised in that returns from the theory's predictive capacity are diminished as more and more variables are brought in (Hargreaves, 2011; Jackson, 2005). Stern (2000) additionally highlights that the effect of variables present in the surrounding context can even override the cognitive factors present in the assumptions of the TPB and other models; importantly humans do not live in a social vacuum. Likewise, various scientific areas such as research into health behaviour change, have also raised criticisms of the TPB suggesting the use of alternative theories which lend themselves more appropriately to experimental tests and avoid making claims about cognitions (Sniehotta et al., 2014; although see the retort from the TPB author: Ajzen, 2015). Conner & Armitage (1998) conclude the importance of examining the usefulness of models such as the TPB/TRA based on their power to help design effective behaviour change interventions. Such uses of the TPB are based on the assumption that the TPB describes a causal process. However, to date, relatively few studies have addressed this assumption of causality, most relying on correlational data among self-report measures. These critiques

reiterate the importance of using psychological theories that are empirically substantiated and which clearly define their range of intended applications, rather than claiming to explain all human behaviour. It may be recommended therefore to caution against indiscriminate adoption of the most widely cited frameworks, models and theories for tackling biodiversity conservation issues, and explore the literature to identify the antecedents to a case study situation operating under a set of site-specific conditions. While adhering to these cautions, for this study, I deductively build upon the fundamental principles of the TPB in line with other relevant theories and concepts to establish a baseline framework for the behaviours I observe in the ethnographic fieldwork.

Despite the widely recognised value (and limitations) of the theories described above, they are not widely used in natural resource management or campaigning, prompting calls for more theoretical grounding for conservation project planning (St John et al., 2014). Particularly relevant to this research is a comprehensive assessment by Tien Ming Lee (2009) which explored the determinants of local people's attitudes toward conservation and the consequential effects on illegal resource harvesting in the protected areas (PAs) of Sulawesi. The authors found that the degree of participation in PA management appears to be a relatively strong determinant of conservation attitude. Additionally, resolving existing land-rights conflicts, which are widespread in Indonesia, will improve overall conservation attitudes, particularly those of the indigenous inhabitants. My research builds on these important considerations of local perceptions and active participation in PA management. By understanding these I attempt to deepen our understanding of the origin of the advocacy and behavioural traits in the indigenous communities studied.

Despite the importance of understanding behavioural motivations, it is also necessary to pay attention to the numerous barriers to expression of behaviours. Structural barriers may include enabling conditions (e.g., poverty or class obstacles, technological limitations), normative barriers or presumed barriers of perceived behavioural control. Section 2.4.4. (255) addresses the socio-psychological barriers in more detail, exploring the dynamics of the so-called value-action gap, cognitive dissonance, and the myriad forms of cognitive bias.

While there are many individualistic factors that influence human behaviour, this study focuses on a triad of the most commonly scrutinised components, to

combine into what I denote for this research as one's "advocacy profile", referring to the most salient components with regard to conservation action. This is explained in the methodology (89) though for the benefit of the upcoming three sections, they consist of attitudes, values, and beliefs. I will examine their relevancy to the motivation of PEBs, beginning with the most well-studied construct, attitudes.

2.2.1. Attitudes

Attitudes are an important component in influencing human behaviour (Ajzen, 1991; Newhouse, 1990) For the purpose of this study, attitude is defined as an enduring positive or negative perspective about a person, object, place, or issue. Ajzen and Fishbein (1975) define four entities that make up an attitude:

1. A target (the attitudinal object)
2. An action (what one would like to do with that object)
3. A temporal reference
4. A situational reference

It has been suggested that attitudes constitute two main sources. These are cognitive, based on one's beliefs and thoughts of the subject, and affective which attributes deeper, value-based emotional connections to the subject (Millar & Tesser, 1986). The more affective aspects dominate the large part of the modern approach to environmental attitudes and behaviour change (McKenzie-Mohr, 2000; Mayer & Frantz, 2004). As a prerequisite step in behavioural change approaches, both cognitive and affective constituents of attitudes need to be considered to design effective campaigns to foster environmental concern (Newhouse, 1990).

Many conservation interventions have been designed to foster positive attitudes with the goal of shifting environmentally destructive behaviours (Steinmetz, et al., 2014; Sigit et al., 2019; Bennett et al., 2005; Lee & Priston, 2005). However, many fail to comprehend the complex pathways to enable changes in behaviours, with efficacy monitoring often lacking sufficiently robust study design to accommodate the interplay of social factors (St John et al., 2014). Seeking attitudinal alterations

is inherently challenging, with both cognitive processes acting against change (e.g., neo-phobia, Ernsperger & Stegen-Hanson, 2004) and the presence of motives against change (Batson, et al., 1997; Hobson, 2002). Furthermore, the cognitive-affective mismatch hypothesis posits that one's self-reported attitude will differ as a function of what is salient (Millar & Tesser, 1990). Thought about one's attitudes has inconsistent effects on the relationship between attitude and behaviour. Thoughts, therefore, may either increase or decrease the correlation between attitudes and behaviours. In other words, eventual expression of behaviour may not be aligned with prevalent supposed attitudes.

The value basis theory (Stern & Dietz, 1994) deals with environmental concern, proposing that attitudes are formed by an individual's view of a few salient aspects of an object and the relevance of such an object to key values. From this viewpoint, an activated altruistic moral norm produces the desired environmental concern and subsequent behavioural outcomes, which can be related to a broader set of values (Schultz & Zelezny, 1998). I now explore values as the second component of the advocacy profiles to contextualise these important influences on human behaviour.

2.2.2. Values

Theories focusing on values help to explain the behavioural bases of pro-environmentalism. Stern (2000) links value theory (Schwartz, 1992) norm-activation theory (Stern & Dietz, 1994; Schwartz, 1977), and the New Environmental Paradigm (NEP: Dunlap & Liere, 1978) through a causal chain of five variables leading to behaviour. These five variables include personal values (especially altruistic values), the ecological worldview (i.e., the NEP), the adverse consequences for valued objects, beliefs about the general conditions in the biophysical environment, and personal norms for pro-environmental action.

While the depiction of values has been misinterpreted in the past (Stern & Dietz, 1994), they are generally known to represent our guiding principles and broadest motivations. Values influence our perceptions, attitudes, judgements and subsequently how we behave (Schwartz, 1992). Values affect how people evaluate different choices, and the individual and collective costs of the outcomes. They act as a guiding force for morality and movements for personal

or in-group welfare and justice, influencing political persuasions, career choices and resource use. As such, values are of significant importance to conservation. Campaigns aimed at reducing certain behaviours can gain useful insights from values research, and how to frame communications to speak to already existing value sets, while priming certain desirable value expressions. Values are integral components of sustainability orientations and subsequent consumption patterns. Understanding their origin and stability is therefore key in advocating for change in unsustainable behaviours.

There are numerous values typologies, though most classifications fall broadly within the following three domains, represented here with nature as the object of valuation:

1. **Instrumental** values recognise nature's worth for what it brings us, a typically utilitarian perspective.
2. **Intrinsic** values perceive nature to have worth in its own right, independent of people.
3. **Relational** values consider the systems-thinking way of seeing the world, focused more on associations for collective, eudemonic wellbeing.

This relational notion has arisen from a realisation that few people actually make personal choices based only on how things possess inherent worth or satisfy their own preferences, suggesting that the intrinsic / instrumental separation represents an unhelpful dichotomy (Chan et al., 2016). Value classifications are often viewed through a subtly different lens, as extrinsic or *self-enhancing* values and intrinsic, or *self-transcendent* values. Building on the early pioneering values work of Rokeach (1968, 1973), Schwartz and colleagues developed what is now the most widely used model of values, the Schwartz Value Theory (1992). The system arose from a broad-scale survey of widely different cultural groups around the globe. They found approximately 70 different samples with roughly the same value structure, identifying 10 broad value domains based on the motivations underlying them (Fig. 3). These ten value types arrange themselves into four clusters, with two major axes referred to as self-enhancement (as opposed to self-transcendence), and openness to change dimensions (as opposed to "conservation" or traditionalism – resistance to change). The self-interest

dimension captures the distinction between self-interest and altruism but not the distinction between humanistic and biospheric altruism (Dietz et al., 2005). Humanistic and biospheric values are both related to environmentalism and as such should be the focus of research and design of intervention strategies.



Figure 3. Values may be considered indicators of attitudes and subsequent action and positioned across a spectrum of 10 domains (Holmes et al., 2011).

Values are recognised as dynamic properties that may be switched on (engaged) or turned off by experience or communications. Values may be perceived as having both neighbours (similar value constructs) and opposites (dissimilar value constructs). Effects include the spill-over of certain value types; values appearing next to one another on the spectrum are more likely to be prioritised, or when they are engaged, they strengthen neighbouring or associated values. There are important implications for this process in terms of practical application for change. For example, stimulating benevolence-type values (such as loyalty or honesty) can result in greater universalism-type values, which includes unity with nature and protection for the environment. Another effect is what might be described as a see-saw action – as one value is temporarily engaged, the other is suppressed, with this effect continually shifting back and forth.

The value basis theory (Stern & Dietz, 1994) is the dominant paradigm for understanding environmental concern, an extension of Schwartz's (1973, 1977) norm activation theory of altruistic behavior. The theory posits that our relationship with the environment is typically divided into either egoistic (concern for the self in relation to the environment), altruistic (or humanistic; concern for other people in relation to the environment), and biospheric (often termed "ecocentric" or "biospheric", as I most commonly adopt in this thesis) (de Groot et al., 2010). Previous studies have shown that most incidences of environmental concern can be reduced to this three-factor model, though Swami et al. (2010) highlight that there have been few studies examining the predictors of these levels of concern.

Recent research provides evidence that values are integral in the process of advocacy demonstrating that messages framed through appeal to intrinsic values (invoking concern for equality or unity with nature), are more effective at strengthening support for causes than those appealing to extrinsic values (Crompton & Weinstein, 2015). The Common Cause Foundation, a community organisation which focuses on promoting intrinsic communal values for eliciting change, builds further on these findings. They found that approaches that combine both intrinsic and extrinsic values are equally ineffective as messages that promote extrinsic values alone (Crompton et al., 2014). Perhaps most importantly from the research is that the results show that the values reflected in a message about the work of one organisation (conservation NGO WWF or disability charity Scope in the research example) have a significant influence on an audience's intention to help an organisation working on a very different cause (environment in the case of a message about the work of WWF; disability in the case of a message about the work of Scope). This form of *values spill-over* has implications for both contextualising and understanding current prevailing values within a target community, which I hope to shed light upon with this empirical research. Studies such as this suggest that to carefully adapt the way values are framed is critical for promoting PEB change. This will be of utmost importance in seeking to dissuade unsustainable hunting practices.

Values are frequently considered as embedded elements of culture; where culture is defined as a group of systems, norms and values practiced by people

(Mead & Métraux, 2000). A variety of representations of cultural types ranges from local culture, the collective group of people, shared traits, and customs, to popular culture, which is more ubiquitous and dynamic, spanning the globe and emerging and re-emerging sporadically. Generally, these are also manifested in either material culture (the things people make and construct such as art, dance, buildings etc.) or non-material (the beliefs, practices and values that people hold). Cultural customs may also serve as expressions of a community's values, such as the normative acceptance of hunting of endangered species or the commensality of feasting.

“A long line of philosophical, sociological, and anthropological research suggests that values are rooted in the community at large.”

(Maio, 2016:163).

Michael Manfredi (2017) calls for a social-ecological systems approach to understanding values. This largely represents an opposing school of thought to the promotion of intrinsic values described above, purporting values as socially dispersed constructs and thus unable to be changed for the sake of conservation. I contextualise my empirical findings within this discourse of value plasticity [\(212\)](#).

As they are typically connected to our needs and what people regard as important, values are key for understanding relationships with nature. Maslow's hierarchy of needs (1943) suggests that basic physiological and psychological needs are met first. This is then followed by a sense of belonging, esteem and self-actualisation, whereby we can focus on achieving our human potential rather than the pre-occupation with preventing deficits in our needs (Maio, 2016). Therefore, situations with high demand on our basic lower-level needs will likely reduce the likelihood of an expression of universalism values and thus our capacity to protect nature. A systematic review of motivational values and conservation success in and around PAs by Cetas and Yasué (2017) provides further support for the efficacy of approaches that appeal to intrinsic values. Of further relevance to this study, the authors also advocate for a multi-pronged strategy for change, suggesting to focus on how different motivators can better empower local communities to conserve.

Beliefs, feelings, and behaviour come together to constitute our values. However, the relationship is bidirectional (Maio, 2016), meaning that values also shape our beliefs, feelings and thus behaviour. Attitude function has been demonstrated to be an important guide for when values will be a predictor of behavioural intentions (Maio & Olson, 1995). Furthermore, as attitudes are essentially by-products of values, values are the vital units of analysis. As such, researchers increasingly focus on environmental values over attitudes (Thomas et al., 2015). Building upon these core lessons of values and their salience for understanding and influencing behaviours, I shift the focus to beliefs, the final element in the advocacy profiles.

2.2.3. Beliefs

A closely related concept to attitudes, values and the affective domain described above, are beliefs, which reside in the cognitive domain. Beliefs are defined as the information and interpretation one has about a person, object, place, or issue (Rucker et al., 2004). Beliefs, which are often challenging to disentangle from attitudes, may be factual or based on personal opinion, and generally depict an acceptance that something exists or is true, especially one without proof. Stern et al. (1999) remark how a movement's ideology contains specific beliefs about consequences and responsibilities that, in conjunction with its chosen values, activate personal norms that obligate individuals to support the movement's goals. The understanding of this connection of the elements comprising advocacy profiles is crucial to carry forward while exploring the propensity for change and pathways toward conservation support.

Beliefs in the context of trust, faith and from a spiritual perspective are explored in detail in the next chapter, where I document the faith-based systems in North Sulawesi, Indonesia. Religions may occasionally disrupt existing values, social arrangements, and ecosystems, though they tend to typically reinforce them. The prominence of religion for sculpting pro-sociality is a significant finding and guides my focus for my data collection, with the understanding that religion is a powerful force for guiding attitudes, values and ultimately behaviours.

2.2.4. Pro-sociality

I now dedicate a large part of this review of the literature on what I consider an integral facet of social living which aligns with the propensity for PEB. This is the study of pro-sociality, the bedrock of social interaction and cohesion, communal behaviours that benefit other people or society as a whole.

The term “pro-social” is not found in most dictionaries, first coming into use in the 1970s to illuminate the growing interest in behavioural classifications related to helping, although the subject was originally paid attention at the turn of the century (McDougall, 1908). Although there are many definitions, pro-social behaviour commonly denotes a label for a broad category of actions such as sharing, cooperating, comforting, rescuing, volunteering or helping which tend to benefit other individuals or society as a whole (Bierhoff, 2002). This definition, however, refers to the consequences of actions rather than the motivations behind those actions. It is imperative to acknowledge the differentiation between pro-social behaviour and altruism, which are two distinct concepts though often misinterpreted. Pro-social behaviour refers to a pattern of activity, whereas altruism (often referred to as “selflessness”), is the concern for the welfare of others out of pure regard for their needs rather than how the action will benefit oneself (Aronson et al., 2009). Altruism is very closely related to helping, but with the inclusion of additional characteristics, namely intent by and benefits to the benefactor (Dovidio, 2006). Importantly, distinctions also focus on either the *act* itself or the *motivations* behind the act, which Batson (1991) argues is more prominent for our understanding of this type of helping.

The study of altruism has received substantial intellectual attention over recent decades. A plethora of theoretical and empirical issues surround how the characteristics of actors impact the development of altruism and pro-social behaviour (Thye & Lawler, 2009). A persistent question is whether true altruism exists. Many seek to know whether when we help others our motivation is exclusively self-interested (universal egoism) or whether we are capable of being altruistically motivated as well. Due to technicalities in terminology of psychological hedonism, this debate is frequently considered moot (Fiske, 1998; Millon et al., 2003). However, others such as Batson (1991) do not support this

notion of universal egoism, remarking that altruism and egoism are distinct motives, even though they can co-occur within varied frameworks. For a comprehensive overview see Batson (1998). This inquiry into our pro-social foundations represents crucial underpinnings in pro-environmental concern.

2.2.4.1. Understanding positive social behaviours

Lessons from research in pro-sociality demonstrate that to a large extent social life is regulated by distributive and reciprocity norms, governed by the interplay of beliefs, attitudinal traits and normative values that constrain selfish behaviour (Aronson et al., 2009; Fiske, 1998; Millon et al., 2003). *Descriptive* norms refer to beliefs about what is actually being done by others, whereas *injunctive* norms refer to beliefs about what other people think ought to be done (Lapinski & Rimal, 2005). Only injunctive norms carry a direct threat of sanction, but individuals often fear sanctions should they drift too far from the descriptive norm of behavior (Kinzig et al., 2013). An individual's conviction that acting in a certain way is right or wrong represents their personal norms, through a process of internalisation (Thøgersen, 2002; Bamberg et al., 2007). Morality has long been connected with pro-social behavioural responses (Eisenberg-Berg, 1979; Lapsley, 1996), in particular in relation to activation models which seek to explain the constituent processes of behaviours (De Groot & Steg, 2009). Following this association, many scholars have built upon Schwartz's (1977) highly influential Norm Activation Model (NAM) to understand social behaviours which posits that one's moral obligation to act on personal norms influences the causality of altruism. De Groot and Steg (2009) validate past research by showing that variables included in the NAM are powerful in explaining a diversity of prosocial intentions and behavior in the social and environmental contexts. The NAM includes three types of variables to predict prosocial behavior. The first of these is personal norms (PN), referred to as feeling a "*moral obligation to perform or refrain from specific actions*" (Schwartz & Howard, 1981:191). The second, awareness of consequences (AC), is defined as whether someone is aware of the negative consequences for others or for other things one values when not acting prosocially. The third, ascription of responsibility (AR), is described as feelings of responsibility for the negative consequences of not acting pro-socially. An individual's willingness to follow personal norms is not based on fear of social

sanctions but the anticipation of negative self-related feelings such as regret or guilt after having broken her/his personal norms. Therefore, it is suggested that norms form the central facet in processes of activation of elements of pro-social behaviour. Subsequent research has furthered these assumptions, although to date there seems to be little clear consensus on the predictive value of norms (Padilla-Walker & Carlo, 2014).

The behavioural outcomes of attitudes and subjective norms have been widely demonstrated empirically (Baldassarri & Grossman, 2013; De Groot & Steg, 2009; Dovidio et al., 1991; Lee & Kweon, 2013) and thus have far-reaching implications for studying PEB. However, some authors have argued that social pressures, such as those emerging through the establishment of social norms, are less likely to have an impact on an individual's PEBs because these are motivated intrinsically and are more a product of personal values and beliefs (Stern, 2005).

Among the scientific disciplines, social psychology has taken the lead in the study of how pro-social behaviour is manifested and its diversity of influences (Kidd, 1996; Dovidio, 2006). This intellectual tradition has largely evolved through the 'bystander intervention' work that has defined the area since the 1960s, with a large concentration of studies seeking to interpret the various manifestations of pro-social behaviour (Latané & Darley, 1970; Harari et al., 1985; Brief & Motowidlo, 1986). Early questions were based on exploring *whether* humans were predisposed to be pro-social, whereas more recently attention has centred on *why* humans are predisposed to be pro-social, and which factors are likely to play the most important roles in shaping the emergence and expression of this hardwiring of altruism.

An additional epistemology is that of intention versus action. People's thoughts can have major effects on the correlations between attitudes, intent and actual behaviour, yet the Cognitive-Affective Mismatch Hypothesis, which I visited earlier in relation to attitudes, proposes that these correlations are inconsistent (Millar & Tesser, 1990). Essentially, many people may display indicators of pro-social attitudes and pro-social intent yet fail to act pro-socially. Trijp (2014) presents an up-to-date inquiry into the reasoning behind such a deficit, within the

pertinent discourse of PEB. He brings particular attention to goal framing theory (human perception, thinking and deciding organized in a modular way, e.g., Lindenberg & Steg, 2007; Lindenberg, 2006) and the notion of multiple selves (humans as a composite of selves representing different modes of judgement and decision making, Danziger, 1997; Funder, 2010). Consistency of behaviour with intent or attitudes will depend on a combination of goal frames and current value constructs of self but may be maladaptively reduced in certain conditions and even become a costly display of integrity, feeling social pressures to help or exhibit pro-social or pro-environmental acts due to strong conscientiousness.

Pro-social behaviour has been associated with positive outcomes across the lifespan. Beginning our analyses at the meso-level, research has shown that children with a more pro-social orientation are liked and trusted more by their peers, are better at maintaining friendships, have a higher status in peer groups, demonstrate better self-regulation, empathy, and social cognitive skills, and excel as academics (Bierhoff, 2002; Padilla-Walker & Carlo, 2014). However, there remains much to understand about the origins and uptake of pro-sociality.

2.2.4.2. Sources of pro-social behaviour

One fundamental question that has dominated social science is whether pro-social actions have genetic or biological bases. These approaches form part of the micro-level analyses (Penner et al., 2005), with developmental psychology playing a major role in defining this intellectual tradition. It is important to consider the developmental process of pro-social behaviour by whether these are hardwired responses or learned behaviours, and particularly whether pro-sociality is situation specific or exhibits high generality across situations (Bierhoff, 2002). This will help to predict the stability of certain predispositions within communities.

Within a socio-cultural framework, variation can exist between the generation, onset and expression of pro-social behaviour (Aknin et al., 2013). The importance of acquired cultural norms for shaping costly forms of cooperation and creating cross-cultural diversity is supported by several theories (Bamberg et al., 2007). This bolsters the support for the role that culture may play in shaping the

emergence of pro-sociality (House et al., 2013; Aknin et al., 2013). Biologically, helping one another makes adaptive sense (Darwin, 1987; Dunlap & York, 2008). Evolutionary perspectives on intergroup psychology propose that the human mind, in parallel to human physiology, has been shaped by biological evolution (Stürmer & Snyder, 2009). Morality is universal across social animals, setting constraints on a moral code that control sociality and subsequent evolution of those social traits (Auhagen & Bierhoff, 2002).

A relatively recent development in behavioural science is that of group processes and intergroup relations, with the focus of previous studies having largely been on interpersonal contexts of helping, examining how people engage on individual levels rather than as members of a group (Dovidio et al., 1991). This maturation in our understanding of the effects of helping for both in-group and out-group members has practical implications underscoring social identity (Casey, 2014). The notion of in-group favouritism may manifest itself in numerous forms including the evaluation of others or allocation of resources (Aronson et al., 2009). It is argued that people will most likely act in terms of the values and norms of their group members when social identity is salient (Struch & Schwartz, 1989; Levine & Cassidy, 2010). The desire to improve self-esteem has been attributed as a determinant for in-group biases, which may guide selective inter-personal pro-social tendencies (Rubin & Hewstone, 1998). Additionally, realistic conflict theory (Campbell, 1965) posits that competition for resources between groups is a central cause of in-group bias and the corresponding negative treatment of members of the out-group.

One emergent area of pro-social research is ethnocentrism, which may serve as a buffer to a thwarted need to belong (Greitemeyer, 2012). Usually experienced in larger groups such as tribes, ethnic groups, or nations, ethnocentrism is the tendency to view one's group as centrally important and superior to other groups. Although congruent with many intra-group pro-social processes, such as cooperation and trust, this collective perception has also been linked to intergroup violence, prejudice or xenophobia from negative valuation of members of out-groups and the eventual chronic perception of intergroup bias (Dreu et al., 2011; Efferson et al., 2008) as well as dehumanisation of non-human animals (Kasperbauer, 2018). Empathic capacity is also frequently regarded as being at

the forefront of perceptions toward out-group members, and thus seen as the fundamental basis of pro-sociality.

2.2.4.3. To empathise, is to socialise

Empathy helps create and maintain social bonds by enabling people to comprehend, share and respond appropriately to others' emotional states (Daniel, 2010). A diverse range of terms has been utilised in previous studies to explain the theoretical construct of empathy, including cognitive empathy, self-other overlap, emotional contagion, empathic accuracy, and sympathy (Hofelich & Preston, 2012). In order to nurture progeny and create social bonds with their peers, social species are required to have the ability to read feelings and intentions of offspring and one another, including basic empathic sensibilities. Empathy, which emphasises cooperation over competition, is the substance of the process of reasoning our feelings and emotions into pro-social behaviour, or as social scientists refer to it, social intelligence (Lewis et al., 1997; Coplan & Goldie, 2011). It has been shown that differences in empathic tendencies manifest themselves in differences in pro-social behaviours (Davis et al., 1999; Penner et al., 2005). Provocative questions have been raised concerning pro-social behaviour and the role of empathy, such as whether empathy-induced helping is simply the result of self-other merging. However, there remains no consensus over whether empathy-mediated altruism may be controlled by a non-egoistic motive system. This is important if we are to attempt to trace empathic advocacy through to biospheric concern.

Recent discoveries in neuroscience along with advances in child development and evolutionary psychology show that it is human nature to be caring and supportive (Meyer et al., 2013; Morelli et al., 2014), despite long-held misconceptions that humans are inherently narcissistic, self-interested, materialistic, and utilitarian. They show that we are in fact soft-wired to be pro-social, with a desire to connect and belong, not hateful and competitive or materialistic to the core as framed by dominant prevailing philosophical paradigms, such as those perpetuated by the enlightenment philosophers and predominantly extrinsically focused notions such as the selfish gene. The misanthrope is always the exception, and never the norm in any culture. As such,

we can generally expect pro-social, rather than antisocial behaviour of one another. Even Charles Darwin, encapsulated in the competitive phrase “survival of the fittest” and commonly portrayed as a believer in nature’s solely utilitarian, fierce disposition, spent much of his later years examining the social and affectionate bonds among creatures (Darwin, 1871). There is far-reaching significance for society if human nature is predisposed to affection, companionship, sociability, and empathic extension: what it means to be pro-social.

New research into animal behaviour has provided us insights into our own empathic dynamics, pioneered by animal ethologist Frans de Waal (2011). In his book, *The Age of Empathy*, de Waal dismantles the long-held assumptions of human nature and asserts that we are inherently altruistic and cooperative. He elucidates that society has been kept from slipping into anarchy as a result of thousands of years of evolutionary biology favouring cooperation and sociality. De Waal emphasizes how empathy holds communities together, illustrating with numerous examples from other animals, that to empathise, is to socialise.

Progressing this notion, Kasperbauer underlines how deeply interconnected our lives are with those of animals, examining our moral evaluations of them (2018). Animals’ role as a contrasting class to human beings has resulted in both negative and positive attitudes towards them. Dehumanisation, essentially a negative judgement that animals are members of an outgroup thus eliciting aversion, is posited as central to understanding human attitudes towards animals. I am particularly interested in this emergent field’s relevance to nature connectedness and its role in conservation advocacy. This notion is essential to consider when observing relationships between people and animals in this study.

2.2.4.4. Pro-sociality and pro-environmentalism

Using a theory linking attitudes, values, beliefs, and behaviour, Stern and Dietz (1994) demonstrate that environmental concern is related to egoistic, social-altruistic and biospheric value orientations, in addition to beliefs in consequences in valued objects. Research suggests that engaging in PEB may have negative consequences for hedonic well-being, but mainly positive consequences for

eudaimonic well-being (Venhoeven et al., 2013). Teresa Smallbone (2005) demonstrated that previous efforts at encouraging environmentally friendly behaviour failed as they overlooked the role of values and the opportunity to reveal the link between the behaviour and the value fulfilment. This highlights that deeper understanding of helping behaviour, attitudes and values can aid in behaviour change approaches to environmental management or conservation.

By re-contacting participants from a previous study, Kaiser & Byrka, (2011) found that environmentalists' pro-social personalities were additionally reflected in their social value orientations. Ninety percent of environmentalists studied turned out to be pro-socials, whereas only 65% of the less environmentally engaged subjects were pro-socials. Their findings support the notion of environmentalism as an indicator of even subtle quantitative differences in a person's pro-social trait level. Similarly, research by Neaman et al. (2018) explored the benefits of increasing emphasis on pro-social behaviour as a way to reinforce environmental education. Through a study utilising two scales of pro-environmental and pro-social (self-reported altruism) propensity, the authors developed a combined scale consisting of both pro-social and PEB items. Their results demonstrated that both are a similar class of behaviour type, a view widely supported by other researchers (Martínez-Martí et al., 2016; Padilla-Walker & Carlo, 2014; Stürmer & Snyder, 2009). They go further to propose that environmental practitioners adopt "pro-social education", calling for environmental education to broaden its focus to emphasize human relations. Other recent studies demonstrate that more pro-social students care more for the environment, proposing that universities can enhance sustainability education by adopting a more holistic approach wherein social and environmental sustainability are co-integrated (Bhattacharya, 2019). As remarked by Brown et al., (2012:5) in their influential handbook of pro-social education:

"When done well, pro-social education has the potential to help develop the capacities and competencies of students, teachers, and school administrators that lead to a more autonomous, positive self-concept, greater sense of purpose, more socially responsible behaviours, and increased connections between families, schools, and communities."

This is of fundamental importance to both the first and final objectives of my exploratory research, as it appreciates the connections between pro-sociality and pro-environmentalism and looks to the application of these lessons in this pluralistic understanding of our relationships with nature. I will draw largely on this innovative proposal for adopting pro-social education paradigms within contemporary pedagogical approaches as a critical basis of discussion building upon my ethnographic observations.

It is clear that while empirical evidence for these connections is sparse, the scientific literature indicates that pro-social theories may provide a starting point for understanding pro-environmental action. However, these theories require extension to include nonhuman beneficiaries of helping (Nolan & Schultz, 2015), an important and rapidly growing area of research and application. Pro-social education and campaign approaches targeting positive social cohesion, altruism, and a sense of responsibility toward others may aid in fostering a general set of universalism values, which may plausibly enhance ecocentric attitudes and PEB.

A final important consideration is that the relationship between social factors and environmental concern is also bidirectional. While it is well documented that wellbeing (Howell et al., 2011), attitudes (Newhouse, 1990), values (Cetas & Yasué, 2017) and other dimensions of pro-sociality may affect relationships with the natural world, evidence suggests that exposure to nature may also enhance social connection. Through a series of studies, Weinstein et al., (2009) demonstrated that intrinsic aspirations reflected pro-social and other-focused value orientations, and extrinsic aspirations predicted self-focused value orientations. Participants immersed in natural environments reported higher valuing of intrinsic aspirations and lower valuing of extrinsic aspirations, whereas those immersed in non-natural environments reported increased valuing of extrinsic aspirations and no change of intrinsic aspirations. In an extensive assessment furthering this key finding, Goldy and Piff (2020) reviewed a growing body of evidence that incidental exposure to the natural environment can increase attention to others, facilitate collective engagement, and enhance pro-sociality. These studies and others are increasing our awareness of the

numerous benefits that a connection to nature can bring, the dynamics of which I review in the next section.

2.3. Understanding human-nature connection [Objective two]

To achieve a lifestyle which may be considered sustainable depends on a balance between our consumption rate and the ability of nature to renew itself (Blewitt, 2008; Jackson, 2005; Kellert, 1996). Biodiversity declines as species' populations cannot replenish in overexploited environments unable to support its requirements (Dinerstein et al., 2020; Dobson & Lees, 1989).

Connection to nature refers to an individual's subjective perception of their relationship with the natural world. There is a growing body of evidence showing that strong human-nature connections are associated with wellbeing, educational outcomes and PEBs (Frumkin et al., 2017; Mayer & Frantz, 2004; Nisbet et al., 2009). Recent meta-analyses indicate that facilitating a greater connection to nature may result in more engagement in conservation (Ives et al., 2017; Whitburn et al., 2019). Conversely, apathy towards environmental destruction or protection may be due to a lack of connection to nature (Pyle, 2003). A variety of factors may have a role in the development of this connection including contact with the natural world, childhood experience, certain interventions, and socio-cultural status. Research has explored this sense of connectedness to nature with a diversity of case specific observations (see Whitburn et al., 2019 for a review), with many studies finding that deeper connection to nature may result in greater engagement in PEB and conservation. Through a multidisciplinary review Christopher Ives (2017) highlights a trend of increasing number of studies into human-nature connection, yet also a heterogenisation of studies and thus possible dilution of impact. He calls for researchers to take stock of existing evidence of these connections to generate interdisciplinary research which can make positive progress toward sustainability.

Humans should have a deep vested interest in the preservation of nature. However, we are not yet sufficiently predisposed to addressing the impacts of separation. The burgeoning rates of environmental depletion and climate crisis

suggest that a paradigmatic moment of awareness of our inherent connection to nature is yet to be reached. Psychology is the leading scientific domain for understanding this sense of inclusion, with several dominating theories and models incorporating affective, cognitive, and behavioural components. I point to Schultz (2000, 2002) for a comprehensive analysis of the interactions of these components. Schultz proposes that biospheric concern is tied to a person's notion of self and the degree to which people define themselves as independent, interdependent with other people, or interdependent with all living things (Schultz, 2000). This emerges as an essential idea to explore further, to better understand the conditions for connectedness to nature, and how this might influence the development of strategies to reduce our impact on the environment. This represents the overarching aim of my study, ultimately attempting to identify pathways to enhancing concern for the biosphere and thus generating conservation advocacy.

Recent approaches to sustainability and the climate crisis encourage deeper recognition of our place on the planet, to encapsulate global biodiversity and ecosystems (Thomashow, 2003). While connection to the biosphere is paramount to one's advocacy for its protection, the level of receptiveness to act upon this attitudinal foundation is largely dependent on the scale of their vested interest in natural resources, and the behavioural barriers or enablers in place in society (Everard et al., 2016). This underscores the importance of research that investigates human-nature relationships, cultural context and the design of interventions that promote a sense of unity while addressing behavioural control.

To examine behaviour related to hunting and other practices, I explore three central areas of nature connection. I first turn to the fundamentals of unity with nature. This includes affinity for nature, notions such as biospheric concern and environmental identity, and the philosophical perspective of deep ecology, to attempt to explain how our viewpoints and relationships with nature might affect our behaviour. This leads into an extension of the pro-social facet visited earlier (31) though broadening this to an implicit empathic connection toward nature. The final section looks at how the self-concept of environmental identity might help to foster deeper agency and stewardship through collective, normative, and responsibility-driven advocacy.

2.3.1. Nature is in our nature: Biophilia and environmental concern

Through a critical examination of biophilia, Kahn (1999) states that the notion emerges as a valuable interdisciplinary framework for investigating human affiliation with nature. Biophilia, the well-known hypothesis put forward by Wilson (1984) and further developed into the trans-cultural perspective taken by Kellert (1996), deals with the intrinsic values of humans' place within nature, suggesting that there exists an instinctive bond between human beings and other living systems. Wilson posits that humans possess an innate drive to affiliate with other living things, defining biophilia as "*the urge to affiliate with other forms of life*". At the root of this is the Gaia Hypothesis, with the Earth containing unified networks functioning like a self-regulating living organism with synergistic feedback systems (Lovelock, 1979).

Building on the biophilia hypothesis and utilising the Connectedness to Nature Scale (Mayer & Frantz, 2004a), Howell and colleagues (2011) identified significant associations among nature connectedness, both social and psychological well-being and mindfulness through two studies of undergraduate students. This study supports other research demonstrating that hedonic well-being is generally less strongly associated with nature connectedness than eudaimonic well-being (for example Venhoeven, Bolderdijk, & Steg, 2013). This important contribution to a growing body of evidence elicits that human wellbeing, through a range of traits, is associated with the degree to which individuals perceive themselves to be connected to nature, as explored earlier.

Deep ecology, an environmental philosophy and social movement, aligns with these notions of environmental unity. The term originated in 1972 by Norwegian philosopher Arne Næss, emerging as a utopian, idealistic pathway to develop harmony between individuals, communities and nature (Devall & Sessions, 1985; Pepper, 2002). Convergent themes between deep ecology and belief systems are covered in the next chapter profiling the communities involved in this research. Naess also coined the term "*ecological self*", a self-construct which exemplifies a transpersonal and expansive lived experience of nature (Bragg, 1996a). Environmental psychologists and deep ecologists, although displaying disparity in their philosophical roots and assumptions, seek a mutual goal in line

with the overarching aim of biodiversity conservation (and ultimately this study); to foster environmentally responsible behaviour (Saunders, 2003). This is often reached through expansion of the sense of self, to reach out and feel empathy and compassion for the biosphere.

2.3.2. Empathic sensibilities towards nature

As explored earlier, empathy helps create and maintain social bonds by enabling people to comprehend, share and respond appropriately to others' emotional states (Daniel, 2010). As the closeness of relationships between individuals increases, empathy and willingness to help increases (Cialdini et al., 1997) a phenomenon which may extend to human–nature relationships. A close bond with nature may therefore foster empathy for the natural world, which in turn may motivate caring and altruistic behavior (Schultz, 2000). The construct of *dispositional empathy with nature* (DEN) was proposed to help understand the tendency to share the emotional experience of the natural world (Tam, 2013), adding another scale to measure connectedness to nature. DEN is also presented as a tool for assessing efficacy of environmental education programmes, though to date has lacked empirical evidence to demonstrate the value of this as an evaluative measure.

The effect of empathy has been widely examined in relation to PEB (Schultz, 2000; Bennett et al., 2005; Vining, 2003), building upon Batson's model of altruistic and pro-social behaviour (Batson, 1991). Reasoning that inducing empathy can improve attitudes and behaviour towards subjects and objects, these assumptions have been applied to an environmental framework (Berenguer, 2007). Two survey-based studies conducted by Pfattheicher (2016) demonstrated that compassion, considered an element of empathy and other-oriented tendency, was positively related to pro-environmental tendencies. Compassion implicates sympathetic pity and concern for the sufferings or misfortunes of others. The researchers built upon the work of Berenguer (2007) who had previously demonstrated the relationship between compassion toward the environment and pro-environmental tendencies. I build on this to propose the possibility for utility of this finding from an applied perspective, suggesting that campaigners and practitioners might use the imagery and message framing of human suffering to elicit compassion, which research suggests may in turn also

mobilize people to protect nature. While not the aim of my research to test this implicitly, understanding DEN and an indication of compassion toward others may help to infer efficacy of this type of persuasive communication approach.

Building upon these notions of empathy, it has been demonstrated that children may use human identity to construct an anthropomorphic identity for natural objects such as trees (Gebhard et al., 2003). Anthropomorphic reasoning may allow children to feel empathy with nature and endow it with moral standing. Furthermore, empathic extensions which embody a sense of connectedness to nature, are known to be mediated by both place and identity (Brown et al., 2019). This suggests that identity in relation to the environment is likely to represent an area worthy of investigation.

2.3.3. Environmental identity and disconnection from nature

Broadly speaking, identity is a way of organising information about the self. Environmental identity (EI) follows the notion of interdependence with nature as in biophilia (Wilson, 1984). EI is a genre of self-concept, encouraging cognitive and emotional connections between self and nature. Susan Clayton has championed EI to become a distinct construct in the environmental and social sciences, with research on identity relating to the natural world having proliferated in recent years (Clayton, 2003; Hinds & Sparks, 2008; Whitmarsh & O'Neill, 2010). However, identity in itself remains an inherently complex topic. It is a concept with broad meaning, involving beliefs about who we are and who we want to be, personal roles and attributes, social cohesion, and ecological oneness with the landscape (Hogg, 2006).

The term “allo-inclusive identity” (AI) has also been used to refer to the aspect of identity that goes beyond one's individual, relational and collective identities (Leary et al., 2008). It is suggested that people with this type of identity may be more emotionally stable, less egoistic and more oriented towards social relationships and ecological issues (Clayton, 2012). This positions identity as a pertinent notion for my research, and underscores the importance of exploring its role in nature connectedness.

Culture and identity are embedded within the traditional characteristics imbued by a community or society. The acquaintance and demarcation of an identity, including EI, may be sought through social science research methods such as ethnographic studies that focus on the documentation of what is commonly referred to as Traditional Ecological Knowledge (TEK). Berkes' research focuses on sacred ecology (the religious and spiritual aspects of human–environment interactions; Sponsel, 2018), his studies on community-based resource management having led to advances in understanding local and indigenous knowledge. Following his definition, TEK is:

“A cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and their environment”. (Berkes, 2012:3).

Given that TEK is a key phenomenon to measure to construct a cultural identity, it is important to document it as part of this ethnographic study. A cultural profile for study communities may be developed, helping to clarify target associations and practices which may reproduce a specific identity type, as well as pathways to promote more pro-environmental identities.

It may be deduced that having a pronounced sense of EI may increase propensity for pro-environmental advocacy profiles and thus the potential to behave in more sustainable ways (Clayton, 2003). It is critical to look beyond common assumptions of oneness with nature, to an increasing global trend of being divorced from nature (Hailwood, 2015). This is in both the geographic, physical sense as we shift ourselves away physically from natural settings, and also the esoteric, value-laden sense, as we shift our attention from the natural to digital worlds.

According to the United Nations Urban and Rural Areas Report (UN, 2015), by mid-2009, the number of people living in urban areas (3.42 billion) surpassed the number living in rural areas (3.41 billion). While many of us become increasingly distant from nature, evidence increasingly demonstrates that nature provides us with more than just our material needs and desires, but also supports our health

and psychological, spiritual, and emotional well-being. Opatow and Weiss (2000:488) regard the disconnect from nature and its subsequent persecution as a sense of denialism through moral exclusion:

“Seeing the environment as separate from oneself creates a false distinction colouring our sense of the interdependencies between self and environment.”

I next explore how understanding the dualism of EI and alienation with nature can help develop strategies to strengthen agency, stewardship, and bonds with nature to foster changes in behaviour.

2.4. Laying foundations for behavioural change [Objective three]

A pragmatic blend of social psychology and sociology can shed light on the most effective and bespoke mechanisms for facilitating change based on socio-cultural context and desired behavioural outcomes (251). This represents the third and final of my research objectives. Uniting the theories and evidence explored in the previous sections, I turn to the implications of these mechanisms of advocacy, PEB, and connection to nature, and look toward possible ways to foster change.

I note a tendency of researchers to examine mechanisms of changing discrete behaviours, and less so on the direction of necessary adaptation or philosophical desire for change (Fudge et al., 2013). Whether seeking individualistic or systemic change, an intrinsic or instrumental divide also frames behaviour change as either critical or prescriptive. Although review of this discourse is beyond the scope of this study, the considerations of critical thinking and pragmatism should play a mediatory role to balance researchers' and practitioners' toolkits when devising strategies for sustainability and the governance of natural resources. Noteworthy is a convergent approach to behaviour change critically engaged by The Royal Society of Arts that is:

“grounded in public and professional interest in brains and behaviour, seeking to move the debate away from the threatening

idea of 'science as authority', justifying moral judgements, medical interventions and policy positions, towards the more productive notion of 'science as provocation', helping people foster the kinds of self-awareness and behaviour change they are seeking to develop." (Rowson, 2011:3).

This thesis focuses on a more reflexive form of understanding behaviour, meaning that the power to change behaviour is embedded within the understanding of the underlying principles of certain activities. This change is achieved by using the principles for a different purpose, in a different way than previously or replacing them with other principles. A 'reflexive' approach to behaviour change therefore requires that one becomes aware of the general principles that underlie behaviour.

Wesley Schultz (2011) builds on recent revelations in conservation science of the importance of developing understandings in human behaviour, and in fact goes one step further to say that conservation goals can in fact only be achieved by changing behaviour. Even more recently the consensus has become established that both ecological and social factors are essential dimensions of conservation research and practice (Pooley et al., 2014). The real question for debate is not whether to integrate the social sciences into conservation but how to do so. Many institutions recognise the significance of multi-disciplinary approaches to conservation problems, and that the integration of social scientific information into conservation decision-making should be a prerequisite of strategy development in environmental management. One example is the Society for Conservation Biology (SCB), which has shifted its focus solely from the natural sciences, with recommendations to:

"establish a social science section to signal the importance of the social sciences to the global conservation community and provide a focal point for development of the field". (Mascia et al., 2003:2).

The distinct field of conservation psychology uses a shared language to build on the premise that human behavioural change is necessary to achieve reductions in threats to endangered species and habitats (Clayton & Myers, 2009; Clayton,

2012). Saunders (2003) isolated three explicit challenges faced by conservationists, and advocate for the application of psychology to address these issues as the most effective means. Firstly, the perception of problems and how to communicate effectively; fostering a sense of connection to nature by connecting what is known about human cognition, emotions, and values. This is additionally pertinent considering the intangibility of biodiversity conservation (and other sustainability problems) as global, long-term and culturally diverse issues (Anderson, 2001; Gardner & Stern, 2008). Secondly, using understandings of psychology to better anticipate and manage natural resource conflict situations and helping local people work together, as are found within principles of pro-sociality such as social identity. The final challenge encapsulates what has been addressed here, of how to draw upon psychological processes to effectively promote the links between attitudes, beliefs and values, and the route to more sustainable interactions with the natural landscape.

2.4.1. Motivating and fostering a shift in behaviours

Conceptualisation of the behaviour change process often proceeds through various phases, with an almost universal premise that the psychological processes operate across relatively well-defined steps. Recognising the developmental merit of previous stage models (e.g., the Precaution Adoption Process Model: Weinstein et al., 1998), a common consensus posits three stages to instigating behavioural change (Schwinghammer, 2013), described here with biodiversity conservation as an example:

1: Problem recognition. Two central conditions should be met: awareness of the issue and a sense of urgency. The target agents for behavioural change, in this case hunters, must be provisioned knowledge to create enabling conditions for change. They then need to become aware of the immediacy of the issue and understand the reasons why hunting and logging are being sought to change.

2: Motivation to act. To bridge the gap between engagement in the issues related to their behaviour and the execution of action, people require motivational cues. Perceptions of severity, susceptibility,

control (self-efficacy) and social norms are all factors which influence this process and should be considered when communicating conservation messages with the targets involved in hunting of endangered species.

3: Regulation and execution of action. The final stage involves the shift from motivation for the hunters to then regulate and change their behaviour. Cues to action should be nurtured and presented to them whenever possible, emerging from within themselves, such as emotions relating to sustainability or future goals for their families. Additionally, these cues can emerge from the environment, including primes, nudges and social cues that may remind of the impacts of hunting, promotion of alternative livelihoods and enable the sustained regulation of non-exploitative behaviour. Importantly, promoting other non-animal food sources and disincentivising hunting through both structural and individual changes.

There are myriad variables and processes affecting human behaviour, and often little consensus over the mechanisms of change. The Integrated Framework for Encouraging Pro-environmental Behaviour (IFEP: Steg et al., 2014) represents a relevant theoretical framework for this study, which positions the norms and values discussed earlier (25) within goal framing theory to explain these dynamics, with hedonic, gain and normative goals representing the motivations for changes in behaviour. IFEP also supports the TPB as relevant to behavioural motivation when gain goals are focal, whereas when normative goals are more focal the NAM is likely to be more predictive of behaviour (32).

I now briefly examine strategies and principles to address biodiversity conservation issue presented in this study. There are myriad considerations and viable approaches which have demonstrated change either directly or indirectly, and arguably the scope of these is not directly analogous. However, as a comparative exercise, I assess two main approaches and principles and their potential application to biodiversity conservation and the findings of this research. Community-based social marketing has provided substantial evidence for behaviour change for sustainability, though I acknowledge that this method has

been criticised for its limitations, largely by proponents of a divergent theory of change, social practice theory which I visit shortly. First, I review the concept of environmental citizenship and “sustainable lifestyles”, a pervasive concept including co-creation of sustainability policy and the active participation of citizens to behave more sustainability.

2.4.2. Environmental citizenship

Understanding dynamics of both individualistic and systemic processes may assist the development of behaviour change strategies. These may be divided into two discrete styles, either structuralist or voluntarist. Structuralists believe that it is our embedded structures, institutions, social, economic, and organisational systems, and the practices that must be altered in order for individual behaviour to change. Conversely voluntarists perceive that the way lives are enacted influences context, and that to some extent our attitudes and behaviour are relatively independent of the structures that inform them. Building on this latter perspective, global or environmental citizenship (EC) embraces systems thinking mechanisms and principles of collaborative power, recognising each of our collective and integral places within the ecosystem.

Researchers have recently adopted such post-structural analytical frameworks to explore how diverse types of collective social responsibility such as EC are formed and enacted (Hobson, 2013). Over the past 20 years, the concept of EC has become a significant practical ideal in global environmental politics and is now widely recognised as a distinct form of citizenship (Dobson, 2010; Harris, 2013). EC may refer to a type of PEB:

“...in public or private, driven by a belief in fairness of the distribution of environmental goods, in participation and in the co-creation of sustainability policies.” (Dobson, 2010:12).

The term is increasingly used to describe both forms of PEB and the collective reasons that are given by people for enacting such behaviour. It embodies principles of “biospheric consciousness”, and empathic reach to one another and all elements of the environment.

Some authors have cautioned the implications of pedagogic approaches to promoting EC, running the risk of promoting a diluted form of environmental engagement, advocating the importance of clarifying its context within neoliberal ideology (Dimick, 2015). This has political and value-laden implications for addressing the sustainability and civic engagement of hunting practices upon which this research focuses.

Georg (1999) reviews several studies of empowerment, cultural knowledge and practice transfer and the internalisation and normalisation of social norms familiar with EC. Another poignant case exemplifying these principles is found in the non-territorial and social justice type responses towards household consumption in Sweden, emphasising the importance of other-regarding values (Jagers & Matti, 2010). Bringing the issue back to the conservation domain, Fischer and Chatre (2013) investigate the collective responses by indigenous communities to protests against a wildlife sanctuary in India. The authors suggest that two key themes that arose from their findings may be transformative to conservation approaches in recent years. Firstly, that the political empowerment of affected groups makes restrictive conservation less politically viable, and secondly that the increasing valence of environmental messages is reshaping local environmental perspectives, with environmental values becoming more significant in the context of struggles over access to resources. This further supports the salience of EC principles when approaching the conservation issues addressed in this study.

Adopting a critical approach to the associations between sustainability, policy and citizen engagement discussed here, it is recognised that sustainability policy needs to move towards a positive and collaborative governance perspective. This may be applicable to the process of uptake for behavioural change in rural communities, for example utilising the well-known techniques of segmentation and social marketing, mainstreaming sustainable lifestyles in order to promote the behavioural shifts necessary for creating a 'sustainable society' (Shallcross, 2006; Barr, 2012).

2.4.3. Community-based social marketing

Social marketing is the integrative sociological process that “*uses marketing principles and techniques to influence target audience behaviours that will benefit society as well as the individual.*” (Lee & Kotler, 2011:42). The approach was widely implemented in the early 1970s for tackling social issues such as community development and public health, recently developing an emergent position in environmental development programmes. Several authors highlight the potential for social marketing to emerge as a modern and effective tool not only for creating behaviour change, but also for enhancing human well-being and welfare (Phills et al., 2008; Lefebvre, 2011). This may be achieved through the integration of research, evidence-based practice, and the use of social-behavioural theory. Social-marketing programs are most effective when targeted at high-impact behaviours that have high plasticity: the probability that a behaviour can be changed and expressed as a proportion of the target population who could potentially be convinced to adopt the target behaviour (Schultz, 2011).

An increase in academic and governmental support and a wide range of empirical research has facilitated social marketing’s growth as a discipline. Despite this, it is limited by a number of issues. This includes confusion over its role, and the potential for incorrect application of its principles (Robinson & Robertson, 2010). One common criticism of social marketing is that extensive consumer and market research is not undertaken in advance of implementation, creating a gap between the rhetoric and reality of social marketing practice (Stead et al., 2007).

Community-based social marketing (CBSM) for sustainability builds upon the core principles of social marketing, but addresses these shortfalls, by taking a more grounded approach. This is achieved through a pragmatic five step approach, drawing on core principles gained from social psychology:

1. Select behaviours that are intended to be changed, promoted, or stopped.
2. Identify barriers or benefits of a certain behaviour.
3. Develop specific strategies to change behaviour using a variety of tools.
4. Develop and pilot a program to overcome barriers.
5. Implement the program within a community and evaluate effectiveness.

The approach arose out of concerns about the ineffectiveness of environmental campaigns that relied solely on providing information and is now a fast-developing movement (Lee & Kotler, 2011). One major advantage of utilising social marketing for such complex issues as sustainability and conservation is that it begins with the behaviour and works backwards to identify the most appropriate mitigation strategy (McKenzie-Mohr, 2000). CBSM is now arguably the most well documented and tested approach to fostering shifts in unsustainable behavioural trends. Doug McKenzie-Mohr has championed this approach for the past 20 years with a well-supported case for its success. McKenzie-Mohr notes that psychological literature was largely invisible to those who can most benefit from it, and developed an accessible approach containing lessons distilled into tools for fostering change. CBSM includes ensuring commitments shift from simple good intention to actual action (Burn, 1991; Michel-Guillou & Moser, 2006), prompts and reminders to reiterate and secure messages (Duffy & Verges, 2009), the use of social diffusion to speed up and maximise the spread of the proposed behaviour (Darley, 1978) and social norms building on the widely recognised fact that tangible, normative feedback is highly effective in fostering behaviour change (Goldstein et al., 2007). Evidence for CBSM spans a wide range of sectors from recycling, transport, and energy efficiency. More recently, benchmarks have been developed to provide guidance for social marketing principles in order to advance both its implementation and empirical evaluation (Lynes et al., 2014).

The principles and steps indicated within the CBSM approach could potentially be very useful in behaviour change projects for conservation problems. However, CBSM is relatively underutilised within conservation programmes, in comparison with the wider sphere of sustainability. One notable exception is the NGO Rare, that has developed a program of “pride campaigns” collaborating and empowering local partners. Social marketing principles are used within a theory of change (Fig. 4.) to identify and engage target audiences, understand barriers to sustainable behaviour and then establish a site-specific action plan. This model has recently evolved and is adapted for this study (262). Using this method helps reduce unsustainable behaviours, measure results, and empower natural resource managers to define the necessary social and biological shifts. Utilising the flagship species concept (Walpole & Leader-Williams, 2002) Rare has been operating successful campaigns for conservation efforts in over 50 countries

since 1990, with impressive results despite challenges of measuring progress toward behaviour change goals (Butler, 2000).

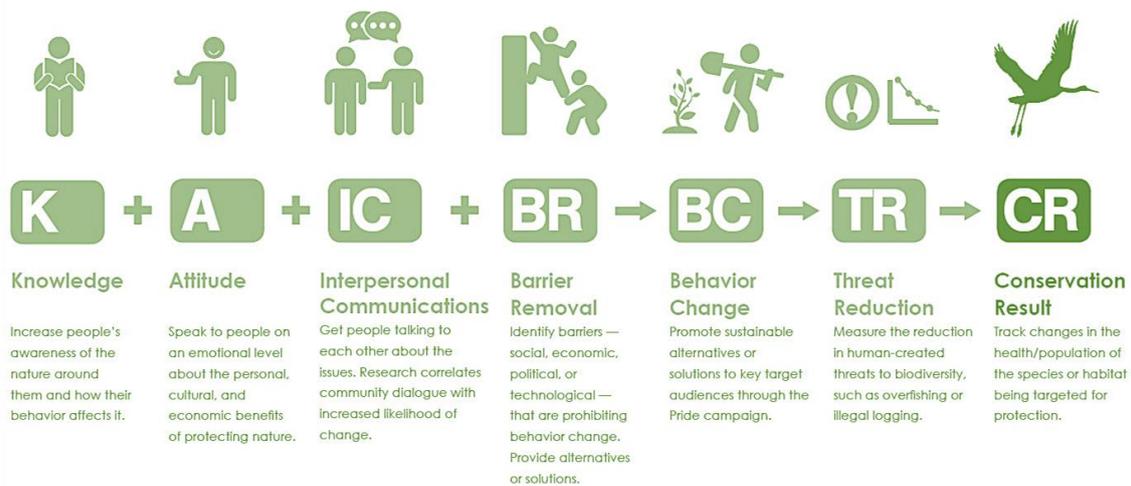


Figure 4. Rare's Theory of Change based on community-based social marketing principles.

Despite evidence of CBSM, Robinson (2010) advises against uncritically revering the marketing approach to sustainability, viewing behaviour as incomparable with brands, and suggesting that behavioural trends are often intractable, engraved into society by a powerful combination of institutional, technological, and social factors. Additionally, as with traditional marketing mechanisms, caution should be placed on the adaptability of the systems and diverse nature of the audience along with their values and social constructs (Baines & Harris, 2011). Equally, Hargreaves (2011:82) and others (e.g., Shove, 2004, 2010), argue that: “...*such an approach is fundamentally flawed and in fact serves to legitimize, rather than challenge, a whole range of unsustainable social conventions.*” In recognition of these challenges, I seek to reconcile the positivist and alternative socio-constructivist approaches to human behaviour and address this in light of my research [\(80\)](#) and practically [\(251\)](#).

Relevant to the conservation goals in the applied aspect of the current study, to empower communities for sustained and robust pro-environmental action, is the link between advocacy profiles and action. The barrier of the value-action gap and general inconsistency of attitudes and values with behavioural expression is cited as another issue of CBSM and that such problem framing exaggerates the autonomy of individual choice.

2.4.4. Cognitive dissonance, biases, and the value-action gap

An issue at the forefront of rationalisation of behaviour change, is navigating what is now widely recognised as an ubiquitous detachment, with providing information (the enlightenment of segments of society to perceived environmental issues) and the resounding reluctance to act upon this provision of knowledge (Worcester, 1997; Owens, 2000; Kollmuss & Agyeman, 2002). Previous theoretical models bound by the supposedly intrinsic connections between knowledge, attitudes, and action have largely been discredited (Blake, 1999). Owens (2000) iterates that this is in fact largely logical and intuitive, pointing out that barriers to action reside within the framing of problems, their social and political context and personal or institutional constraints. This is now widely supported by a growing body of literature within the social sciences (Kollmuss & Agyeman, 2002; Phills, 2008; Lefebvre, 2011).

In terms of ensuring that people express their apparent advocacy profiles, it is key to understand that people are prone to well-known cognitive biases and limitations (Priest, 2019). These include anchoring (the tendency to be influenced by information exposed to first; Musashi, 2016), confirmation biases (the tendency for people to accept evidence when it supports their favoured hypotheses; Klayman, 1995) and availability heuristics (mental shortcuts that cause people to assess the risk or probability that something is true based on how easy it is to think of examples of it; Agans & Shaffer, 1994). It is crucial to recognise where these and other types of bias and limitation are influencing (promoting or preventing) people with engaging in certain behaviours.

Cognitive dissonance is another important area of scientific discourse building on these limitations. The theory was developed by Leon Festinger in 1957, recognising an aversive affective state which arises when an individual attempts to simultaneously hold inconsistent expectations or beliefs (Stone & Fernandez, 2008). Dissonance is often emergent as a result of inconsistencies between apparent attitudes, beliefs or values and the subsequent action, eventually becoming hypocrisy. This is related to people's drive to be consistent in their behaviour. Psychological consistency is based on the notion that people have a desire to be consistent in their cognitions, attitudes, and actions (Stone & Focella, 2011). This addresses the infamous and ubiquitous value-action gap, where the

three barriers of individuality, responsibility, and practicality come between pro-environmental concern and action.

Further comprehension of these dynamics can be gained from taking a sociological perspective, despite the disadvantage that analysis of a specific practice or system is unlikely to be wholly applicable in other contexts. These types of pluralities are illustrative of the structuralist-agency debate, addressed in the emergence of social practice theory. This divergent structuralist approach to issues of sustainability seeks other ways to explain the value-action gap than individual inertia, instead focusing on social practices as intervention targets (Spurling et al., 2013).

2.4.5. Social practice theory

Social practice theory is a social science framework developed by influential philosophers and sociologists such as Pierre Bourdieu, Anthony Giddens, Charles Taylor, and others to describe how individuals in societies shape and are shaped by their cultural environment. Recognising units of inquiry and analysis based on social activities and their elements and carriers, it attempts to articulate the ways in which identity and individual agency rely on and produce cultural forms (Schatzki et al., 2001; Reckwitz, 2002). Whilst conventional, individualistic, and rationalist approaches to behaviour change centre the analysis on the individual actor, social practice theory turns attention instead towards the social and collective organisation of cultural entities that shape individuals' perceptions, interpretations, and actions: practices.

One of the most cited definitions of what constitutes a practice is from influential researcher Theodore Schatzki (2001:46), who describes practices as "*embodied, materially mediated arrays of human activity centrally organized around shared practical understanding.*" The enactment of practices is the routinized way in which bodies are moved, objects are handled, subjects are treated, things are described, and the world is understood. Individual behaviours are performances of social practices. In recent years, the term 'practice' has risen in stature and acceptability and may now be considered comparable with the previous terms used in the scientific study of social life, such as 'structure' 'systems' and 'actions'

(Warde, 2005; Røpke, 2009; Feldman & Orlikowski, 2011). The application of practice theory is not limited to sustainability policy, and notions of agency and structure also vary in their context (Reckwitz, 2002).

In the same way that individual behaviours must be enacted, so do practices. Schatzki (2001) clarifies an important construction of practices in that they can be distinguished as practice-as-entity or as practice-as-performance (Fig. 5). In the practice-as-entity perspective, individuals act as carriers of practices: the collective achievements formed over time. Practices-as-performance are what are often known as 'behaviours': the observable actions of individuals, such as riding a bike or eating locally-sourced food. Recognition of these different states of practice is considered essential to our understanding of the dynamics of social systems, and that practices-as-entities are not constrained to real-time behaviours but evolve over time (Shove & Walker, 2007; Spurling et al., 2013).

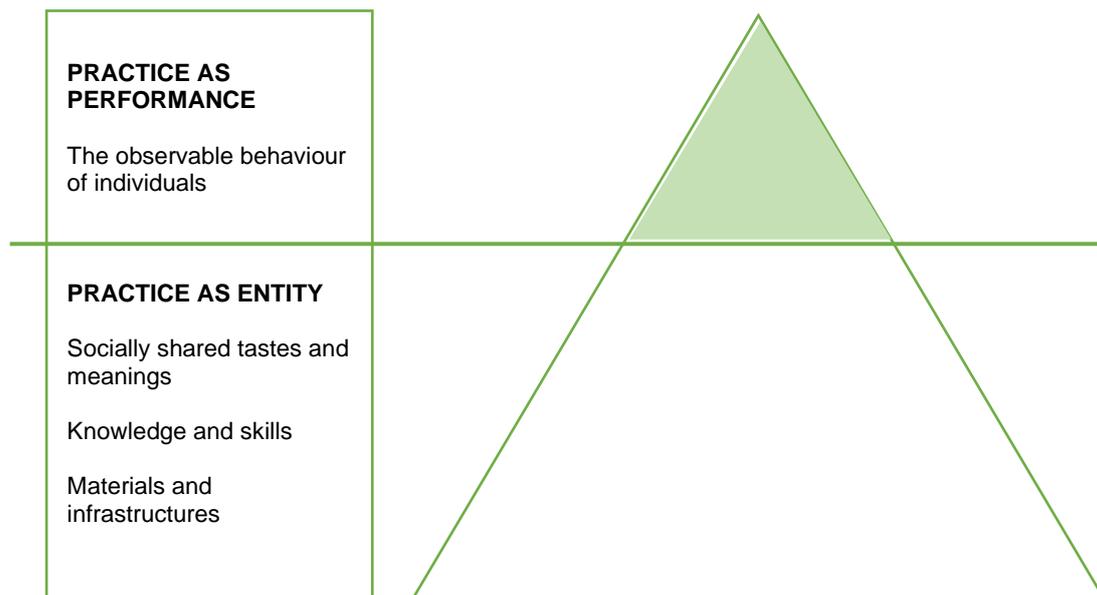


Figure 5. Recognising practices are not always visible as openly demonstrated behaviours is integral to formulating a sound policy approach. The social underpinning of behaviour, practice as an entity, should be the target of sustainability policy (Spurling et al., 2013).

Practices are commonly demarcated into assemblages, comprising constituent elements within the complete nexus (the compound whole) of practice. These assemblages vary in scope, terminology, and level of detail, but often cluster around three common themes. Drawing on the work of Wittgenstein, Schatzki

(1996) describes the components of practices as understandings (e.g., what to say and do), procedures (rules, principles, and instructions) and engagements (e.g., projects, tasks, or moods). Building on these precepts, Shove and Pantzar (2005) offer a broadly encompassing and simplistic amalgamation of these earlier assimilations of elements, divided as follows:

1. **Images:** meanings and symbols
2. **Skills:** forms of competence, procedures
3. **Stuff:** materials and technologies

Making a practice more sustainable involves making or breaking links between these assemblages. Both images and skills are represented within non-material culture, whereas the “stuff” takes the form of material culture (though overlap exists). Reproduction, or repeating and following of the nexus of the practice will only happen through regular repetition. Understanding connections of multiple practices and how they are organized in relation to one another, embraces the concept of ‘projects’, sets of practices in which an agent is investing (Warde, 2005; Feldman & Orlikowski, 2011). It is suggested that people can also engage in long-term sets of practices, and thus mature into practitioners having a career with a certain practice (Røpke, 2009). Linkages with other practices will have consequences for stability, particularly relevant when considering deliberate interventions aimed at stimulating diffusion within an existing practice. When practices diffuse, they can still be recognisable entities, but can also change and form sub-practices, changing over time as new practices emerge; others die out when no more practitioners can be recruited. Shove and Pantzar (2005) take a closer look at these connections, placing emphasis on the linkages between the practice elements within the emergence of Nordic walking in different socio-cultural settings. They suggest that the practice element’s commodities (walking sticks), techniques and associated concepts (wellbeing) circulate in ways that the activities alone do not. The authors look into the processes of marketing products or services, illustrating that both consumers and producers are involved in constituting and reproducing practices. They highlight the importance of breaking connections, the bonds between previously unsustainable practices, and suggest that research specifically designed to assess the processes of ‘killing off’ old practices should be supplemented by new empirical studies.

In practice theory, a radical new set of questions is asked. The focus is no longer on individuals' attitudes, behaviours, and choices, but instead on how practices form, how they are reproduced, maintained, stabilized, challenged and ultimately killed-off. In practices, agency is relegated to more subordinate roles, with structure representing the relationships or interconnectivity between the different practices. There remains to be a unified practice approach, which may not be surprising considering the multiplicity of issues, oppositions, and reformations of the practice theories perspective since its early philosophical beginnings.

Table 1. Prevailing paradigms for the governance of environmental change, compared with the practice theory paradigm (adapted from Spaargaren, 2011).

Theoretical assumptions	Individualistic Paradigm (social psychology/ economics)	Systematic Paradigm (sociology/science studies)	Practice Theory Paradigm (sociology)
Key units of analysis and policy	Individuals and their attitudes	Producers/states and their strategies	Practices and their connections
Decisive element required for change	Behavioural change of individuals	Technological innovation within the production sphere	Materials, competence and meaning (elements of practices)
Key intervention targets	Individual choices (micro level)	Socio-technical systems (macro level)	Recrafting, substitution and interlocking of practices (macro-meso level)
Determinant of the fate of green products and ideas	End users/ consumers	Technologies and markets	Performers and communities of practice
Key policy instruments and approaches	Social (soft) instruments (persuasion through information provision)	The use of direct regulation targeting providers (laws, market-based instruments)	Combination of social, policy level, infrastructure, and institutional instruments

Overall, there is a broad consensus that the two paradigms currently used to govern policy intervention for sustainable consumption (the individualistic and systemic accounts) have shortfalls of analytical precision and demonstrate biases for their direction towards agency and structure (Table 1). Some authors (e.g., Shove, 2010) even argue that the terms practice and behaviour are incompatible, and that a continued focus on behaviour serves to obscure more than it reveals.

It is therefore widely suggested that the dominant approaches to sustainable development should be replaced, or at least integrated within, a form of practice theory approach.

I seek to reconcile positivist and socio-constructivist approaches to human behaviour. I argue that both structural and agency considerations are essential to understanding the conservation practices, by understanding individuals and their advocacy profiles while equally targeting the composite elements of the practices that they are recruited into and how those practices and their inter-connection are maintained or challenged. An ever-increasing community of researchers and practitioners is approaching its challenges through a practice theory lens. Addressing my research objectives through a pragmatic combination of individualistic and social practice viewpoints should aid in deepening the impact of my findings from an applied perspective.

2.5. Conceptual framework

Throughout the literature review presented above I identified an array of relevant theoretical paradigms. These coalesce into three conceptual domains aligned with the research objectives. In this section I explain the rationale of these chosen concepts and theories of focus and their relevance to the aim of the project. These unite into a conceptual framework to guide the research development (Fig. 6) which depicts the flow between the social science research traditions and leading theories bridging the research aim and objectives.

Returning to the guiding theory in section two, Ajzen's (1991) TPB contends that behavioural intention and PEB can be explained through the dynamic of attitudes, social norms, and perceived behavioural control. I draw from social psychology to help steer toward an understanding of conservation advocacy and PEB in objective one. Supporting this is the study of pro-social behaviour, exploring notions of empathy, altruism and helping behaviour within an other-oriented lens, to shed light on human-nature connections. Batson's model of altruistic and pro-social behaviour complements the TPB to draw associations between pro-sociality and pro-environmentalism.

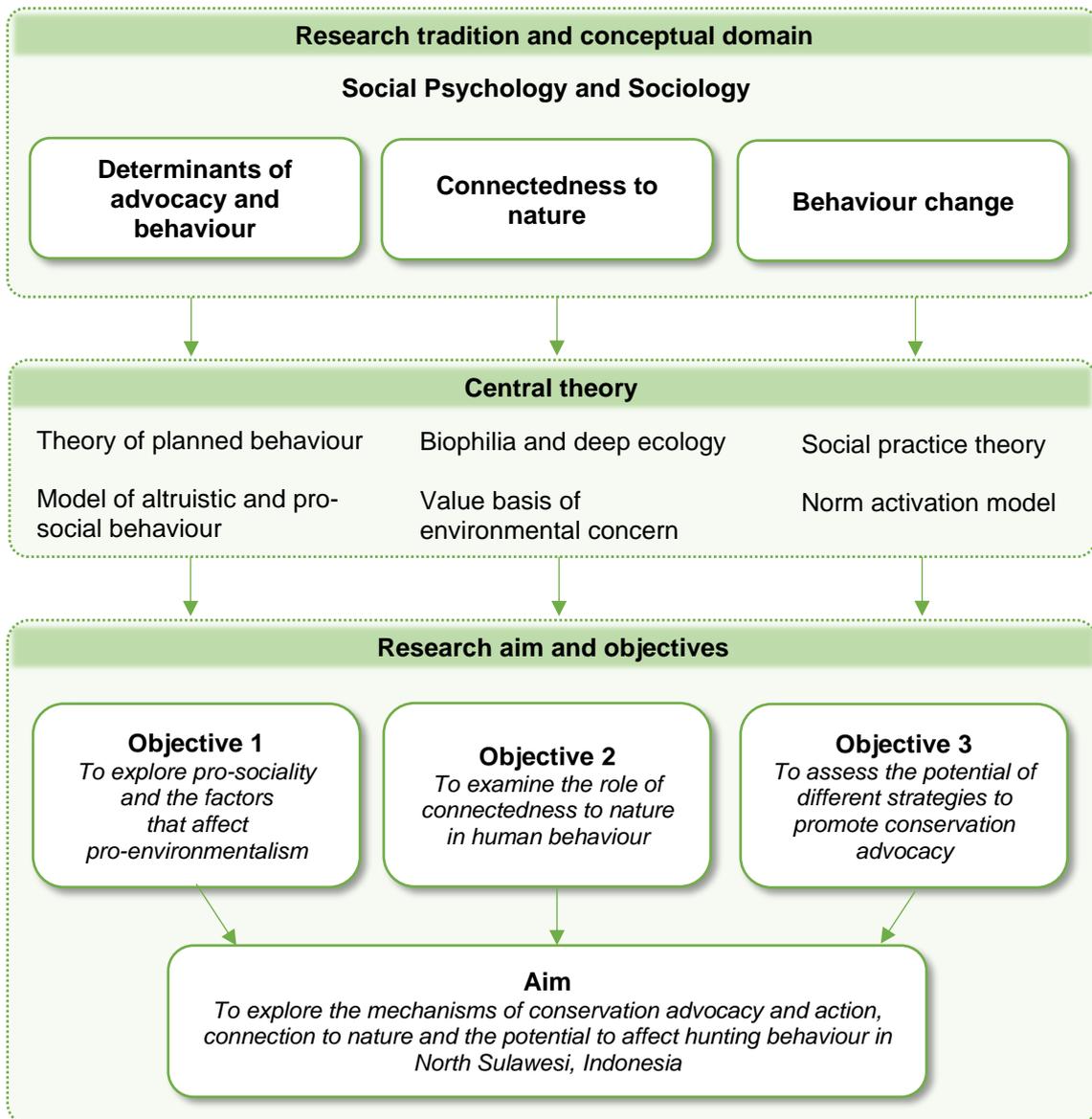


Figure 6. Conceptual framework indicating relationship between research traditions, primary theories, and objectives of the research project.

Addressing the second objective, I expand upon understanding of biospheric, universal and intrinsic value bases of environmental concern. Concern for environmental issues is dependent on the degree of integration into the natural environment to which people view themselves (Schultz, 2000). Together with environmental identity, the philosophical perspectives of deep ecology and biophilia help explain how viewpoints and relationships with nature might affect behaviour.

The third conceptual domain draws largely upon the sociological research tradition (though blending with social psychology), by exploring how societal change can be enabled. When viewed through a social practice theory lens, the focus for the conservation issue is not solely on individuals' attitudes, behaviours and choices but instead on how the practices of hunting are formed, are reproduced, maintained, stabilized, challenged and ultimately killed-off (Shove, 2010). Behaviour is known to be triggered by a series of motivational cues, which can be altered through various barriers and enablers. The norm activation model (Schwartz, 1977) helps indicate normative potential for change, contributing toward the aim of understanding the potential to affect hunting behaviour and cultivate ecocentrism.

Summary of Chapter Two

Through an extensive review of the literature regarding human behavioural mechanisms, I provided a concise summary of complex behavioural processes framed within an environmental context. I began by highlighting the importance of understanding human behavioural motivations, focused on "advocacy profiles", referring to the three most salient components with regard to conservation action: attitudes, values, and beliefs.

The literature informs us that as a prerequisite step to behavioural change approaches, both the cognitive and affective constituents of attitudes need to be considered to design effective campaigns to foster environmental concern and to advocate for the protection of nature. The value-norm basis theory connects both attitudes, values and beliefs (Stern et al., 1999) in support for social movements, aligning with the core precepts for advocating for change. Values represent one's guiding principles and broadest motivations, influencing the attitudes we hold and how we act. We are endowed with value profiles as individuals, though they are also embedded within the world around us (Maio, 2016). Values are dynamic properties that may be switched on (engaged) or turned off by experience or communications, and predominant value domains may fluctuate through a series of dynamic effects. While values may be primed in this way, they are truisms and as such are largely stable. The plasticity of values is reviewed in light of the desire

to play to intrinsic, universalism type values heralded as most likely to facilitate an enduring culture of care for the natural world. Beliefs are integral to giving agents a sense of focused motivation and trust in a proposed change, allowing them to connect with their values and promote more positive environmental attitudes which in turn through barrier removal and enabling mechanisms may increase likelihood of PEBs.

As a key influential social phenomenon, a significant focus of this chapter has been on pro-sociality. I provided a brief overview of the developments in the fields of psychology and sociology which have carved out an understanding of the processes of helping-based behaviours. I have attempted to formulate a contemporary synthesis of the field based on emerging, prominent research findings. Important notions such as the various forms of empathic connection, including empathy's role in biospheric concern, plus cognitive dissonance and the dehumanisation of animals provide important context to relationships with nature. I have come to learn that agreeable, pro-social values form the bedrock of cohesive societies and the developmental processes within them. Emphasis has been placed on personal, in-group, and out-group values and social norms as core determinants of helping behaviour. The previous focus on *if* and *how* has been replaced by *why* we develop pro-social behaviour.

Given the aim of this research, pro-sociality and the connection to pro-environmentalism thus represents a salient area for a literature review. There is no shortage of theories of pro-social behaviour, and this chapter illuminates the discovery that the relationships between pro-sociality and pro-environmentalism are crucial and latent, yet remain complex and understudied, calling for greater investigation into the pathways and potential priming methods related to behaviour change in practice.

Building upon the lessons of pro-sociality, particularly those grounded in systems thinking and empathic association, I discovered how a connection to nature is associated with greater engagement in PEB. I explored three central areas of nature connection, firstly biospheric concern, through to an extension of the pro-social facet of empathic connection toward nature, finally observing how the self-

concept of environmental identity might help to foster deeper agency and stewardship through collective, normative, and responsibility-driven advocacy.

Environmental governance involves attempting to alter the reproduction of practices, systems, and networks in order to become more sustainable. This review of the literature has found that on a sustainable policies level, social practices are a preferred target of intervention for sustainability policy over 'behaviour', 'choice' or technical innovation alone (Barnes, 2001; Elzen et al., 2004). To develop effective strategies and policies for altering practices requires deepening investigation into what constitutes society and how transformations can occur that will affect resource exploitation and overall relationships with nature. Building on the structuralist premises of social practice theory can help articulate the ways environmental identity and individual agency rely on and produce cultural forms related to nature connection.

I progress from these lessons now to contextualise these theoretical and conceptual foundations by describing the socio-cultural and spiritual history of the study location where they will be explored through my ethnographic fieldwork.

Chapter Three. Historical, spiritual, and social profile of society in North Sulawesi, Indonesia

3.1. Contextualising local communities and ethnographic positioning

I begin this socio-cultural overview by describing indigenous communities in the diverse and culturally rich country of Indonesia. This leads to the historical journey of religion throughout the region, moving toward the pluralisation of belief systems in North Sulawesi, which forms a significant component of the ethnographic investigation. I conclude by connecting prior knowledge of pro-sociality with exploitative nature-based practices with a focus on hunting, trading, and consumption of bushmeat. These themes lay the groundwork for the socio-cultural investigation through which my ethnographic journey will navigate. Before introducing the methodology utilised for this research, I summarise this socio-demographic assessment of my study communities and refresh on the key lessons which shape the chosen methods and epistemological assumptions to lead into the fieldwork.

3.2. Indigeneity, belief, and Indonesia's cultural identity

Indonesia possesses rich cultural diversity within a population of approximately 270 million people, with over 300 ethnicities and the same number of languages. From an estimated 50-70 million indigenous peoples, there are some 1.5-2 million nomadic, semi-nomadic and permanently isolated people (Indonesian Dept. Social Affairs) including "*Masyarakat terasing*": isolated people living in forests or swamps. While Indonesia has adopted the United Nations Declaration on the Rights of Indigenous Peoples, the government still does not fully accept the concept of indigenous peoples, though it does officially acknowledge some 1,128 ethnic groups. In recent years there has been an increasing number of rights recognised for indigenous peoples, the category under which the communities of my fieldwork fall. This includes in 2013 when the constitutional and collective rights of indigenous peoples over their lands and territories, including traditional forests, was confirmed by the Constitutional Court. Building on this, in 2015, the Ministry of Environment and Forestry agreed to allocate 6.8 million hectares of indigenous land for inclusion in the One Map initiative, which seeks to reduce

conflict by clarifying land holdings. Despite this, Indonesia has since seen increasing disruptions with development programmes and a lack of official clarity on indigenous rights, for instance the push to develop tourism hotspots giving rise to conflicts with local communities over land rights.

Brigitta (2013:3) remarks how since the fall of the Suharto regime in 1998, the term “*adat*”, representing concepts of traditional ways of life and values, is:

“shaped and deployed by various actors in Indonesian to define their identities, reclaim rights and property, and reposition themselves in the multi-ethnic state of Indonesia.”

Previous to Suharto’s fall, the official regime line was that Indonesia is a nation which has no true indigenous people, and that all Indonesians are equally indigenous. With regards to defining and articulating cultural, indigenous and tribal notions, Li (2000:151) presents examples of studies from Sulawesi in Indonesia to describe a crucial determination of cultural identity:

“...a group’s self-identification as tribal or indigenous is not natural or inevitable, but neither is it simply invented, adopted, or imposed. It is, rather, a positioning which draws upon historically sedimented practices, landscapes, and repertoires of meaning, and emerges through particular patterns of engagement and struggle. The conjunctures at which (some) people come to identify themselves as indigenous, realigning the ways they connect to the nation, the government, and their own, unique tribal place, are the contingent products of agency and the cultural and political work of articulation.”

Central to these cultural identities is religious belief. Prior to Islam and Christianity, the predominant contemporary religions in Indonesia were Buddhism and Hinduism. While the origins and spread of Islam in Indonesia are not completely clear, it is thought to have arrived either from Arabia before the 9th century or India around the 12th century. In 1945 Indonesia declared independence, with the government announcing that they shall advance “The national culture of Indonesia”. Prior to the introduction of these modern religions at various periods over the past millennium, the predominant belief system in North Sulawesi was animism.

3.3. Animism

Animism refers to ontologies or worldviews which assign agency and personhood to beings, human and non-human (Harvey, 2014). It is the belief that all creatures, objects, and places possess a spiritual essence, with a supernatural power organising and animating the material universe. Often adopted in a form incorporating polytheistic and shamanistic elements with ancestor worship, aspects of animism can be found in Paganism, Hinduism, and Buddhism. The term tends to be used either as an anthropomorphism to denote the projection of putative human-likeness or agency onto non-human beings or phenomena, or as an indigenous religion in contrast to monotheisms (Aragon, 2000).

It is important to acknowledge the persistence of traditional religious beliefs and customs such as those of animistic origins, particularly ritualistic practices which have given rise to a heterogenous interpretation of spirituality and in some cases are still practiced as the predominant faith. Often in animistic societies, the environment itself is considered sacred and thus should not be modified, possessing a certain totemic value, such as that in aboriginal societies. Humans thus belong to and are shaped by their environment rather than vice versa. Aligning with the objectives of this research, I am interested in which elements of the animistic ideology associated with nature have persisted and integrated into the modern worldview and lifestyle. Understanding the history of certain practices and normative behaviours may shed light on nature relationships and the means by which to reconcile the needs of people and wildlife.

It is worthy of note that through a variety of routes there is an emergent revival of animism, regarded as the 'new animism', with calls for a decentring of humanity (Eisenstein, 2013; Harvey, 2014), becoming an increasingly popular area of academic focus in interdisciplinary research. This modern ontological position provokes important contemporary discourse related to our current ecological crises, substantively how animism:

“...provides an ontological alternative to more dominant ways of being in and moving through the world. In particular, animism provides significant ways of resisting and rejecting the mistake of

dividing the world into 'nature' and 'culture' (or into 'humans' and 'the rest')." Harvey, 2014:80.

This call is highly salient with regards to seeking ecological harmony between people and place, congruent to the aims of this research, seeking to re-engage within the more than human community and resituate humans in ecological terms and the nonhuman in ethical terms (Plumwood, 2002).

3.4. History and pluralisation of religion in North Sulawesi

The first of my study locations is Imandi, in the East Dumoga sub-regency within the Bolaang Mongondow *kabupaten* (regency) which was previously a part of Minahasa before it was split into four regencies and one municipality in 2008. The people in North Sulawesi usually still say Bolaang Mongondow or Bolmong when speaking about the whole region. Islam began to take hold in Bolaang Mongondow in the early 19th century, where previously the leading nobles since the late 17th century had professed Christianity. More than 50% of the population were Muslim by the late 1850s and 1860s, and the ethnic Mongondow population is now overwhelmingly Muslim, although there are some villages where Christian missions during colonial times succeeded in gaining local converts (Kosel, 2005).

As established earlier, prior to the Islamisation in Bolaang Mongondow, the predominant faith system was, as in Minahasa, an animistic traditional religion. Ancestor worship was central, with the *Takit* deities representing various spirits thought to be deceased ancestors (Riedel, 1903). Kosel (2010:49) remarked how in all religious rituals and daily behavioural practice, the role of the ancestors was very prominent:

"...be it as 'owners' of land whose permission to clear the land was sought and whose blessing was asked for in agricultural rituals, or as guardians who could give blessing and protection through life-cycle rituals. In any case they would punish the neglect of kinship obligations or the disturbance of social order with misfortune and disease. Accordingly, when illness occurs, they were presumed to be the most likely cause and the only recourse for healing."

Consistent with the animistic traditional faith in the Minahasan region, spirits were embedded within the elements of the land, assuming the authoritarian role of guardians of nature and also controller of fates, at times imbuing a protector role if an area of land became sacred or agricultural permissions were not granted. As these notions have largely persisted, this has major implications for stewardship of lands and even an applied potentiality for fostering a deeper sense of custodianship to PAs. With my empirical research I seek to explore the preservation of these ideologies and their role in terms of utilisation of land and natural resources, as well as human-wildlife interactions.

Remnants of the native religions include the use of amulets, certain taboos and healing practices involving trance and possession. Also still fairly common are invocations at wedding ceremonies to secure blessings. Kosel (2010) remarks that as these practices continue to shape personal piety, they can be assumed to have a certain influence on the way individuals think and feel about spiritual matters in general. While they are nowadays looked upon as time-honoured traditions that are part of local culture, they are also excluded from the sphere of religion in public discourse. Kosel suggests that people who see themselves first and foremost as Muslims or Christians accept the plurality of faith and the traditional practices due to lack of any claims to exclusiveness and dogma, blurring the boundaries between sacred religion and secular tradition.

Similar to Bolmong, the preservation of the native religion has also resulted in a heterogenous pluralism of religious ideologies in the Minahasan region, which encompassed my other three study villages (92). “*Tanah Malesung*” is the ancient name for the Land of Minahasa, with Malesung representing the name of the native belief. Similar to the Takit deities in Bolmong, the Creator figure in Malesung is represented by Muku’, who are messengers sent to interact with believers. Some Muku’ are ancestors who are le’os (good), while others are lewo’ (bad).

In March 2020, authorities in North Sulawesi gave official recognition to the native Malesung faith, allowing the denomination to be included on identity cards. Hari Agustinus (2020:12) reported on the religious tolerance and acceptance of this

area, as expressed by Denny Pinontoan, a theology professor at the Tomohon Indonesia Christian University in North Sulawesi:

“This ancestral belief existed long before the government established the six official religions; therefore, [Malesung] is not a new religion.”

Pinontoan remarked how the government's recognition of ancient beliefs demonstrates the diversity and tolerance in Minahasa and more generally in North Sulawesi. This is further embodied in the etymology of Minahasa, stemming from the words *Mina-Esa (Minaesa)* or *Maesa* which means to be one or unite, meaning that the people stand to unite the nine Minahasan sub-ethnicities. While it remains unclear, the formation of Minahasa is thought to have dated back to 1,000BC.

Of particular prominence to Minahasan culture is the story of Toar and Lumimu'ut, known as the father and mother of Minahasa. There is significant variation of the story between the sub-ethnicities, though they all purport to tell the origins of Minahasa. This story is significant in that it indicates the importance of nature in the traditional religion. Traditionally, nature was the channel through which Minahasan people understood the world around them, taking signs from the animals, plants, and the weather. Nature was central to traditional beliefs, to be celebrated and respected, with a common notion that humans were not necessarily higher than other animals or the environment as we all ultimately came from God. As in Bolmong, the remnant practices of the native religions included superstitions, taboos, and healing practices. These healing practices are of specific relevance to this study as their symbology incorporates deep associations and utility of natural resources. “*Tona'as*” denotes a traditional Minahasan healer or spiritual guide, which can accrue either a benevolent or malevolent role: a caring, helping pro-social philanthropist, or a curse-sharing, antisocial misanthropist. The philanthropist Tona'as act as good “witch doctors”, helping others compassionately, healing, and removing curses from people's houses or bodies, and do not expect payment for their services. The misanthropist, known as “*Mariara*” curse neighbours, supposedly out of pressure to pass on the negative curse or else suffer the consequences. The Tona'as is

obligated to pass on the effects of the power to others. If they do not, either they or their family members will receive negative consequences of the curse (usually related to ill health). The term for the negative spell, or black magic is “*doti*” (in Manado, normally people just say “*orang dabeking*” = “someone did it”). Those individuals have themselves received the “*obat kampung*” (medicine) which means the power or curse. Both Tona’as and Mariara are known to be deeply connected to the animistic spirits in the Minahasan lands.

The Minahasan history is rich in nature symbology, for example the “*Watu Pinawetengan*”, or the stone of distribution, which was placed at a peace conference as a milestone for the change in governments and for tribal negotiations. Scratches on the stone formed various motifs and were believed to be the result of the negotiations of the tribes. There are motifs depicting human forms, such as male and female genitals, leaf motifs and irregular lines possibly denoting travel. According to the beliefs of the surrounding community, the shape of this stone itself is intended to appear as a person prostrating to God. In addition, this stone shape is also similar to a map of the Minahasa regency.

Further natural symbolism is found in the Minahasan iconography. The “*Manguni*” is a species of owl called the Celebuk sulawesi (*Otus manadensis*) which has become an important cultural symbol all throughout the Minahasa region, incorporated into government emblems and representing the Evangelical Christian Church in Minahasa. The owl is admired due to its sharp sense and believed intuition, and as such many stories and superstitions are associated with this endemic species.

The recognition of these elements of symbolic interactionism have persisted into modern times, and while there may be cultural erosion occurring (investigated in this research, [196](#)), it seems there is a growing desire to embrace the past. The Mawale Movement for example, is a cultural preservationist movement in North Sulawesi of great relevance to the modern amalgamation of religious ideologies. Mawale aim to utilise their knowledge of traditional values, culture, and religious beliefs as a way to refocus and rediscover the Minahasan identity (Jacobson & Larson, 2015). Despite the fact that most of the members are themselves Christian, the identity this movement are realigning is not an innately Christian

one (Jacobsen, 2002). One of the typical characteristics of the Minahasan identity is as open, adaptable, and ever-changing, calling for a profiling of the communities in this study as with potentially high propensity for change.

In describing the heterogeneity of the Minahasan identity, Jacobsen (2002:45) explains how we are confronted by:

“...a highly elusive identity that is based on a variety of aspects that are ambivalent in terms of time and space. In talking about identity, many informants prefer to refer to colonially imputed Christian value systems and local perceptions of Westernization and how in a variety of ways they have co-opted local cultures.”

Jacobsen furthers the contemporary challenges of establishing clarity on the Minahasan identity, remarking how people in the region typically provide vague or adapted descriptions of their pre-colonial cultural heritage. Minahasans, like their ancestors, are generally very capable of adapting and changing according to prevailing social-political conditions, being co-operative and open to new opportunities.

As my research reveals, the traditional practices, superstitions, and customs from the old belief systems have been interwoven into a heterogenous interpretation of modern religion. Examples include “*mapalus*”, a form of “*kerja bakti*”, also known internationally as “*gotong royong*” (134) a conception of sociality familiar to large parts of Indonesia, Singapore, Brunei, and Malaysia. The emergence and preservation of the *mapalus* social phenomena has played an important role in the Minahasan history, both for the elucidation of individual identities and in the process of “becoming” an ethnic culture (Veldy, 2011). The phrase has been translated into English in many ways, most of which relate to the conception of reciprocity or mutual aid. This mechanism of reciprocity is engrained into the local culture in Sulawesi, and this comes up again and again in my empirical research, whereby villagers will participate in shared activities and help one another in times of hardship, or express reciprocal altruism. The meaning of *gotong royong* within Indonesian life is described by Geertz (1983:157):

“An enormous inventory of highly specific and often quite intricate institutions for effecting the cooperation in work, politics, and personal relations alike, vaguely gathered under culturally charged and fairly well indefinable value-images-rukun (“mutual adjustment”), gotong royong (“joint bearing of burdens”), tolong-menolong (“reciprocal assistance”) - governs social interaction with a force as sovereign as it is subdued.”

This is salient in my exploration of factors affecting human behaviours and conservation advocacy, given that religion is a powerful force in dictating perceived behavioural control (Aldridge, 2007). These traditional practices are increasingly embraced by new generations as mythological stories, curious animistic rituals, and colourful performances for use on official occasions. This is despite the fact that clerics managed to stigmatise the image and identity of the pre-colonial societies as unacceptable to modern Christian or Muslim lifestyles. Despite the pluralism, the local perceptions of traditional cultural specificity from the pre-colonial value systems have largely been dominated by the transformative adoption of modern religions through intensive efforts of missionaries and ministers over the past two centuries.

The Sultanate of Ternate had influence in North Sulawesi at the end of the 16th century, when the Portuguese and Spanish arrived in the area, drawn to the wealth of natural resources which made Manado a strategic port for European traders who were going to and from the Moluccas. Over a thousand Manadonese were baptised during the Portuguese missionary activity between 1563 and 1570, but following the murder of Sultan Hairun in Ternate and the ensuing anti-Portuguese attacks, the mission was abandoned (Aritonang & Steenbrink, 2008b). At that time however, there were only a few coastal villages partially inhabited by outside traders and slaves who identified as Christian.

Between 1831 and 1891 the Dutch Missionary Society (*NZG: Nederlandsch Zendeling Genootschap*) was responsible for the majority of the Christianisation of the region (Henley, 1993). From a total of 32 regions in Indonesia, Minahasa is one of only four regions with Christianity as its dominant religion, now with the third largest Christian population in Indonesia, with around 90% reporting as

Christian (North Sulawesi in Numbers, 2018). For the North Sulawesi province overall Islam represents 34% with Christianity around 65%. This transformation of society via both the Islamisation and Christianisation is important to this study in understanding the pro-social dispositions, cultural identities and prevailing norms and values systems associated with the natural world.

3.5. Religion, pro-sociality, and the environment

In North Sulawesi, bushmeat hunting for consumption and commercial trade is a primary concern for biodiversity conservation. Unlike the majority of Indonesia, the predominantly Christian population is not constrained by religious prohibition of wildlife consumption (O'Brien & Kinnaird 2000; Sheherazade & Tsang, 2015). Bushmeat is perceived as a food for special occasions, thought to be consumed most commonly during celebration periods like Christmas, New Year, Thanksgiving and Easter in the Minahasa Region. Bron Taylor (1991) claimed that Abrahamic religions (especially Christianity, given its prominence and power in the West) produced environmentally destructive attitudes and behaviours, while indigenous traditions and religions originating in Asia (especially Daoism and Buddhism) were more ecologically friendly. It is generally accepted that Christian ideals have fostered and propagated metaphors and ideologies of domination, which have led to the normalisation of destruction of natural ecosystems (Lent, 2017).

Religions may occasionally disrupt existing values, social arrangements, and ecosystems, though they tend typically to reinforce them. In recent years, a greening of religion may be underway, with the emergence of religious environmental movement organisations (REMOs), although the focus of assessment is typically framed in the context of indigenous, small-scale foraging societies rather than pastoral and larger pre-industrial agricultures which are more likely to hold substantive influence on large scale environmental management. The precise impact that religious outlooks have on environmental attitudes and behaviours remains a matter of debate among scholars of religion and ecology (Baugh, 2019). However, considering the influence belief has on support for movements, values and behaviours (Stern & Dietz, 1994), expansion

of faith-driven environmentalism may plausibly result in more sustainable lifestyles.

Religious beliefs and related priorities often hinder environmental understanding and concern, and thus rarely enter discourse. Religious individuals and groups are seldom forthcoming about prevailing, destructive ideologies (Taylor, 2020:75) and:

“...are especially unlikely to challenge existing political and economic systems – even though, nearly everywhere, these systems are unsustainable, stressed and, in many regions, already in the process, or at the brink, of collapse.”

It is unsurprising how challenging it is to transform practices that are invested with sacred meaning. Beliefs and traditional practices tend to produce fatalism and resignation rather than ameliorative actions (Wexler, 2016). Political and economic ideologies are often far more important than religious ones in shaping environmental attitudes and behaviours. Even the most passionate religious environmentalists confine their felt obligations and priorities to the sphere of individual virtue ethics. Individuals typically feel that to be effective, they must be considered ‘credible’ by their constituencies. To do this, REMO advocates must emphasize fidelity to their religious tradition, and tailor their messages to align with already existing beliefs, values, and priorities. It makes it more difficult to incorporate understandings from scientists and relevant insights or practices from other religious traditions, while also hindering interfaith alliances and collaborations with secular scientists and environmentalists.

An important precursor to the empirical research conducted in this study, is the observations by a team led by Taylor (2020:41), that predominant religious, psychological and affective attributes govern relationships with nature. Specifically, that:

“...those who hold anthropocentric and monotheistic religious views, and express low levels of environmental, religious, and cosmic humility, are less likely to engage in pro-environmental behaviors than those who maintain views, or express affinity with affective traits, values, and spiritual understandings, that are ecocentric,

Organicist/Gaian, pantheistic, animistic, and that in general reflect humility about the human place in the world.”

This is a significant finding, as it illuminates the potential barriers, and also opportunities, to prime specific value orientations and foster more PEBs given the prominence of faith in governing individualistic and societal profiles of local communities in North Sulawesi and elsewhere. In terms of PEBs and their motivational mechanisms, most salient to this research are those behaviours which constitute the practices of natural resource exploitation, most notably hunting, trading and consumption of bushmeat, which I contextualise next as one of the most problematic of human-wildlife interactions in this biodiversity hotspot.

3.6. Hunting, trade, and bushmeat consumption practices

Sulawesi is the largest island included in the biogeographically unique region of Wallacea which totals a land mass of 347,000km². Separated from the rest of Indonesia by Wallace's Line, the flora and fauna of Wallacea have evolved to represent a high degree of endemism. As such this area has been designated as one of 34 global biodiversity hotspots (Myers et al., 2000). Hunting for consumption is a primary threat to biodiversity in Sulawesi. Typical drivers for bushmeat consumption range from subsistence hunting and nutrition (Fa et al., 2005), to demand as a luxury commodity with cultural or traditional ties associated with recreation and health (Drury, 2009; Ripple et al., 2016). The province has a high nutritional and caloric intake, so bushmeat consumption is usually disassociated with subsistence or sustenance (O'Brien & Kinnaird, 2000).

A comprehensive assessment of wildlife hunting activities in Sulawesi was carried out by Dr Ikeu Rejeki (2019), interviewing a total of 598 hunters throughout 179 villages on the island. Rejeki's research reveals several key findings. Firstly, that wildlife hunters tend to be farmers with low levels of education and income, with an estimated wildlife harvest of 8,300 tonnes per year. North Sulawesi represents the highest hunting rate (34% of livelihoods) of all provinces, with the most frequent reported uses of wildlife for selling and consuming, while some respondents also kept pets. Importantly, hunting typically represents a significant contribution to the hunters' household economies, and over 75% of respondents

in the study hunted from within PAs. In terms of awareness, the majority of people are aware of decreasing populations and the vulnerability of certain species. Finally, it is notable that hunting rates were dependent upon personal motives rather than associated with religion or ethnic group.

Poaching of wild animals for consumption is an important factor in the loss of wildlife populations in North Sulawesi. In Tangkoko Nature Reserve in Minahasa, bushmeat hunting extirpated endemic species such as the anoa (*Bubalus depressicornis*), babirusa (*Babyrousa babyrussa*) and flying foxes (Clayton & Milner-Gulland, 2000). Remaining species such as bear cuscus (*Ailurops ursinus*) are vulnerable, and it has led to a major decline in the Sulawesi crested black macaque (*Macaca nigra*) population, one of seven macaque species endemic to Sulawesi (Riley, 2010).

The distribution of *M. nigra* is the Minahasa and Bolaang Mongondow regencies, and since the 1980's its population has declined over 80%. Previous census information estimated there were 300 animals/km² in 1980 (MacKinnon & MacKinnon, 1980) which declined to less than 26 animals/km² by 1998 (Sugardjito et al., 1989). Today, it is thought that there are less than 3 animals/km², though no large-scale population census has been performed in the last 10 years (Palacios et al., 2012). Eight distinct sub-populations have been recorded in the first range-wide baseline of occurrence (Johnson et al., 2019). *M. nigra* is currently listed as Critically Endangered on the IUCN Red List following an assessment in 2008 (Supriatna & Andayani, 2008).

According to Indonesian law, it is illegal to hunt, kill or trade protected species (President RI., 1990), listed under the law concerning the preservation of wild plants and animals (President RI., 1999a). Non-protected species such as bats can only be traded with a permit (President RI., 1999b), within the constraints of a legally mandated quota for inter-provincial trade set by the Indonesian Institute of Sciences (Lembaga Ilmu Pengetahuan Alam) and Natural Resources Conservation Agency (Balai Konservasi Sumber Daya Alam). However, there is currently no hunting quota allocated for the bat species collected in Sulawesi (mostly *Acerdon celebensis* and *Pteropus alecto*) or other frequently traded species, meaning that any hunting of these species is technically illegal (Ministry

of Environment and Forestry, 2020). Awareness-raising on and enforcement of these laws has been inadequate in preventing wildlife offtake and trade, with some actors (e.g., interviewed vendors, hunters) in the wildlife trade suggesting that the risk of enforcement was too low to discourage hunting and trading illegally (Lee et al., 2005; Latinne et al., 2020). Traditional markets in North Sulawesi remain hotspots for selling wild animal meat. The main challenges in preventing illegal trade are a lack of effective law enforcement in traditional markets and a lack of stewardship to protect local wildlife; animals are typically not valued beyond their role as a source of food or income.

A study I conducted with colleagues provided an overview of the bushmeat trade by describing longitudinal trends in the amount of bushmeat (animal carcasses) observed for sale in markets in North Sulawesi (Bailey et al., 2021). Complementing other studies (Sheherazade & Tsang, 2015; Latinne et al., 2020), the study indicates that, although the amount of bushmeat sold has reduced in the last decade, some species are still harvested at high rates. This underlines the importance of understanding behavioural motivations which proliferate the practices of hunting trade and consumption, and that it is critical for evidence-based strategies to be implemented to mitigate bushmeat trade in the region.

Summary of Chapter Three

Drawing upon available resources relevant to the objectives under investigation, I have explored the socio-demographic and historical context which is essential to effectively position my ethnographic field of study. I foregrounded this by pointing to the rich cultural diversity for which Indonesia is characterised, though noting the problematic absence of indigenous identity and legal acknowledgment. This leads to the possibility of local land-right conflicts in this study area, which may result in residual negative attitudes to conservation and represent significant barriers to the effective preservation of PAs.

Prior to the introduction of contemporary modern religions in North Sulawesi at various periods over the past millennium, the predominant belief system was animism. A brief look at this ancient belief system reveals how it is rooted in the

supernatural, denoting the projection of putative human-likeness or agency onto non-human beings or phenomena. Through direct inquiry with my study participants, I will delve into the preservation of the animistic elements and the acceptance or relinquishment of these ceremonial components in modern lifestyles (123). This guides me to advance the fascinating observation of the heterogenous interpretation of contemporary belief systems, with the pluralism of religious ideologies in the Minahasan region. The prominence of religion for sculpting pro-sociality is a significant finding and will guide my data collection, building on the understanding that religion is a powerful force in shaping attitudes, values and ultimately behaviours.

I completed this chapter by homing in on pertinent practices related to natural resource exploitation, valuable proxies for both environmental protection and nature connection: the hunting, trading, and consumption of bushmeat. Sulawesi is one of the most important areas for conservation of Indonesia's biodiversity, yet hunting for consumption remains a primary threat. Explorations of the literature have indicated that hunting for trade and consumption can hasten extinction risk of species most vulnerable to hunting pressure, including iconic endemic and high-risk species such as *M. nigra*. The attitudes and behaviours related to these important species will therefore form a focus for my empirical investigation, building upon the profiles of understandings of the profiles and motivations of hunters, traders, and consumers from previous research.

The patterns formed by the narratives flowing through these historical, socio-demographic, and behavioural contexts will be carried through as common threads to guide the empirical research and become the foundations for the applied discussions into potentiality for change in the final chapters of this thesis. This expansive overview of the literature and socio-cultural context has guided the development of the ethnographic methodology, which I will describe in the next chapter.

Chapter Four. Methodology

This chapter presents the methodology developed to address my research objectives. I begin by describing how epistemology and ontology are key given the complexity of psychological and sociological factors. Details of the ethnographic fieldwork are provided, which includes participant observations (94), interviews and focus groups (96), and a “connection to nature scale” (99). The sampling strategy and analyses (101) are explained, along with ethical considerations (104) before I lead into the first empirical chapter (107).

4.1. Epistemological genesis of the research approach

It is increasingly remarked that greater attention needs to be paid by natural resource managers to the philosophical perspectives and worldviews that underlie social research and how these views influence methods and outcomes (Evely et al., 2008). Moon and Blackman in particular note a poignant transition relevant to this study in that *“Biodiversity conservation research and application has changed from a strong natural science focus to a “meta-discipline”.*” (2010:192). However, the integration between the social and natural sciences has been limited, in part because of the barrier caused by major philosophical differences in the perspectives between these research areas. For example, positivists believe that only through objective empirical investigation is knowledge able to be created. Positivism is typical of natural scientists (Lee, 1991), yet this perspective can be problematic in conservation biology when we begin to consider the integral socio-psychological and sociological aspects which cannot be observed directly, including attitudes, values, beliefs, and social norms recognised as key drivers of PEB (Berenguer, 2007; Holmes et al., 2011; Schwartz, 1994). By adopting a post-positivist perspective, it is acknowledged that all methods are imperfect and therefore multiple methods are necessary to identify a specific belief or other individual characteristics (Evely et al., 2008). Post-positivists for example recognise the usefulness in understanding the backgrounds and cultural contexts of hunters and seek to deconstruct concepts and decision processes for governance of natural resources by undertaking case study investigations (Sharp et al., 2011). With regards to conservation policy,

positivist and post-positivist paradigms diverge in their research aims. Positivists support policymakers through predicting outcomes, and post-positivists look at past events and social structures to understand narratives of social experience (Sharp et al., 2011). An interpretivist perspective is adopted in preference of these typical orientations by utilising a series of individual cases to trace the behavioural motivations of the practices (hunting, trading, consumption) as phenomena, through qualitative methods (Bryman, 2012; Crotty, 1998).

Recognising that both realist and relativist ontologies can be complementary to one another rather than dichotomous (Moon & Blackman, 2010), biodiversity conservation may be approached by acknowledging that cultural transformations may be necessary rather than an exclusively realist approach of direct interventions or policy development. Viewing conservation issues through a relativist lens, one may inquire into which intervention worked, and seek to elicit the reasons behind *why* it worked. The pluralistic form of the relativist ontology recognises a diverse reality with the capacity to be shaped to fit the purpose of the individual, who will apply meaning and purpose to it in a way that makes sense to them (Pratt, 1998; Powell 2001). However, breaking from the realists' attempts to identify generalisable characteristics of people through disaggregation of the systems surrounding nature protection, I adopt a bounded-relativist ontological perspective to attend to the socio-cultural idiosyncrasies of the target samples, and their impact on natural resources. Through qualitative research methods, I derive a contextual investigation into the drivers of hunting as a practice. I explore the nature of relationships to the forest and the economic, political, and social context that has shaped their behaviour, and subsequent connection to nature. Fitting this bounded-relativist lens, it is imperative to recognise the complex interrelations of the people with the forest and wildlife within it, anticipate multiple interpretations from them and therefore embrace such complexity in place of breaking it down into its structural components.

Subjectivist epistemology brings insight from the idiosyncratic tendencies of the individuals, what their interpretations of nature are, and how their behaviour relates to their advocacy profiles and social context (Crotty, 1998). A subjectivist research orientation elucidates the individual factors that affect the subject's environmental connections, and their corresponding level of environmental

concern (Fishbein & Ajzen, 1975). While retaining these epistemological benefits throughout the research preparations through to interpretation of results, I assume that knowledge and meaning is not inherent within nature but is constructed. Supporting the qualitative process through this constructionist viewpoint reveals deeper contextual understandings of the target groups.

Arguably at the core of the study of conservation science is a critical theory approach, which focuses on reflective assessment and critique of society and culture in order to reveal and challenge power structures affecting the study subjects. The advocacy branch of critical theory helps in recognising the premise that research and theory should have a utility to change situations, in this study relating to the development of the theory of change [\(262\)](#). Roebuck and Phifer (1999) further the critical theory standpoint, asserting that the approach is a form of science that provides researchers with the means to assert their own normative agendas (thus more relativist in nature). Most natural resource managers tend to stay within this more subjective domain, characterising biodiversity loss as inherently a crisis. A postmodernist might challenge these assumptions of conservation biology, expressing scepticism as to why biodiversity loss is an issue necessary to contend with, through extended scrutiny of the origins, assumptions and effects of meaning (Clayton, 2012). However, this study is designed to be intervention impact-oriented and assumes the behavioural practices are expected to be unsustainable (supported by known hunting impacts in the area, [76](#)). I ascribe intrinsic value to nature preservation and that as natural resource managers we are responsible to prompt positive change and prevent harm to nature. Therefore, this advocacy-type approach stems from a critical theorist orientation, acknowledging that certain normative and value positions influence conservation science (Roebuck & Phifer, 1999).

The assumptions inherent to participant observation techniques through ethnographic research should be grounded in symbolic interactionism. This theoretical perspective deals with characteristics of the subjects themselves, highly relevant to the cross-cultural interface apparent in this study. This necessitates adapting to such aspects as communication, interrelationships, community, and language in order to ensure there is authenticity and correct

meaning in the narrative formulated from the ethnography. Michael Crotty (1998:14) illuminates the empathic principles embodied within this key approach:

“...symbolic interactionism is all about those basic social interactions whereby we enter into the perceptions, attitudes and values of a community, becoming persons in the process. At its heart is the notion of being able to put ourselves in the place of others – the very notion we have catered for in the choice and shaping of our methods.”

I seek to reconcile the positivist and socio-constructivist approaches to human behaviour. The research objectives (14) outlined in this study therefore center around a pragmatic grounding in both individualistic (socio-psychological, positivist) and structural (sociological, constructivist) considerations, embracing attitudinal, value-laden and interpretivist elements of living. I acknowledge from substantial engagement with the discourse that there is a distinction between positivist and sociological paradigms. However, I disagree with any polarisation. I am not a proponent of a single school of thought, and I do not believe them to be incongruent philosophically or practically, instead complementary from an applied perspective. I believe practitioners may benefit from social practice theory as a broad management lens, addressing embedded social values while recognising how dynamics of advocacy profiles contribute to the propagation of these systems and remain crucial metrics of analyses.

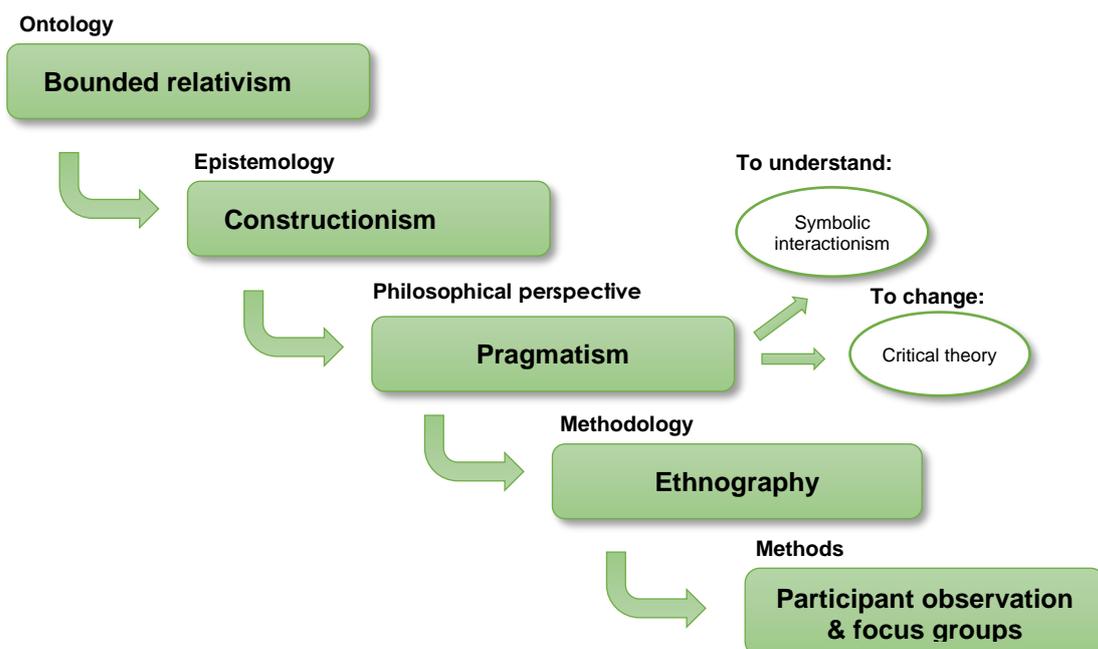


Figure 7. The flow between ontology, epistemology, and methodology in the primary approach within this study.

In adopting these philosophical perspectives throughout the research design of this multi-dimensional study, an overall pragmatist approach is maintained (Fig. 7). Empiricists believe that knowledge is derived from direct sensory experience, whilst rationalists believe that knowledge is derived from logical and deductive reason. A compromise between these two perspectives is sought by pragmatism (Bacon, 2012; Castle, 1996), which avoids obliging to a singular philosophical perspective and thus enhances the potentiality to strengthen practical, individual and institutional competence in protecting biodiversity (Clement et al., 2015). In pragmatism, concepts, theories and hypotheses of inquiry are observed in terms of their practical implications, in an attempt to break down disputes in ontology (Bacon, 2012). This pluralist position of replacing the yearning for an unattainable consensus with the institution of pragmatic arrangements, is widely supported and builds upon the work of many distinguished scholars (Castle, 1996; Bacon, 2012; Rescher, 1993; Roebuck & Phifer, 1999). This gradual evolution of my research design towards a pluralistic dynamism is embraced through pragmatism and the mixed methods approach (86).

4.2. Research approach

Within the Conceptual framework (60), I underlined the importance of multiple domains and collaborative expertise in an applied format appropriate for my proposed methodological approach. This study follows definitions as per Tress and colleagues (2005), as a transdisciplinary form of integrative research applicable to multiple disciplines and providing substantive contributions to human geography with macro level insights into the mechanism of social change. Integrative research concepts are becoming increasingly important and more widely adopted in various natural resource management arenas, such as landscape ecology and other environmental sciences (Winder, 2003). The concept of transdisciplinarity celebrates the notions of co-creation (Gössling et al., 2009) and participative learning (Ellis & Waterton, 2004; Newing, 2010) reflected in participants' direct engagement in outreach within each location, and development of the holistic strategy (262). It furthermore deepens associations with collaborative governance and embodies EC models (50) (Agyeman et al., 2006; Dobson, 2010), with the active participation of citizens to behave more

sustainability through direct experiential relation to the resources and associated concepts from which they are drawing. Agrawal (2005) supports the power of inclusionary benefits in EC frameworks, contending that individuals develop care about the environment through participation in resource management initiatives. Referring back to the theoretical background, this has tangible associations with oneness to nature and stewardship through greater ownership and empathy towards wildlife and natural areas.

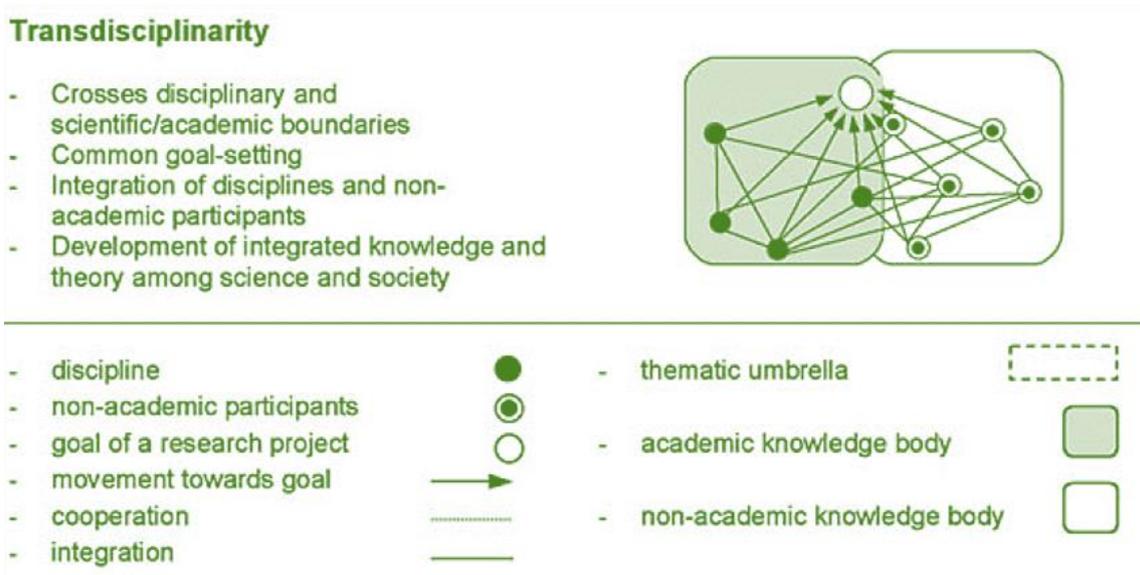


Figure 8. Overview of transdisciplinarity as a research concept. Adapted from Tress et al., (2005).

This study traverses a series of disciplines (social psychology, sociology, conservation psychology), includes common goal-setting (understanding factors related to participants' advocacy profiles), integrates disciplines (research assistants and coordinating partners such as forestry, regional government, and local university) and involves non-academic participants. The research aims to develop a form of integrated knowledge within the scientific community alongside a deeper understanding of the importance of the environment within the local community (Fig. 8). There are significant common narratives across the disciplines related to this research, such as the integration of environmental psychology which emphasises context and which may serve to integrate psychology as a whole and bridge the gap between the interests of professionally orientated and academic psychologists (Kitchin et al., 1997). Human geography or anthropogeography is associated with humans and their relationships with communities, cultures, economies, and interactions with the environment by

studying their relations with and across locations (Gregory et al., 2011). Biodiversity conservation is increasingly recognising the importance of embracing human geography, reworking definitions and knowledge bases to ensure that social and ecological variables are considered within interdependent systems and as nature-society hybrids (Zimmerer, 2010). A transdisciplinary perspective which investigates the spatial organization and geographical representation of various phenomena and the mechanisms that are responsible, thus empowers one to inform global patterns of environmental behaviours and the dynamics of cultural change.

4.3. Description and justification of methods

In this section I provide the rationale for the selection of methods and elaborate on their description.

4.3.1. Mixed methods approach

As defined in Chapter One a diverse field of inquiry necessitates a holistic exploratory and applied research design. The conceptual framework further crystallises this notion of diversity, in the endeavour to take an integrative impact-oriented approach to the research. This orients my study within the suitability of mixed methods, with a majority focus on the primary data collection methods and orientation of a qualitative paradigm. The full research design including sampling approach is found in Appendix I ([281](#)).

Mixed methods are now widely adopted across many research disciplines, and more actively encouraged in the contemporary formulation of social research, especially with the appeal for the freedom of pragmatism (Newing, 2010; Onwuegbuzie & Leech, 2005; Mertens, 2014). Social phenomena can be studied utilising a pragmatic combination of methods and data sources, in a process commonly known as triangulation (Jick, 1979). Triangulation, whilst limited in producing a unified proposition, yields “*convergent, inconsistent, and contradictory evidence that must be rendered sensible by the researcher or evaluator*” (Mathison, 1988:13). Particularly for the second objective of this study

regarding connectedness to nature, the dual methods of inquiry of interviews (both quantitative and qualitative) and participant observations (qualitative) were incorporated to gauge a multi-faceted sense of connection to the forest and the animals which are hunted.

Qualitative research may be viewed paradigmatically, based on a broad cluster of features and assumptions. Through a largely subjective, inductive process, qualitative research paradigms incorporate the use of more 'naturally' occurring data collection methods that more closely resemble real life (in comparison to artificial environments such as laboratory settings) and importantly for this study garner a deeper interest in meanings rather than reports and measures. The strengths of a qualitative assessment are apparent in my quest to obtain a rich understanding of the cultural, symbolic, and structural factors that influence people's motivations to behave. Supporting this, quantitative assessments in the form of Connection to nature scales (99) provided a sample from each village (including all key informants) to understand affective relationships with nature.

As this research pivots around a pluralism of both the applied and theoretical spheres, I must briefly consider the teleological grounding of the study: the assumption of a purpose or ultimate design to the knowledge planned to be created. To add to the pluralities of the philosophical perspectives my academic interests in the power of collaboration and participation were originally intended to be explored through methodological approaches that embrace these stances. Participatory Action Research (PAR) embraces the notion that research must be done 'with' people and not 'on' or 'for' people. PAR has been evolving in fields ranging from community development to education, public engagement, natural resource management and problem solving in the workplace (Chevalier & Buckles, 2013).

Following PAR principles, Rapid Rural Appraisal (RRA) was the term originally coined in the 1970s to describe a grassroots methodology used to identify the needs, issues and strategies of groups, households and communities (Ghai & Vivian, 2014). Benefits of the methodology included the speed of conducting simplistic methods and that it is relatively low cost, and additionally argued to reduce bias in sampling efforts (Ghai & Vivian, 2014). It was in the 1980s that the methodology shifted towards promoting the inclusion of participants in the

gathering and analysis of data, and thus became known as Participatory Rural appraisal (PRA) (Freire, 1982; Torre et al., 2001), subsequently described as a democratic research methodology (Fine and Torre 2004). For this study, the potential for PRA was explored in its offer as an accessible, versatile and rapid means to break down barriers between communities and outsiders. By seasoning this study design with the participatory flavours suggested here, a large proportion of participants of the research would have been considered as equal to the researcher, in that they could be involved in both data collection and subsequently instrumental in any conservation action or change arising from the research, thus positioning this study as a form of emancipatory research stemming from critical theory (Wellard & Ordin, 2011). Following criteria by Narayanasamy (2009) the core features of participation are defined as:

- (i) the voluntary involvement of people;
- (ii) the people who participate influence and share control over development initiatives, decisions and resources;
- (iii) process of involvement of people at different stages of the project or programme; and
- (iv) the ultimate aim is to improve the well-being of the people who participate.

While a strict PAR methodology was eventually not adopted for this study to ensure feasibility and capacity for focus on the central methodology, in each village two candidates (key informants) were selected to become ambassadors for social diffusion and participation at each location. These individuals assisted in the social mapping phase, increasing the overall scope of our understanding of the socio-cultural context and mapping of areas of hunting frequency and economic considerations. As sub-sets of my research questions, I also extended my inquiry to whether direct involvement in research has any upon participant's attitudes and sense of connection towards nature, though this has not been included in my final analysis or interpretation. I believe that while not fully adopting a participatory approach, appreciating its benefits and encouraging participatory principles synergises with my overarching aims within the pragmatist spheres, whilst additionally strengthening the liberating and emancipatory drives of critical theory.

4.3.2. Focal socio-psychological constructs

Building upon the findings within the literature explored in Chapter Two, this study pivots around three socio-psychological constructs, referred to collectively as “advocacy profiles” (Fig. 9). These profiles represent people’s propensity to support or display positive behaviour towards nature (“advocacy”) framed within an explicit set of characteristics or features (“profile”). The three core facets of these advocacy profiles follow the early formulations of theories of organisation and change which have been consistently compared in relation to PEB:

1. **Attitudes:** personal evaluation of perception towards consequences of behaviour (Stern & Dietz, 1994)
2. **Values:** guiding principles and broad motivations, influencing perceptions, attitudes, judgements and subsequently behaviour (Schwartz, 2011)
3. **Beliefs:** trust, faith and an acceptance that something exists or is true, especially one without proof (Fishbein & Ajzen, 1975)

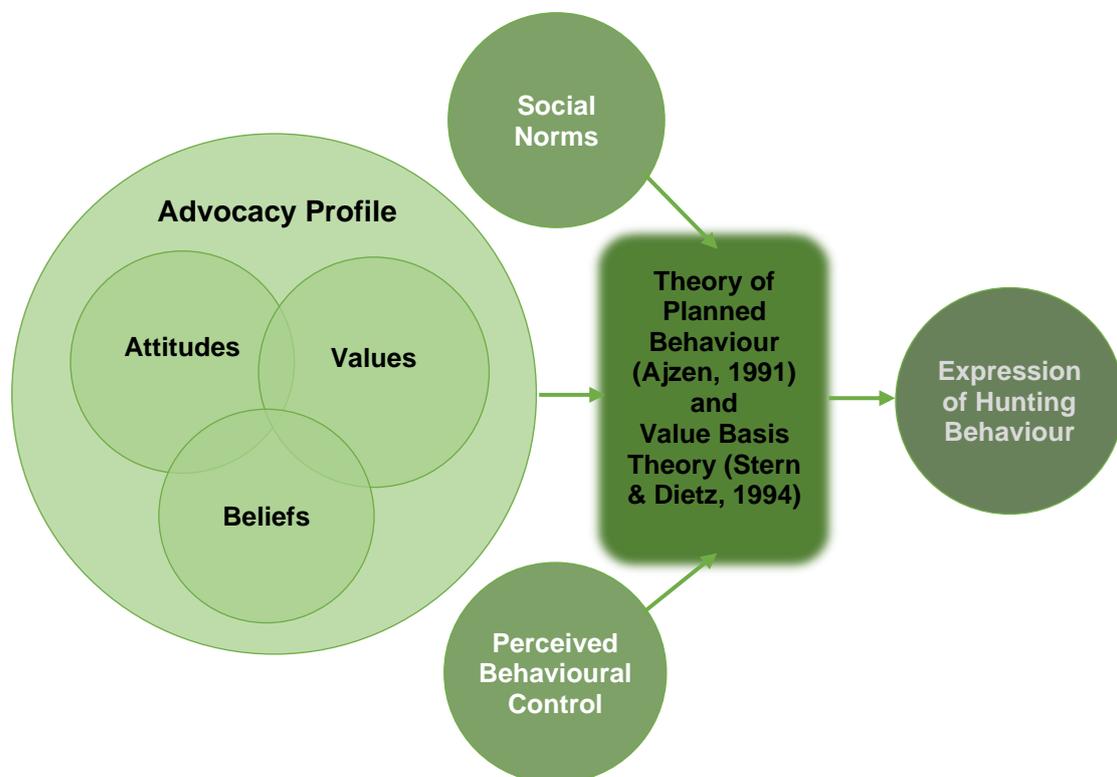


Figure 9. Constituent individualistic variables of advocacy profiles, structural factors, and associated theories.

The structural properties surrounding these individualistic aspects of agency to be assessed are indicators of social norms (shared understandings of acceptable or frequent behaviours), and perceived behavioural control (perception of capacity or ability to perform certain behaviour).

In support of these three elements within the advocacy profiles, I additionally sought to identify trends and relationships in the following areas:

1. Associations between socio-demographic factors and resource use.
2. Communal value types and relation to environmental concern.
3. Overall perceptions of nature connection.
4. Religion, mythological stories, and perceived behavioural control.
5. Intrinsic and extrinsic value of forests and wildlife.
6. Patterns of behaviour associated with the related practices to hunting (e.g., wildlife trade and consumption, logging)

My empirical investigation also examines other socio-psychological constructs such as cognitive dissonance, empathy, and compassion toward non-human animals, which are explored in depth in the analyses presented in Chapter Five (152). I wish to clarify that examples of empathic disconnection such as cases of poor animal welfare, do not by definition indicate disconnection from nature per se. The aim is not to conflate nature connectedness with showing compassion to non-human animals. However, I believe there are important proximate associations between these notions which I have attempted to draw together. The case for ecocentrism (7) points toward the relational values which signify connection and greater likelihood for empathy and biospheric values, and thus pro-environmentalism. The reader should bear this in mind as I traverse significant empirical and intellectual scope in the coming chapters, after introducing my ethnographic methods.

4.4. Ethnography

Ethnography is commonly regarded as “*writing about particular groups of people, that is to say ethically, culturally or socially defined groups*”, whilst an ethnographic text creates an “*interpretive and explanatory story about a group of*

people and their sociality, culture and behaviours" (Madden, 2010:15). Ethnographic research is regarded as dealing with complicated subjects (both the participants and observers) and as such cannot be described in neat and simple terms (Madden, 2010). Ethnographers value the idea of the well-known idiom of 'walking a mile in my shoes' and thus deepen the connection with the subject, shying from the constraints of traditionally dominant positivism research orientations (Crang & Cook, 2007). Fig. 10 depicts the genesis of the ideas of ethnography and the related disciplines, through to the processes for conducting, analysing, and interpreting ethnographies.

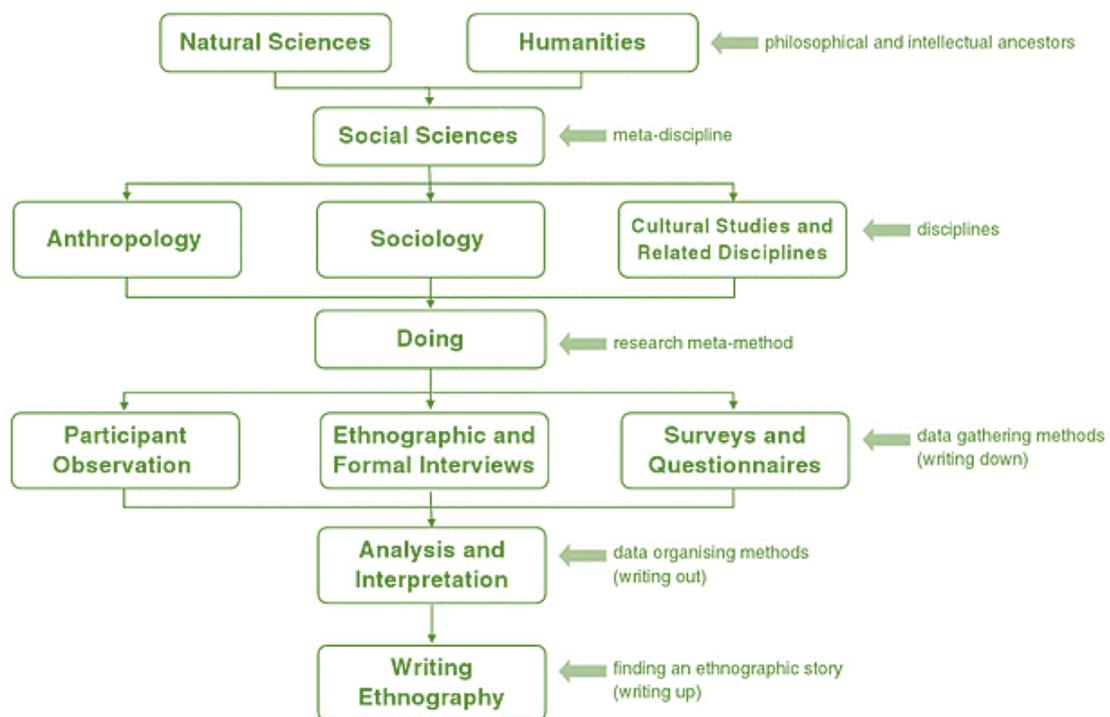


Figure 10. Ethnography: from thought to practice to thought. (Madden, 2010).

From an ethnographic point of view, participants describe or enact their own experiences as the researcher observes cultural meanings and significance within patterns of behaviour. An ethnographer immerses themselves in a group for an extended period of time, observing behaviour, listening to conversations, and asking questions. It is likely that more sensitive information synonymous with conservation, particularly social and legal contraventions, would not be revealed by simply recording what people say, due to limitations of structural and social pressures and empirical access. Opening up the scope to observe what people

are actually doing thus yields a greater breadth of information. Ethnography is the systematic description of human culture, involving both the process (tools of inquiry described below) and the product (insight into the socio-cultural narrative). It has been widely utilised throughout conservation research, particularly for its benefits of reflexivity and more nuanced understandings of socio-cultural exchange (Brosius et al., 2010; Jones & Yarrow, 2013; Premauer & Berkes, 2015). This is highly relevant to the complex objectives of understanding the primary factors involved with conservation advocacy, connection to nature and behavioural change strategies. Consequently, ethnography is deemed the most appropriate study field to support my research design.

4.4.1. Ethnographic field and approach

In recognition of the importance of uniting both the concrete and investigative space in which the investigation is to be undertaken, the ethnographic field necessitates a definition that includes the interdependent factors of geographic, social and mental constructs (Madden, 2010).

4.4.1.1. Geographic location

My ethnographic field of research incorporated three main locations, within which an equal distribution of time was spent, a total of 30 days across two to three months from March 2017 to May 2018. An additional pilot village, Pandu was visited to test the methods and train as a pilot study. While only four days were spent with the community in Pandu, all ten CNS questionnaires, focus group and ethnographic interviews were completed. The findings have been incorporated (Ch5&6; Appendix II, [282](#)). However the potentially limited comparative value should be considered in reference to ethnographic accounts from this location. The areas operated within the geographic boundaries demarcated in the form of *kelurahan* (villages), within distinct *kecamatan* (regencies), set within *kabupaten* (districts). The four villages selected for study include the three Christian villages of Pandu, Taratara and Poopo, and the majority Islam village Imandi.

The areas were selected according to a series of criteria, distinguished through both anecdotal, personal experience, consultation with expert local knowledge, historical recognition, and all available research to date. The criteria included:

1. Recognition of area as a well-known 'hotspot' for the trade and consumption of bushmeat (Taratara and Pandu)
2. Recognition of area as having a high prevalence of hunting activity and close to forest (Poopo)
3. Control: no or little-known exposure to conservation materials or interventions in the past, average level of hunting or bushmeat consumption behaviour (Imandi)

4.4.1.2. Social and mental constructs

Socially, the field includes all members of the community, as the research assistant and I engaged with as many and as wide a diversity of participants as was feasible. Following the epistemological foundations of this study [\(80\)](#), the ethnographic field can also be perceived to incorporate the mental constructs present. This includes the structural elements themselves, the social norms and boundaries (such as legal instruments and religious control) of behavioural intention and action, as well as the symbolism of the forest and its resources; whether acknowledged as a utility or respected, revered source of subsistence, or provider of economic and both hedonic and eudemonic well-being (Venhoeven et al., 2013).

Three key practices were targeted for the ethnographic data collection:

1. **Hunting:** hunters who either use passive (set traps around farms) or active (pursue prey with guns / dogs) techniques to catch wild animals; primary focus on unsustainable or illegal hunting.
2. **Wildlife trade:** bushmeat traded from traditional markets or home.
3. **Consumption of bushmeat:** actively consuming meat of wild animals.

Extraction of timber (logging) and other natural resource extraction / cultivation practices are included within the ethnographic accounts. However, hunting and its associated practices are focal for the analyses.

4.4.2. Participant observation

Following the definitions presented by Bryman (2012), a Type 1 overt ethnographic role was adopted, thus operating in an open setting, as the ethnographies were largely carried out within communities. Whilst losing certain benefits of access and that of reactivity (knowledge of the person conducting the study as a researcher; Neuman, 2014), the disadvantages were deemed to be heavily weighted against the covert role (e.g., limits of methods and ethical issues; Bryman, 2012) and thus too high-risk for this study. A combination of step-in-step-out and complete immersion ethnography (staying in the setting for an extended period of time), included detailed recording of experiences. All dialogue, interviewing and focus groups were conducted in the national language (Bahasa Indonesian) or local provincial dialect (Bahasa Manado) for which I am fluent to a high degree in both. I was accompanied by one local research assistant at all times, who validated and cross-referenced all interpretations and consolidated fieldnotes as well as translation accuracy.

A structured process of note taking, reflection and analysis occurred concurrently both in the field and as an aspect of on-site follow up. Several tools of inquiry were necessary to be employed in order to tease apart the desired socio-cultural narratives to enable a holistic account of the structures and agency occurring in unison with the individual advocacy profiles of the participants. The direct observation of selected individuals within a community or society is frequently the dominant tool in the ethnographer's toolkit and was central to my fieldwork. Through immersive participation in the daily lives of the subjects, in this case several key informants within local villages, one can reach a greater depth of understanding in social interactions, particularly how people relate with nature. Helen Newing (2010:90) explains:

“You understand the personal histories of individuals and the complexities of social life, all of which make for a richer and probably more accurate yet nuanced description of that social group. In a sense, you learn what is going on behind the scenes during the performance of daily life.”

Seeking TEK was essential to ascertain information about the type and dynamic of the relationships with nature, including for example PA management systems, historic and current uses of natural resources, environmental culture, and identity and beliefs surrounding interactions with wildlife in their communities.

The identification of key informants in each location was essential during the initial recce phase of social mapping and pilot study. Three individuals were chosen per location as key informants with relevance to the project focus. Once on site, I joined them during all activities wherever possible with their written consent, with field notes taken to document their behaviour, dialogue, and social interactions during the fieldwork period. Whilst the key informant was a useful and frequently drawn upon resource and purveyor of assumed knowledge, one should be cautious to avoid relying too heavily on just a few individuals for shaping perspectives or supporting fieldwork more generally (Bryman, 2012; Davies, 2012). Therefore, I remained open to support and input from others in the community. This aided in associated logistics and communications with both the research assistants and I and fulfilled the role of focal participants for personal ethnographic interviews and participation in focus groups.

4.4.3. Ethnographic interviews

While the data presented in the ethnographic accounts throughout empirical chapters five and six were predominantly constituted from daily consolidated notes, in each village I conducted short, ethnographic interviews of key informants and other prominent individuals whose information, opinions or knowledge was relevant to addressing my research objectives. These interviews enabled in-depth, free, and unstructured inquiry into key thematic areas, and continued until no new or significantly relevant data or patterns emerged, or the category became well developed and validated (Strauss & Corbin, 1998).

The ethnographic interviews focused on each of the three following subjects:

1. **Livelihoods and wellbeing:** issues related to tribal history, dependence on natural resources, dominant agricultural practices, and wellbeing.
2. **Forest:** importance of forests, recreational or functional, and sense of place felt by the community.

3. **Wildlife:** opinions towards animals, their role in the community, and any human-wildlife interactions.

4.4.4. Focus groups

The focus group method is a form of multi-participant interview, led by a moderator or facilitator (Morgan, 1996). These types of gatherings are regarded as a powerful method in the ethnographer's toolkit, and may provide richer understandings than other methods (Agar & MacDonald, 1995). With focus on participative interaction with all group members present, meaning is sought through joint construction of notions and ideas surrounding a fairly well defined topic (Bryman, 2012).

Fundamental to these focus groups is the underlying philosophical perspective adopted within this study of symbolic interactionism; by creating the opportunities for multiple members of the community to join and open up on key topics we gain a deeper understanding of collective meaning in relation to the natural world. Key questions asked during these gatherings were related to the metaphors, descriptions, and definitions about nature. The understanding and assimilation of social phenomena largely operates on a group rather than individual basis. Therefore, the communal processing of notions and social constructs to generate meaning was observed. Likewise, this structural view taken by collective, societal level assessment of hunting and other extractive practices enables insight into a SPT perspective (56), especially how practices are formed and maintained within the community.

I facilitated two focus group sessions in each village with support from the research assistants. The first of the sessions took place during the social mapping and pilot study initial visits, to gain vital contextual information for establishing the research field. The second session was on the final evening before a social event and departure. While also a way to strengthen relations, the gatherings were functional, with clear objectives and a well-defined structure related to the research objectives (Krueger & Casey, 2014). For this study, the focus was predominantly on objective 2, developing an understanding of the collective

sense of value and unified relationship with nature, in addition to exploring socio-cultural and power dynamics within the selected groups.

Careful consideration was given regarding the selection and subsequent recruitment of participants (Wilkinson, 1998). Ten individuals were selected for each session, through discursive recommendations (purposive chain referral sampling) with the “*lurahs*” (village heads) as gatekeeper, based on an indication of requiring a combination of indicating power and gender equality, representing leaders and prominent representative individuals. Prominent community representatives attended including *lurahs* and “*tokoh-tokoh*” and “*pala*” - lower echelon heads of the religious, tribal, youth, farmer, hunter, or fisherman groups and “*lingkungan*” or environment section heads, within the village.

The aim of these focus group sessions was to establish a grounded, structured discussion on a variety of specific subjects solicited through open ended questions, developed with support from the research assistant and informant. The importance of the questioning route (12 questions in a two-hour session) was maintained, following guides for developing suitable bespoke questions as recommended by Krueger and Casey (2014). This for example includes the need for questions to evoke conversation, be one-dimensional and include clear, well thought out direction for the flow of discussion. My research assistants and I served several functions in the focus group, including moderator, listener, observer and eventually analyst. The focus groups were facilitated with the same three themes as in the ethnographic interviews with adapted questions and framing, drawing particular focus on symbolic interpretation of each of the subjects. All focus groups were recorded by dictaphone and later transcribed, and photographs taken to aid in documenting the social and structural setting, primarily through a series of field notes.

4.4.5. Field notes - collection

The qualitative data arising from the ethnographic research took the form of direct documentation throughout the entire duration of time spent with the participants. Extensive field notes were recorded, documenting detailed summaries of events and behaviour and my initial reflections on them. Audio recordings via a

dictaphone were utilised upon full prior consent by all present, particularly during interviews but additionally during ad-hoc encounters or discussions of key interest. Whilst benefits of increased accuracy and translation may be gained, the use of dictaphones were limited where possible to avoid lengthy periods of transcription or impacts of reactivity (275). Personal reflections were recorded by voice memos after poignant events and at the end of the day as summary logs within the consolidated field notes database.

I collected two main types of field notes through a systematic process, both notes taken daily in active fieldwork and daily consolidated notes written up at the end of each day. The recording of these notes was refined through the early trials to be employed preceding the implementation of the full data collection period.

4.4.6. Field notes - interpretation

The field notes were processed on a weekly basis to explore patterns or trends emerging through the ethnographic research throughout those intervals. Madden (2010) posits that an overall more objective account of field notes may be achieved through acknowledgement and management of the subjective elements within them. A focus for interpretation of the field notes was on determining the participant's affective or behavioural response to an occurrence or engagement related to nature. Indications of the three elements of the advocacy profiles (89) (attitudes, values, beliefs) were recorded as priority, in addition to references or observations related to the concomitant social norms and perceived behavioural control. Bryman (2012) urges that in writing ethnographic text, one must avoid simply presenting a set of facts, instead developing an authoritative account of the participants' lives and their socio-cultural domains, namely the ethnographic field. The aim is to present an account of social reality that is as accurate as possible. The resultant narratives are presented in ethnographic accounts (EAs) throughout chapters five and six.

4.4.7. Reflexivity

As important as interpretation and analysis to the ethnography is the reflexive process and subsequent writing up of the findings. Through rich and persuasive

description and a strong narrative throughout, the aim was to create an accessible and believable portrayal of reality within the society and culture in which I was immersed, whilst presenting a sense of validity through the cross-reference and triangulation of data at all possible waypoints in the write up. I endeavoured to collate, report, and interpret the ethnographic data in both a systematic and artful manner, and through the narrative create what Madden (2010) refers to as the “storied reality” to illuminate the key insights to the reader. Light was shone on the relationships with nature through symbolic interactionism, documenting the idiosyncrasies borne from the descriptions, metaphors and social norms collectively engendered by the focal communities.

The reflexive writing process included four key stages as described by Madden (2010):

1. Explaining the overarching research objectives.
2. Furnishing an ethnographic description.
3. Engaging with the analysis and interpretation.
4. Substantiating the reason for being there, finding resolution and conclusion to the project.

A combination of realist (literal, authentic account described most commonly in third person perspective), and confessional (more self-absorbed, subjective, and reflective, experience-oriented) writing styles unite within the ethnographic write up, with preference for the realist style throughout.

4.5. Connection to nature scales

Through the primarily qualitative research design, I have explored connection to nature in a broad and open way. In support of the qualitative ethnographic data, additional interviews were carried out on a small subset of individuals (N=10) in each of the ethnographic locations (total = 40). The Connection to Nature Scale (CNS) is an empirical tool used to measure an individual's trait levels of feeling emotionally connected to the natural world (Mayer & Frantz, 2004). In developing the tool, the authors compared three scales previously applied in the social science research, including the New Environmental Paradigm (NEP: Dunlap &

Van Liere, 2008), implicit associations test (IAT: Greenwald et al., 1998) and the inclusion of nature in the self (INS) scale (Schultz, 2001). In review of the limitations of these other scales, the CNS is presented as a measure of an individual's affective, experiential connection to nature (rather than for example cognitive connection). The CNS was tested empirically, with five studies demonstrating its ability to predict lifestyle patterns, ecological behaviour, and curriculum decisions among students. The scale was demonstrated to have high test–retest and internal consistency and has been utilised by several other studies (e.g., Dutcher et al., 2007; Tang et al., 2015). Other studies have also cautioned against describing the CNS as an implicitly affective measurement tool, suggesting for example that the CNS provides a measure of people's *beliefs* about their connection to nature rather than it is not a measure of an emotional connection per se (Perrin & Benassi, 2009). This has been carried throughout the understanding of the implications of the CNS results in this study.

The CNS is perceived to be a bridge, a tool of triangulation between the advocacy profiles profiled and the qualitative, storied reality emerging from the ethnographic exchange. The respondents included key informants, whom were asked to let others know of the interest for this short questionnaire and were encouraged to approach me to be interviewed. The aim of this approach was two-fold: 1. To gain insight into the sense of connection to the world within the community, 2. Encourage participation in the study, and to explore ethnographically the community's eagerness to reflect on their sense of identity and connection to the natural world. The short, structured interviews are based on statements related to affective relationships with the natural world, rated on a five-point Likert scale (Appendix II [282](#)). The aim was not to generalise findings to the broader population, or even sample population (community). They were carried out on an informal ad-hoc basis, and selected in a purposive, respondent-driven type of chain referral sampling (Appendix I, [281](#)). The results of the fourteen-question survey were aggregated into five categories (Ernst & Theimer, 2011), with the percentage of respondents who agreed or strongly agreed with the statements presented to support findings of Chapter Six ([167](#)).

I am clear in my decision to not examine causality and/or relationships between dependent and independent variables within the research design in light of the

exploratory nature of this social science research, as outlined throughout this methodology. I therefore believe the CNS to be a simple and valuable addition to the mixed-method toolkit to address objective two to gauge the sense of connection to nature.

4.6. Sampling Strategy

This study encompasses a number of different methods to select the sources and extract data. It is essential that sampling theory is carefully followed to ensure that the optimal approach is adopted for each method, and its justification understood by the researcher (Berg & Lune, 2014). While sampling in quantitative research tends to involve probability sampling, qualitative research usually revolves around the exploratory nature of the research objectives, thus purposive sampling is often applied. Whilst objectivism is valued in terms of potential inferences based on external validity, generalising the findings of this research to the greater population is not the driving force for this study.

Following the iterative process of theoretical sampling, in the sense that sampling is not just a one off but a stage process, the qualitative sampling was adaptive based on the notion of theoretical saturation (Strauss & Corbin, 1998). A minimum number of cases was aimed for per location (Appendix II, [282](#)) and continued until “*a) no new or relevant data seem to be merging regarding a category, b) the category is well developed in terms of its properties and dimensions demonstrating variation, and c) the relationships among categories are well established and validated*” (Strauss and Corbin, 1998:52). Careful attention was paid to the saturation threshold, based on specific categories of concepts or notions most relevant to my research objectives (Appendix III, [283](#)).

4.7. Data processing and analyses

A characteristic feature of ethnographic methods is the “*thick description*”: extensive and detailed observation fieldnotes or narrative accounts. These engender “*rich data*” which “*reveals participants’ views, feelings, intentions, and*

actions" (Hammersley, 2007:102), for which meaning is only obtained through the analytic process. Utilising these data, systematic analysis was performed to develop concepts and meaning through inductive processes.

4.7.1. Analytic objectives

The following objectives were addressed for the analytic procedures:

1. Organize and clean data obtained through the ethnographic methods.
2. Create a mental dialogue between the author and the data.
3. Locate repeated terms and phrases throughout the data.
4. Identify patterns in statements or observational behaviours.
5. Distinguish connections between thematic areas emergent in the data.
6. Explore thematic trends within and between categories.
7. Build concepts and theory from trends related to research objectives.

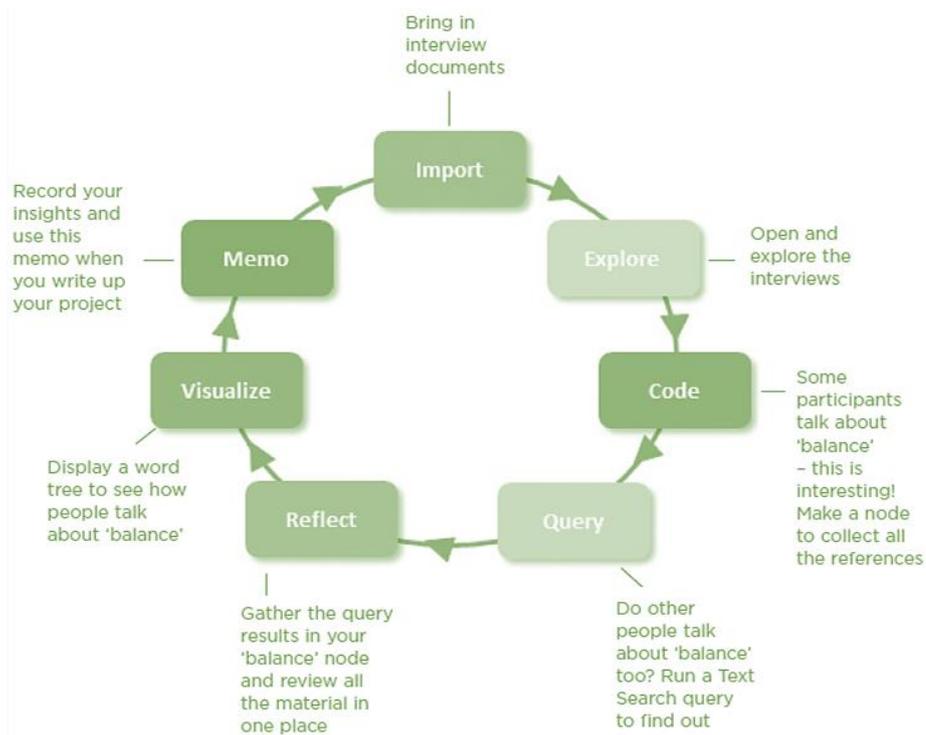


Figure 11. Use of qualitative research software can assist in organising, analysing, and reflecting on source material, through an iterative process (NVivo, 2014).

QSR NVivo V12 qualitative research software was the central platform for organisation and navigation of the data sets, as well as continued reflection of the research findings. This included identification of key insights from the variety

of unstructured social data including the ethnographic field notes, interviews, and CNS survey responses.

NVivo is a powerful analytical and organisational tool designed to support qualitative researchers interested in evaluating, interpreting, and explaining social phenomena. While daily notes were written down by hand, the notes made were written “up” and eventually “out” (Madden, 2010) using Evernote software and synchronised into NVivo, importing all notes directly into the system to be immediately available for exploration. This enabled exploration of the data to be performed instantly in real-time as data was collected, identifying early trends and emergent patterns, as well as classifying and filing large volumes of data. Images and audio recordings were also embedded or transcribed respectively and coded using these procedures. In addition to this, an iterative process as illustrated in Fig. 11 made use of visualising (models, mind maps and charts), detailed reports of relationships between coded occurrences and memos, to enable immediate reflection upon emergent patterns. This level of real-time insight into relationships between the research themes and guiding concepts aided in the overall analysis process, enabling swift reflection on findings (Flick, 2009).

Comparative analyses were performed through framework matrix coding queries, comparing coding at nodes for sub-groups. This dynamic analytical method aligns with the exploratory, content-driven approach described earlier. It follows Applied Thematic Analysis (ATA) processes, a type of inductive analysis of qualitative data that involves multiple analytic techniques (Guest et al., 2012) primarily to understand and explain the world in a rigorous, reliable, and valid manner driven by a clear practical implication. Notable benefits of ATA as a pragmatic approach are that it is well suited to large data sets, the interpretation is supported by the data and it can be used to study topics other than the individual experience (Guest et al., 2011).

The coding structure was organized into the NVivo project as in Appendix III, [283](#), which indicates the nodes utilised for the field and consolidated field notes, recognising the order of themes throughout the qualitative data. The coding structure was linked to raw data as summary markers for analysis. Open coding was performed according to all clear occurrences related to the concepts and

was not limited to one code only. Coding stripes were used to check each coded point, performed systematically for each fieldwork day, further aggregated per fieldwork visit, usually representing one week, while temporality was not considered as a separate variable. Axial coding enabled connections between emergent categories and themes, recorded within memos and as associated codes, linking codes to contexts, consequences, patterns and causes of interactions. Memos created a mental dialogue between myself and the data, asking questions, making comparisons, throwing out ideas and brainstorming thematic trends and variation (Corbin & Strauss, 2014). Code frequencies, cooccurrence and relationships between codes were identified.

Difference between micro and macro issues and concepts was appreciated, recognising the importance of thinking at different scales, and interpreting the data for context: a) Micro: more detailed, case-specific issues; b) Macro: broader, more contextual; larger socio-political picture. During the process of integration, themes, concepts, and categories that emerged in the data collection and analysis, were gathered under one core category, representing a phenomenon: the main theme of the research. The conceptual framework (60) underpinning the research representing key paradigms and concepts was aligned with emergent themes to ensure theoretical integrity and consistency of findings with the research objectives. A theoretical sampling approach was performed by summarising each fieldwork visit, with the following information: Weekly overview; Key excerpts from the notes; Feelings and reflections (split into general, methodological, practical); Key concepts to explore next. While NVivo was utilised primarily for organising and guiding thematic trends, rather than for its graphical presentation of results or comparative functions, selected outputs are presented in Appendix V, (290).

4.8. Ethics

This study was designed using a type 1 overt data collection method (97) with categorical focal units of inquiry concerning illicit activities (hunting, logging, trade, and consumption of wildlife). As a foreign researcher in remote rural settings, there were socio-political implications of my influence and interest

arising from my presence in the community. Cultural taboos or sensitivities were gauged during the initial visits and trust built through local gatekeepers.

The safety of myself, research assistants and all participants was of paramount importance, and I was vigilant and prepared for adapting or even withdrawing under any unforeseen circumstances alluding to potential risk. This further extends to the notion of seeking the optimal level of immersion in the study involvement, a challenge synonymous to all ethnographers, encouraging that one gets close, but “not too close” (Madden, 2010) and ensuring influence of relationships are not impeding on validity of data or wellbeing of oneself or others. Consent forms were signed (by hand or via dictaphone) by all focal participants (key informants) and those in the ethnographic interviews, which outlined the rights and guarantees of agreeing to the research.

Ethical approval processes were completed through the University of Exeter ethics committee system prior to commencing research. As the research did not directly involve animals, children (<18) or vulnerable groups a ‘Track B’ route approval was not required. The project was given ethical clearance by the University of Exeter's ethics committee on 27/11/2016.

Chapter Five. Pro-social to pro-environmental behaviour in rural communities of North Sulawesi, Indonesia

In Chapter Two, I summarised studies which demonstrated how pro-sociality is central to understanding the composition of societies, and the motivations and expression of behaviours toward one another. This forms the basis for social exchange and dictates the conditions for the extension of positive attitudes, values, and behavioural interactions with the biosphere. As such, these dynamics and interrelations must be understood in order to predict the propensity of advocacy for the protection of nature. This addresses the first of the objectives of my study:

To *explore* pro-sociality and the factors that affect pro-environmentalism

Bridging the theoretical constructs of pro-sociality and the intertwined threads of pro-environmentalism with an applied view, I now look to the empirical evidence ascertained from my ethnographic field research, presenting the data from my consolidated fieldnotes as ethnographic accounts and direct quotes from key participants. The data I have collected provides real world substance to these notions, yielding vibrant responses to my research inquiries.

A natural and salient place to start my inquiry into pro-sociality is faith [\(113\)](#). Building upon the socio-cultural profiles of the Minahasan and Mongondow ethnicities sampled in this ethnographic study, I begin this chapter by bringing into focus the pro-social qualities of the communities sampled through my ethnographic observations and interviews. As a key starting point, this reminds us how religion governs social exchange (Aldridge, 2007), plausibly the foundation for the high levels of pro-social tendencies observed.

With the next sections I build upon this foundation of pro-sociality and community cohesion with evidence to support an emergent faith-based plurality [\(123\)](#) and traditionalism. I analyse the observed persistence, evolution, and integration of cultural customs and beliefs and document numerous examples of community

cohesion, such as preservation of traditional mutual aid systems (134) and collective social and environmental identities.

Finally, I draw focus upon empathy (139) as a metric for care, as a social phenomenon, and a sense of perspective taking and compassionate reach towards other non-human beings. The ethnographic accounts, including participant observations, ethnographic interviews, and focus group discussions present a rich collection of encounters documenting empathic sensibilities and conflicting attitudes or cognitive dissonance. By connecting the three domains of egoistic, altruistic and biospheric concern I amalgamate them into the empirical cases presented and suggest their relevancy and connection to environmental concern, prompting the flow into the next chapter on connectedness to nature. I begin the investigation into pro-sociality and pro-environmentalism by exploring what I identified as the basis of social exchange and governance in my study populations: religion.

5.1. “If God commands it, I will protect it”: Nature as a divine authority and instrumental provider

In Chapter Three (65) the societal context was established for my study population, considering the various individualistic and interpersonal social factors constituting community. I described the salience of religion on governing social exchange, a critical consideration to elucidate the setting in which the participants of this empirical investigation are living. The two Christian villages within this research were Taratara and Poopo, with Imandi majority Islam. Christianity is a defining force, playing a crucial role in the mobilisation and mediation of the identity of the Minahasan people. Similarly, Islam governs the social, political and ethnicity structures in the Bolaang Mongondow District within the North Sulawesi province. These faiths are meaningful not just as transcendent religious beliefs and doctrines, but as part of a cultural and national identity. As is apparent with Christianity in the other two villages and rest of Minahasa, religion in Imandi forms the social glue, the support mechanisms for community relations and exchange, even determining the norms and conditions for compassion. However, a possible emergent dualism was noted, in the motivations and social pressures for

adherence, and the disagreement, liberation or rebellion against formal religion and its doctrines and normative structures. I also document in my empirical accounts many aspects of cultural erosion and interactions with the youth related to decreasing religious fidelity.

My experiences in Imandi, as with other locations, bore various stories of superstitions and spirituality. I was surprised at the level I experienced this, somehow expecting that the Muslim community would have less superstition or fear rooted in their societal narratives and histories than their Christian counterparts in the other two villages. I was privileged to have been positioned with Papa Riadi as our key informant; a hardworking, wise, and spiritual gentleman, with a distinct character. Riadi (as I will commonly refer to him) is one of the more successful farmers, owning a large tract of prime farmland (Hulu Tonom, where we stayed) and able to buy a small truck and hire farmhands to help with his farmwork. Clearly socio-economic status has major implications for relationships with nature, normally implying an increased capacity for exploitation, though occasionally also deepening connection with more leisure time outdoors. During our intimate time together, Riadi and his wife imparted knowledge and wisdom of the spirits that guard those farmlands, creating a sacred sense of place, the stories of healing, strange creatures, people becoming possessed and superstitions abound. I explain one of the most vivid nights, our arrival in Hulu Tonom:

Ethnographic account 5.1.

"By the flickering candlelight of the humble wooden shack a rich array of stories was shared, gripping tales of bizarre creatures that roamed the forest, including to my surprise orangutan. Also "Mokuku" - another mythical creature who lived in the trees unlike any modern animal, and "Raungo Duog" which was perhaps the eeriest and most malevolent of their creative conjuring. The description of these strange beasts gave me a chill, described as slow moving with extremely long legs, drifting through the forest, and only venturing to the farms to eat the livers of chickens. They continued to explain how in the past, many believe that people did not die, that they only went missing. Sometimes they even returned, imparting several stories of this strange phenomena, congruent to tales in other villages of people lost in the forest, surviving alone or dying and later returning alive, apparently nurtured or resurrected by the powers inherent in these enchanted forests.

Staying in the Hulu Tonom farmland was a vibrant and unforgettable experience, not least for these captivating stories of ancient powers and mythical creatures, but also the energy, heightened by the nuanced associations of this land, sacred and revered, electric with the stories of spirits. A remnant held on from the animism previously adopted there, it is said that the physical elements of the natural surrounds each possess a spiritual guardian. These primarily comprised the stream, the mountains, and the forests. While many of the younger miners and villagers seemed to view these as artefacts of older times and ill-fitting for modern society, the elders and many others respected these spirit guardians and still practiced associated customs which connected the utilisation of the land and the spiritual permission to harvest there. It is traditional to say mantra before cutting trees, though there appeared little indication that these are upheld commonly, rather still acknowledged. Another mantra could help cure illness or pain, exemplified by a story of Riadi recounting a serious reaction to a bee sting only to be immediately cured after uttering a special mantra. Myths and superstitions, as with Christianity, also include the associations with wildlife, for example encountering a white monkey in the forest meaning a tragic occurrence such as a natural disaster will afflict the village soon, similar to the myriad signs of bird songs and their usually fateful yet sometimes fortunate predictions. Curious insight was shared by a passing trader who stopped by at the farmhouse one evening. He described how in the past, ancestors could speak to the birds, they would know the sign and understand them. This once again indicates that previously there were deeper connections with nature, gradually eroded in modern times. When I asked about the "Ilmu" (knowledge) about spirits he explained how this pusaka spiritual insight was unavoidable if you were selected, and that one must adhere to its conditions."

Hulu Tonom farmlands, Imandi. 5th June 2017

EA 5.1 presents a key narrative of the tensions between the old and the new, from both the mystical, powerful spiritual heritage to the contemporary beliefs, and also the demographic variation in attitudes and values between the elders and the younger members of the community. These contrasts are consistent with many other aspects of the ethnographic picture my time in the communities created.

"Knowledge is gained by learning, whereas spiritual heritage (*pusaka*) is passed down from generation to generation."
 Trader, Hulu Tonom farmlands, Imandi. 5th September 2017

As this trader highlights, Riadi himself has special inherited skills and insight with which to hunt the forest buffalo, anoa, and is known as a "*pramuka*" - a pathfinder or scout of sorts. When planting, he makes special requests to the spirits. "*Pusaka*" refers to this type of spiritual heritage or heirloom, an ability to communicate and receive wisdom from the spirits, which they described as rare and as seemingly synonymous with a special status socially:

Ethnographic account 5.2.

"We were told of this spiritual obligation, that you cannot question or avoid it, if the ancestors already chose you. Riadi's sister Nenek Bagas was the spiritual go-to, though it took us some time before we were able to engage with her, the wait only amplifying her enigmatic and mysterious character, given that half the village had mentioned to contact her! She joins Riadi as another beholder of the pusaka power. In terms of the presence and function of this spiritual asset, it was divulged that these individuals would act as conduits or intermediaries between the natural world, with us as its apparent stewards, and the spiritual plane. During troubling times, or when the spirits need to convey something, they may possess those with the pusaka ability, expressed either in an ancient tongue, or the old Mongondow language, now uncommon but still understood by elders. People with these powers cannot be paid, as the belief many would say is that a gift given freely should also be used freely. These people can also locate missing or stolen possessions. There used to be three village protectors and there were previously mass possessions by evil spirits possessing as many as 7-10 people at once. There are also apparent healing capabilities with this power, helping the sick or unfortunate. The grandfather of Jun, our second host during our time in Imandi, used to make his grandchildren stand in a row to cure them. He would make a torch, grab a fistful of flames, put it by his grandchild's ear and it would come out the other ear. The grandchild would not feel a thing, but apparently this has kept them from suffering some common diseases. Once Jun's grandfather battled with another "powerful" man. It was an invisible battle of spirits. The wager was that if Jun's grandfather could drop his opponent's tooth to the ground (it was kept inside a piece of bamboo in his farmhouse) then his opponent would guard Jun's grandfather's descendants, up to the seventh generation, even if he was dead. During the battle, Jun's grandfather managed to burn his opponent's farmhouse, including the bamboo containing the tooth, causing the tooth to fall.

Aside from the actual power, a physical heirloom would often be handed through generations, usually bottles filled with healing potions known as "Paningbul". When we did visit Nenek Bagas she presented us this incredible ancient paningbul, a marvellous ancient looking glass vial containing a concoction of traditional medicine, including mixed oils, roots, bark, reeds, some odd artefacts and even an egg which was apparently a decade old! We noted how the coconut which provides the oil must be the first-ever coconut of the tree, and the one who squeezes the coconut milk must still be a virgin. People with the pusaka talent could also predict the future using this coconut milk. There are places in the forest known as "lolaigan", the dwellings of the spirits. These areas cannot be disturbed at all or the spirits will become very angry, further ascribing a sense of sacred or sacramental quality to certain spatial locations in this area."

Hulu Tonom farmlands, Imandi. 6th June 2017

The symbology from nature and cosmological essence described in EA5.2. further illuminate the connections between the social, mystic and the natural. From an academic perspective framed within the understandings laid out in the former part of this thesis, the detailed descriptions I am sharing here and within the ethnographic accounts create a picture of social living which indicates a powerful spiritual and social cohesion. This has major implications for the assumptions of perceived behaviour control underlying many of the models used to explain behavioural motivation and action, suggesting social exchange may largely be led and governed by structures of faith, superstition, and the fear-control dynamic of the supernatural, while preserving awe and respect for the traditional ceremonial aspects of communal living. This also appeared to bring with it a sense of agency and stewardship:

Ethnographic account 5.3.

"There is a word for newcomers who come to mess up the forest: "mokokurepet". All people have a responsibility to look after the lolaigan. If it is neglected, someone in the village will become possessed and go after the carer, telling him/her off for not looking after the sacred space. Caring for the lolaigan meant bringing offerings there, which villagers called "kase nae obat", literally meaning bringing up the medicine. When benevolent spirits possessed people, they would ask questions and bring the right offerings. One example of what villagers ask these spirits is guidance when opening a new tract of land for their farm and protection from pests etc."

Hulu Tonom farmlands, Imandi. 6th June 2017

Again, the villagers recall here the means by which to access spirits, the apparent controllers and authorities of the lands and embedded within nature itself, and thus able to bring benefits for the utilisation of natural resources. These metaphors as nature as a giving parental authority figure are important observations for notions of stewardship. I recollect the spirits in the mining shack in Hulu Tonom:

Ethnographic account 5.4.

“We spend a rather warm afternoon in the small miner’s shack, a humble rest spot where in reality the workers spend the majority of their time while not working the mine. Yuni (my research assistant) notes the rope hanging from several points on the ceiling, which the miners divulged are apparently to hang offerings to keep spirits away (similar to the one’s noticed in Jun’s house). That day a large, dried palm leaf was there as a protector against bad spirits. After this inquiry, the talk turns to spirits and the preservation of old beliefs. Much to my intrigue, there seems a genuine consensus that everyone still believes. One of the miners leads into a detailed story of how he saw one of the spirits before, wandering this very farmland. Perhaps one of the more melancholy stories shared was about a gigantic, red and fear-bringing “mata satu” (eyeball), supposedly floating around the farm. The creativity of some of the stories continues to amaze me.

As it so often does, talk turns to stories about being possessed. They seem to be happy to divulge a lot of detailed info, explaining how there are numerous ways that the spirits enter the body from the spirit world, with a variety of different reasons. The terms they use are “penjaga” (guardians) or genies. A vivid explanation is provided about the process of being possessed, with emphasis on how they travel across the spiritual planes and other dimensions. I pick up on a key point that these planes are referred to these as “alam” (nature), so somehow for them the unknown, mysterious, or enigmatic is embodied in the natural world.

There are all sorts of signs and superstitions, which again they relish with providing us the spooky details, the intrigue and mystery fuelling the level of detail and supposed common knowledge imparted by these folks. These stories are framed within myths, as before with birds, one of the most conspicuous actors in the open natural setting, which indicate positive or negative occurrences, predictions. An apparently well-known story of a car crash is shared as an example, its eerie details associated with the signs given by nature, apparently ignored and thus the consequences wrought.”

Hulu Tonom farmlands, Imandi. 6th June 2017

I draw a number of conclusions from EA5.4. The experience embodied a sense of awe and reverence of the natural world as an authority figure, a generous but regulating provider of resources, giver of signs and controller of destinies. A form of faith-grounded respect in the powers of the spirits is observed, though the rules of this exchange and what is expected of each party remains inscrutable.

The reverence and rich spirituality which I frequently observed in Imandi is reportedly common throughout the village and locale, and indeed is congruent with my other study locations. It is consistent with a mystic sense of power-authority exchange and is a crucial consideration to understand the applied objective of fostering positive attitudes, and subsequently more PEBs. I explore the connections between these social and environmental facets in more detail later. For now, I turn to the modern interpretation of faith and its role in shaping society.

5.2. The role of faith in dictating and transforming society

I begin this section with an excerpt from one of my final weeks of research, in Poopo, which exemplifies this notion of religious influence, and importantly as the narrative unfolds, the propensity for change:

Ethnographic account 5.5.

“With the preparations for the weekly worship of the local village community group, called a kolom, we notice they are preparing four boxes of “aqua gelas” cups, a small 240ml of water in each plastic cup, and 48 in a box. There are a vast number of worships performed monthly in the province, weekly “ibadah kolom” for each community group, and every month there is an “ibadah umum”, which is for the whole jemaat (congregation). We calculated there to be almost 3 million plastic cups used monthly just through the GMIM (Gereja Masehi Injili, Pentecostal church) worship! When refillable cups would avoid this altogether, this clearly represents a shocking waste of unnecessary plastic. Reflecting on the behaviours we observe, people mostly have just a mouthful or two, some even none before throwing it away, typically onto the ground to be swept away (often into streams or rivers) or burned. With the religious connection of this wasteful practice, we decide to approach GMIM with a proposal to ban single use plastic during worship.”

Poopo. 1st May 2018

EA5.5. provides an example of the important role faith plays in regulation and perpetuation of social behaviours and shaping normative conditions in these societies. Conservation strategies could benefit from building upon the faith-based influence to engender or challenge selected social norms and promote social diffusion with the priests for campaign messaging, in this case the cessation of consumption of protected species and use of single use plastic. Following this idea, a few months later our team developed an infographic to demonstrate the sheer scale of plastic usage and why reusable cups are much less hassle, cheaper and more environmentally friendly. While it took some time and effort to coordinate, the regulation was passed along with a formal partnership with our organisation. An official statement from the GMIM Head was made banning the consumption of protected species and also single use plastics at worship. While the direct effect of this ban has yet to be quantified, this represents a prominent example of how faith-based influence may be powerful in leveraging normative change in society.

Religion's influence on people's lives was ubiquitous throughout my encounters in the villages. Below I recall an account of one of the most eventful and lively worships, during which I found space for profound reflection and also hard to avoid some judgement of my subjects. This time an even more highly charged priest, with fiery passion and a dose of humour:

Ethnographic account 5.6.

"We stayed in Taratara during the week leading up to Christmas, thus experiencing the fairly intense series of gatherings at last once daily, sometimes several different events for different members of the family throughout each day. We attend Christmas services with messages of unity and altruism, promoting care for others who need help, giving more importance to others than yourself. I often feel most isolated and different from the community members during the worship time. While I grew up Christian and remain spiritual, I am no longer a believer. I followed all worship events with respect and avid curiosity, including the customary closing of eyes where I spared time for meditation during prayer.

I observed tonight with fascination the priest's use of guilt, accusing families of lacking authentic commitment to the faith. This was real preaching, indoctrination, and dogmatic pressure, use of social pressures to conform! This does seem to be a more common theme here with the protestant church, it is more participatory and active, lots of "amen" and hallelujahs from the crowd, drama and elaborate singing and dancing. The priest drops a heavy comment about those of other countries who do not genuinely know Jesus, representing Christianity for the wrong reasons, that despite the communities' lower economic status here, the real meaning for Christmas is sustained. He becomes more animated and sweat begins to glimmer on his brow as his voice is raised, as he shares a harrowing story of a suicide case recently of a practicing priest in Jakarta.

This is a very long and powerful sermon which involves fiery shouting and repeated reflections of how so many people are less faithful now. He even makes a comment blaming social media, and suggests many people are more devoted to Facebook than the Lord! His behaviour is one of fury, passion, and authoritarianism, with fear saturating every narrative, enveloped with a constant mention of the commandments and that we should fear the results of disobedience to Christ."

Taratara. 18th December 2017

As is clear from EA5.6., particularly with the Protestant denomination, I was taken aback by the depth of the preaching, and the stories and narratives which were portrayed; the sense of control permeating these communities, fear playing a major role in the social make up. The shouting and energy were impressive, though also overbearing, and oppressive at times. They were transparently, though not exclusively, calling to extrinsic, self-oriented values. Again, in terms of perceived behavioural control and the normative influence, this further reinforces the modern religion as a powerful controlling force dictating social facilities and also thus the likely empowerment and common predispositions toward wildlife and the natural world. I noted the demographic of these gatherings, curious how this level of preaching may be perceived by the younger generations and observed a lack of balanced demographic representation. Most non-essential worship times are heavily weighted to the older generations, often with a few younger kids running around, yet very rarely teens and young adults in attendance or attentive. This for me appears somewhat rebellious, given the

prominence assigned to religious ceremony and worship there, though it may also reflect a modern reluctance to follow dominant conventions:

Ethnographic account 5.7.

“Sitting at another worship, I notice the lack of young generation represented. I wonder, with curiosity, how long their events might last into the future. Can these religious ceremonies be sustained? I suspect not actually, as modernisation generally erodes religious significance. I believe, with both a sadness for the potential cultural erosion, but also a sort of hopeful sense of liberation. While I do see the goodness in some aspects of people’s faith, especially to community cohesion and the pro-sociality I have witnessed from the social structuration through faith, and a sense of supposed trust and optimistic belief that things will be ok, I mostly feel sorry for people’s delusion of religion. My mind finds itself exploring the curiosity of questions such as why spend so much energy, time, and resources on something based on a story? When in reality we could be so much closer to finding nirvana by embracing a pure, pro-social, pro-environmental life grounded in intrinsic values and with social and environmental justice for all...religion seems in most part to get in the way of this.”

Taratara. 16th December 2017

The more time I spent in the environment dominated by faith, the more I ruminated on these deep reflections iterated above in EA5.7. I joined the weekly “*Ibadah Pemuda*” (youth worship) in Poopo, providing additional interesting insights into the expectations of all demographics in society. One immediate question is the authenticity of their attendance here, many seem distracted and that a preference would be to spend their Friday night socialising freely in place of worship; however, I also see this as a pleasant form of social gathering, strengthening social ties and breaking down partitions between social groups through the shared identity instilled by their religion. There is a noticeable split between the young men and women, and the proceedings follow the typical Indonesian format very formal, structured and to me disingenuous. A message from one priest stood out, about not succumbing too quickly to sweet things, yet also not to throw the bitter things away. This carries a strong message of tolerance and acceptance of the balance of life. The Chair of the group was a fluent public speaker and broke some formalities. I picked up on several pro-social references, including the “*kerja tongki*” (collective work groups), similar to those found in the mines in Imandi. I note once again though how very little

mention of connecting to the environment is shared in religious sermons. There is a spirit of traditionalism and unity but seeming sense of declining interest in these community practices. Overall, these structure, routine, and controlled elements of the lifestyles of these communities speak to the intensely pro-social worldviews dominated by faith. This explains the behavioural motivations and restrictions prevalent in these societies, and as such the capacity to become more pro-environmental. I further these notions by exploring cultural customs and tolerance, facets of pro-sociality epitomising the Minahasan and Bolmong people.

5.2.1. Religious tolerance, openness, and nonmaterial culture

My experiences in Imandi gave me the baseline for understanding the interplay of social norms, and further supported the notions of cultural erosion and divergent interests. I referred earlier to the potential emergent dualism in adherence and rebellion against formal religion. Many, like Lucky in Imandi for example do not fast, drink alcohol and typically do not follow prayer. Ceremony and tradition are mostly honoured. However, behavioural restrictions appear to be giving way to a rising culture of comfort and consumerism as materialistic ideologies make their way throughout developing countries like Indonesia. This sentiment was illustrated at the most important annual celebration of Ramadan:

Ethnographic account 5.8.

“On the day of Eid al-Fitri (Muslim holiday marking the end of the fast) there is a sort of subtle festive buzz, with preparations of food, costumes and various activities. To begin, we visit the cemetery to pay respect to the dead. There are two stages to the journey, firstly fun as we all pile into the pickup truck, gratefully avoiding the already very hot sun, and secondly walking the last stretch, with an onslaught of greetings by the hundreds of people we go by. We greet one another by saying “Minal aidan”, the shortened version of the popular Muslim expression “Minal Aidin wal Faizin”, an Arab sentence meaning “May we be sacred one more time and succeed in our fasting”. I found this an inspiring and influential time, everyone following the religious conventions and supporting one another, expressing family and neighbourly bonds. People shake hands, hug, or even kiss one another (males only). There are emotions in these greetings and the general social energy here, some even crying upon arrival.

This sudden opening up is fascinating, and I wonder what the trigger might be, the source of this public and direct expression of emotion when it is usually bottled up in Indonesian culture. Perhaps the normative expectation of being emotional is enough to start it off, their woes helping along the feelings. Even more surprising was the pseudo-secretive alcohol drinking, consuming the local palm spirit cap tikus in great quantities and enjoying the festive energy. After the cemetery visit, we return and stop by four houses. We ask Joyo, and Lucky, if anything has changed of the traditions here. They answer that it is custom for a large parade throughout the village, however this year it was deemed unnecessary. Also, that they used to use wooden instruments to make noise in the village and celebrate, but now do not bother. We explore this a little deeper, and there appears a sense that people are becoming less strict to adhere to behavioural customs.

I reflect on key values of familiarity, security, and tradition. Social norms are typically entrenched with little in the way of divergence. Paradoxically, there exists a distinct absence of daily routine at home: food is eaten whenever, kids sleep at any time often late into the night etc. So, they seem to follow norms and expectations without complaint, yet also possibly, and this is yet to be firmly substantiated, little care is expressed for the actual meaning behind commonalities and customs, and as above many are losing interest in traditional customs. This is critical: while Minahasans are characterised by their openness to change, perhaps that is not always the case. Perhaps just socially, traditions and norms are so entrenched, that people never consciously question these things. Conversely certain traditions die off or shift over time, and unfortunately the old cultural customs and spiritual aspects quashed by modern religion, a powerful force at expediting and oppressing for change.”

Imandi. 25th June 2017

Despite this perceived paradox in EA5.8, as with Christianity in the other two villages, Islam clearly represents the foundations for sociality, the support mechanisms for community relations and commerce, also determining the norms and conditions for compassionate interactions and indeed relationships with the natural world. I am regularly reminded of religious tolerance, for which the province is well known nationally (Pangalila et al., 2018). Inter-faith relationships are common, and Muslims will help Christians and vice versa. I was informed that this is even to the degree that rarely if ever does conflict arise due to religious differences. My research and personal experiences further support this surprising notion, the reasons for which I explore later. Commonalities like feasting are

shared between Muslims and Christians alike, including celebrations such as Lebaran and Christmas. This demonstrates strong normative power of tolerance between religions and of diversity here. Numerous participants remark on this tolerance with a consistent sense of pride, even between the two central tribes of Minahasa (Taratara, Pandu and Poopo in this research) and Mongondow (Imandi).

"The Minahasa and Mongondow tribes have always lived together well in the past, working together with (mapalus) shared labour in the garden."

Zul, Imandi. 5th August 2017

Zul, while discussing tolerance and unity, highlighted the "*mapalus*" mutual aid system, as his friend was getting married with all families chipping in for the wedding reception. This kind and generous practice (discussed further in the next section [\(134\)](#)) is commonplace, everyone keen to offer their time and skills or their home for eating and drinking. Privacy is not considered an essential provision as it is in the West, most likely a combination of both the economic limitations afforded to those without sufficient incomes to have their own housing, often resulting in densely packed households shared with several generations of family members. Also, the norms of "open house", whereby neighbours come and go, limit privacy but open personal space and break down boundaries with implications for universalism. Arguably the most sociable location with the least privacy was at our host Jun's house in Imandi, where she would invite neighbours to reminisce with vivid sentimentalism about the old days, fostering traditionalism values as she recalls the childhood spent at the farm. They agree how more socially rich it was back then, with more humble lifestyles, greater time in nature with no or little electricity and closer ties. The classic Minahasan saying, expresses how everyone is related; "*Torang samua basudara*" ("We are all brothers and sisters"). I have always been fond of this warm sentiment and feel that this embodies the pro-social ideology aptly, an embedded identity, with a social system characterised by unity, giving and helpfulness.

I noted various nonmaterial cultural customs during my stay, especially with ceremonies. As in other locations, in Imandi there are "*kumpulan/persatuan duka*" (groups/unions). When one of the members' family dies, other members would

help by bringing basic foodstuff to the mourning family. There is also a tradition of shared babysitting, such as at Lucky's house, they had for weeks been babysitting for his brother Dion's 3-month-old baby. These are further examples of both embedded, accepted social norms and pro-sociality, exemplifying the familiar sense of supportive community running through each of the locations, characterising the highly pro-social communities of North Sulawesi.

Referring once again to the first of my research objectives, I have so far progressed in my understanding of the ways in which these people live and share their lives; open, tolerant, supportive, care-giving, compassionate, highly influenced by religious doctrines and normative pressures to conform. This now solidifies my assumptions of religion's significant influence on the likely advocacy profiles of these communities, a finding which may plausibly be expected to be observed within other communities across different socio-cultural environments. This has implications not only for the first of my research objectives, but also for the second, with regard to connectedness toward nature and even providing insight for campaign development and thus informing my final research objective. Before I extend my investigation into traditional practices and customs which propagate these pro-social tendencies recorded in this ethnographic research, I conform to my intended pragmatic and diverse stance by finally considering the more antisocial tendencies also observed during my research.

5.2.2. Antisocialism and embedded aggressive dispositions

While limited in Poopo, Pandu and Taratara to a few stories of family rows, suspected but unsubstantiated murders and historic feuds between neighbours, Imandi has a reputation for conflict which is known across the province. Imandi is the largest village in the Bolaang Mongondow district, and there exists conflict at various levels. Even upon our first day of arriving, there were reports of recent killings, plus two deaths (old age) and even a suicide of a young guy, which somewhat tainted first impressions. There were numerous accounts of conflict, violence, and aggression, specifically between the neighbouring village Tambun. There seems to be several dimensions to this, but it definitely foregrounded the experiences there, as if there is some kind of distinguishing social identity, a reputation certainly. This is rooted in the historical conflict over mining rights and

feuding and is a powerful example of the domination and power interplay with regards to control of natural resources, alongside the accompanying notions of wealth and social pressures. Several instances of this aggression were encountered during my time in Imandi, and I noted the difference in social cohesion compared with other locations several times. A poignant moment was halfway through my time in the village, where I experienced the so called “gangster” lifestyle first-hand:

Ethnographic account 5.9.

“Early evening, Lucky and I go on a jaunt to see some “gangsters”. As he recommended Dea (my research assistant) to stay behind, I was feeling a little uneasy about what to expect from this, particularly after the reputation for violence that has been painted for the locals so far. We drive the car up to the nearby farms, where the monkey was tied up, and could here cheering and frivolities from nearby. I was surprised to find ourselves in a boxing ring for chickens, an extreme cock fighting arena filled with testosterone pumped guys, all totally focused on the intense matches going on. Within the thick smoky haze, money is thrown across the arena as the odds increase or drop on certain competitors. The fights last for 15 minutes per round, across three rounds, with the breaks called “mandis” as they give the chickens a quick wash and clear their throats with a feather. As the fights progress the birds’ faces and necks become increasingly raw, bleeding and swollen, and for me this is quite difficult to watch as they suffer - pumped with aggression as they have been bred and conditioned to tap into certain biological urges, kept from females and taunted to become restless.

This is an intense and intriguing snapshot into recreational life here, but an important one considering the reputation of the people here for violence and aggression. There are key values at play here, all so focused on competition, wealth, prestige - I find myself paradoxically understanding why they would enjoy such an activity; a break from the classic boredom of village isolation, yet repulsed where it lands on the value spectrum and its subsequent effects on the psyches of the people here, and the blatant disregard for the suffering of the poor birds involved. Whilst I am surprised to hear that Lucky expressed that fights rarely if ever happen at these events, I can certainly fathom how this form of recreation serves to perpetuate the violent characteristics of people here.”

Imandi. 7th September 2017

Aside from the types of recreational practices (see EA5.9.) which may perpetuate the aggressive dispositions in Imandi, during the research, I reflected on the

correlation between working with precious metals such as the gold so sought after there (arguably the most venerated substance in history) and extrinsic values. Previous studies have demonstrated that the desire for wealth may be related to triggers of greed, selfishness, competition, narcissism, and power trips (James, 2008); all conducive to increased antagonism, and as such plausible to foresee why there are fights among the miners. This is a key area of critical inquiry of the associated behaviours of natural resource-based practices and the human condition. Further accounts of violence were reported in Imandi:

Ethnographic account 5.10.

“This morning neighbours dropped by Lucky’s house for a chat. Topics revolved around the stabbing that happened the previous night and several other trivial events of the previous day. Apparently, some of the youths were hanging out at the karaoke place getting drunk, somebody said the wrong thing, and someone stabbed him for it. Similar moments recently include being awoken late one night to Lucky informing us of a big fight in the village, which escalated into the night. Gunshots were heard and apparently there were a lot of injured people. We discovered on several occasions that fights had broken out between Imandi and Tambun, supporting the notions of association between conflict and the mining. We were told that conflict began when the mines began in the early 2000s, because apparently there was no fighting in the 1990s.

The tensions became a continuous chain of fighting and getting even. Police have tried to be peacemakers, but villagers always accuse them of being bribed and siding with or defending the opposite side and have not had much effect. Even the well-regarded head of the district had visited to try to calm things down. One further aspect I note is that seems to be little or no maternal discipline there in Imandi. The behaviour of Qheyra (daughter of Jun who was hosting us), was very testing. She screamed a lot to no reaction, stayed up late and generally does not have any limits set for her. During dinner, she was even screaming at her uncle to commit suicide, hitting him, seeing the early emergences of violent tendencies perhaps, which I found obnoxious and unruly, brutish even to observe. Finally, I was shocked to observe during our time in the Hulu Tonom farmlands that Rae, the sweet young 6-year-old threw a stone quite violently at his companion dog. He also viciously killed a small mouse and seems to persistently terrorise the cats there, although does also show them some affection during our stay.”

Imandi. 8th September 2017

EA5.10 demonstrates that despite the backdrop of pro-sociality present in all villages, violence and conflict seems to have become a tenacious component of Imandi's identity. It is in the Christian villages where I observed the greatest frequency of pro-sociality perpetuated through cultural customs, many of which transferred directly from the old belief systems and long held traditions in the region, of which I will now explore the impacts on social and environmental cohesion.

5.3. Community cohesion through faith-based plurality and traditionalism

I utilise this section to analyse the coalescence of the old and new faith-based systems in North Sulawesi, and the effects on pro-sociality. My ethnographic evidence reveals many traditional practices and customs which have merged with the new Christian and Islam ideals, some causing tensions while others blending with a diverse and contemporary religious ideology. I bring focus to mutual aid systems, and how these cohesive socially embedded phenomena might affect one's propensity to have more favourable advocacy profiles related to nature. I begin by describing the various social customs, old and new, documented throughout my research.

5.3.1. Persistence and integration of cultural customs and beliefs

"Lansia" (a portmanteau typical of the Indonesian language) consists of the words *"lama"* meaning long and *"usia"* meaning age, a common community group for the elderly. This is a societal model being increasingly used in Indonesia for building social cohesion, providing exercise and mental stimulation for elderly people, and ultimately embodying the benefits accrued by time outdoors in natural surroundings. In Taratara I was surprised to discover a Lansia group established in the village a year before, not as a tradition, but as an officially recommended programme from local doctors. There was a rich sense of community in this group, and they seemed to enjoy the coming together during the sessions. Apparently more recently revived from an old practice, they would usually maintain a garden of traditional medicines, also combining their traditional

wisdom of medicinal plants and their functions. Discussing with the members why they joined, and what they got out of the Lansia group, there were collective sentiments of the combined benefits of social interactions and stimuli, and the physical act of gardening. The members appeared to carry the Lansia identity with pride, beaming to us enthusiastically about their membership and spirit of community in the group. Chapter Two introduced the broad definition of pro-social behaviours, which [Bierhoff \(2002\)](#) remarks is commonly denoted as a label for a broad category of actions such as sharing, cooperating, comforting, rescuing, volunteering, or helping which tend to benefit other individuals or society as a whole. Lansia embodies this notion adeptly, bringing people together to contribute to a shared cause, namely the preservation of local traditional ecological knowledge and upkeep of a green space, with additional benefits of time outdoors and with gardening, which has proven health benefits (Jordan & Hinds, 2016; Wang & MacMillan, 2013).

Also relevant to the next chapter, aside from the social benefits, these groups also typify opportunities for experiencing and personifying nature connection for these communities. In fact, these Lansia groups were one of the most pertinent examples of an EI discovered in this research. Earlier I explored how EI follows the notion of interdependence with nature [\(44\)](#) as a genre of self-concept, encouraging cognitive and emotional connections between self and nature. Considering the cultural customs and norms within these societies, I observed how these identities were accepted and embedded in community structures, bringing deepened embodiment of connectedness to nature beyond the experiential or instrumental dimensions. The nostalgic Lansia band gave a rendition of traditional songs in the old language during a Christmas worship which I attended. This opportunity for them appeared to assign them a form of seniority and respect in society, though there may also be an effect of demographic attendance and interest, as remarked earlier. As with Lansia, it appears that the more benign elements of the old cultural and belief systems have pervaded the purification associated with Christianisation, including the superstitious aspects:

Ethnographic account 5.11.

“Included in the old stories and superstitions are the various customs which must be followed while outdoors or in supposedly sacred or special places. An example is that in the middle of the day, one has to make a signal, such as cough or sneeze to scare away the bad spirits in the forest before you arrive. A similar narrative follows with regard to the “Sesajem” offerings presented to spirits within people’s houses, which were still actively practiced until end of the 1990s. Delicacy foods and snacks and other desirable items were placed at certain places in the house as offerings for the elders who had passed away, prepared by the grandmother, or those who “knew how” as it was remarked by one villager. These were offered to benevolent spirits who assumed a form of protector role within the household. These spirits could stay with the widow of a deceased husband 40 days after death of partner, there to support and guide them through the challenging emotions and loneliness of grieving. Loneliness, it seems, in such a close and diverse social environment, is perceived as an unacceptable predicament and one to be avoided or addressed wherever possible.”

Taratara. 14th November 2017

As EA5.11 and the quote by Tangkuman depict, the spirits recorded in the animism of the region were abundant beings who dwell within all elements of the natural world.

“Beliefs began to change when religion enters, it is the development of the age. There used to be a big banyan tree, a haunted place that was hollow in the middle and is filled with spirits. People would bring offerings for the spirit in the tree. That was up until the 1990s, but not anymore.”

Tangkuman, Taratara. 8th December 2017

Large trees for example, particularly the overbearing and impressive strangler figs with their cathedral of tangled buttresses, were often feared because there were specific spirits called “*penunggu*” (waiters) representing the soul of the tree, dormant and awaiting any malpractice. These spiritual manifestations represent a powerful and ubiquitous force of guardianship, protection, and authoritarianism. The spirits took two main forms, either as benevolent guardians, providers, sources of wisdom, or malevolent judges and mischiefs, with both forms requiring appeasement.

"In the past, before there were doctors, if someone became sick, they were treated with traditional medicines and helped by the good spirits."

Halma, Taratara. 6th November 2017

Halma, as with many others in Taratara, remarked their deep gratitude for the resilient water source. The spring, unlike many other places, has never in their knowledge dried up, even throughout the worst droughts their ancestors can remember. This is a key observation, that people express gratitude toward nature, a monotheistic God as the deity provider, animistic spirits or others, for the abundance of natural resources and security during the hardest times and thus attribute sacred associations for such resources. A drought hit in 2015, yet still the spring provided. Other places in the province would have been very badly impacted without a steady water source at such a time, yet here it remained stable. I asked if people still give thanks to nature in prayer time, despite no longer providing offerings. Apparently, some do, but with limited confidence it appears. The first few weeks we are advised by many to talk to the elders about the dualism of fusion and tensions of the old beliefs and Christianity, and are pointed towards a friendly old gentleman called Daniel, who invites us to talk about some of the traditional customs, beliefs, superstitions, and the modern interpretation:

Ethnographic account 5.12.

"Daniel welcomes us into his humble home with a lively and fascinating discussion which evokes in me a nostalgic sense of cultural reminiscence. Our initial inquiry is about the traditional song that we have heard of so frequently, the Mah'zani. Daniel explains that these were poetic short songs often in a sort of limerick form, addressing spirits to bring good fortune to the harvest or good health on their families. We were told that the stories almost always centred around seeking harmony with nature, describing the dependency on the land. The songs provided motivation and a sense of combined purpose while working, boosting spirits, and fostering camaraderie. The Mah'zani song consists of four stages. The first round is like the welcoming announcement, describing the story of thanksgiving and a request to God that life be always blessed by Him. The second round tells us of the origins and legends of the village. The third is an expression of the spirit of work in the farmlands, illustrating the joyful atmosphere of harvesting and partying because of the welfare obtained from the harvest. A deep meaning is spared for the last round, namely inviting the entire community to love and care for one another.

Aside from these fascinating symbolic meanings and associations with nature embedded within these songs, Daniel also shares his knowledge of many superstitions which still persist, seemingly having a resilience that many other aspects of the old belief system do not. He refers to the “posso”, which are rules of conduct normally followed in areas to respect and appease the spirits, seemingly in conflict with modern Christianity yet somehow allowed in modern society without much speculation or judgement. Then he mentions the superstitions again, signs from nature including the calls of owls and the striking yellow-billed malkoha bird, calls to bring good fortune and calls for unfavourable predictions. There are even signs in the organs of animals killed for food. He shares his vivid stories of hunting for forest pigs and upon butchering their quarry, they would examine the pig’s heart. These powers were usually afforded to the elders or spiritual healers, the Ton’aas, able to make predictions such as the fate of a marriage, or if someone is feeling jealous, or the success of a future hunt.”

Taratara. 14th November 2017

Another traditional community practice that acted to forge bonds and solidarity in these villagers was the village choir which although is a modern practice, has evolved from traditional practices such as the Mah’zani described above. I found myself developing a deep respect for the pro-sociality implicated with the choirs. They come together and work tirelessly every day to practice and put a lot of effort in, emboldened by a mandatory competitiveness as all sub-districts in the Tomohon district must enter an annual choir competition over Christmas. The villages may even get fined if they do not attend the competition, though the central motivation appears to be community pride. This also has important social implications, further fostering community bonds and cooperation.

Aligning with my positive reflection of the diverse practices fashioning a common thread of pro-sociality and traditionalist value structures, I had an opportunity to discuss my own personal views of the culture, while staying on the farm of Jansen, a sugar palm cultivator whose farm we stayed at with Johny and Theo the local hunter:

Ethnographic account 5.13.

"I recall the slightly awkward moment when Jansen asked me to share my feelings on both the positive and negative views of the Minahasan people. I paused before answering, though I knew deep down that these were times to be open and candid, to promote honesty and truthfulness in the dialogue with these people. I am indeed frank in my answer. The positive aspects, I explain, are the supportive sense of community; gotong royong and the deep sense of community, the helpfulness, the feeling that in the neighbourhood we are all one family, with intimate and close relationships underpinning societal cohesion. The negative aspects, I go on, are the consumption and treatment of animals and commodifying of the environment. I indulge in what was probably a protracted though sensitively framed case, highlighting how change is coming, with hope in the new generations. It was interesting to see their reactions, appearing a little taken aback, though the message sunk in. I am glad I was frank and open, as this also helped me to digest my own perspective on this, so it was a stimulating and pertinent question that I was pleased to have the comfortable space to share thoughts truthfully in. My answers were true: the pro-sociality and community solidarity is often inspiring and humbling. I am surprised also how numerous the indicators of nature connectedness are. Yet, the predominant (though not exclusive) ignorance to animal welfare and sentience, and the prevailing consumption identity is resoundingly negative. To me it seems to stain the Minahasan image, taint the sweetness of family bonds, love, and compassion here, and feels a shame to have this as part of the culture. The objectively immoral behaviours, causing other sentient beings suffering, torture and slaughter is congruent to other cultures. Here though it is potent and amplified because of the pressures that hunting has on endangered native species and the ubiquity of the associated identity. Also, because I have seen it, felt it and been at the forefront of the efforts to instigate its transformation."

Taratara. 22nd February 2018

Building upon this affirmative reflection and continuing my review of the plurality of the old and new faith and social systems, I turn to Poopo, where I witnessed several instances of the cohesion and strains between animism and Christianity. There were several sacred sites, including a powerful and mysterious "batu tiga", three-stones, similar to the "batu penjaga" guardian stones in Taratara. However, these are small, placed in a specific form, known to possess both benevolent and malevolent power.

"In the past there were a lot who believed, now there are not so many believers".

Ibu Bandi, Poopo. 24th March 2018

Ibu Bandi, who conveyed this to us also intriguingly expressed how "*nature is more sensitive than humans.*" She was happy to share her stories, and enlightened us with the situation of the stones, steeped in mysticism and with latent meaning and parallels to modern interpretation of belief and thus prevailing attitudes toward the natural world. She elaborated these notions further:

Ethnographic account 5.14.

"We met this morning with Ibu Bandi, the apparent "owner" of the infamous three rocks of the village. Folklore has it that the stones were placed by the first person who came to the village. Until now there are still people who believe in the necessary rituals to appease the spirits of the stones, including one ritual to guard babies from the devil, whereby they must place limes in the window. She shares stories of the rocks always arranging themselves back together, with an apparent power to levitate. She describes how birds often circle around overhead, and if they land on the rocks and sing, this will be a sign, mostly negative. I have to admit, perhaps because of the vividness and energy of these stories, being in the presence of these rocks, they did seem to have a power, an eerie sort of aura, something about them drawing my attention. I felt in that moment that it was a shame they are not well respected nowadays. One would have imagined they would be maintained and kept sacred. It is as if people have got tired of the sacred rituals and the power diminished through incompatibility with modern religion. This tension seems to confuse people and cause them to just subtly let things go, without much friction, the spiritual beliefs and cultural customs just erode without much restriction or efforts at preservation.

Ibu Bandi continued that in the past as protector stones the powers were regarded as providing courage and wisdom, a common symbology of rocks in mythology, congruent with other villages. It appears the modern interpretation sullies the symbology, assigning negative associations akin to voodoo and witchcraft, commonly demonised in Christian ideology. I note a particular pattern, the way she and many others talk about the past. It is as if there is taboo surrounding the old beliefs and animism and feels as if God may be watching and judging, so they are apprehensive about divulging too much. It is curious also how previously the spiritual system was much more about positive symbology and metaphors, such as power, prowess and good fortune, whereas now has become more about superstition and bad omens."

Poopo. 24th March 2018

Building upon EA5.14 it may be inferred that these rocks epitomise both the disconnect with the past and alienation from nature, the lack of respect and confusion at play, a heady mix of religious doctrine influence, modernisation and social pressures for conformity, plus lost symbolism through time. These and

many other factors coalesce to cut people off from the natural world as we used to be, perpetuating norms of urbanisation and more busy, hyper consumed lifestyles. While society has created the conditions which have led them to stop believing, and as such care less about the stones and previous conduits to nature connection, superstition remains strong and prevalent. The birds still appear and give the signs, and they are apparently accurate. A form of resistance was apparent, a holding on to what was there before, a sentimentality and nostalgic self-promotion of conservation values. It is possible that the negative associations attributed to ecocentric symbology may go some way to explain relationships with the natural world and potentiality for pro-environmentalism. This leads to one of the most fascinating aspects and clear insights into the old and new belief emergence. Bill, our key informant in Poopo is a devout Christian but also an avid preservationist of culture and is a model individual to exemplify this dichotomy.

"Culture must be preserved, because moral values in culture are very important".
Bill, Poopo. 6th November 2017

Bill is committed to preserving traditional customs and culture and over the course of our time together and subsequently following the completion of the field research, he becomes an avid supporter and active conservationist:

Ethnographic account 5.15.

"Bill tells us of his friend who has powers, a Ton'aas, traditional healer from Minahasan culture. He invites us to meet Friko, and we arrange a meeting next week. He describes the "Malasung" - the old ways/ beliefs, through writing in an old language, and distinct dreams. Perhaps his own confidence in this derives from a story he shares of how his own parents were healed. "Mustahil" - he expresses that the impossible happened!

This turns into a lively dialogue taking up the whole morning, enlightening us how despite his own religious devotion, Bill insisted that it was important that the old belief system avoids getting "contaminated" with modern religions ways. He enjoys divulging how the two systems can converge and synergise, citing various references to Jesus-type figures or deities in the old beliefs: Aman Kesuwuran, Opo Wawanatas and Mawu Sangahe; all representing diverse interpretations of the same fundamental base. He tells how language and culture sculpts these beliefs with time, suggesting a seeming accommodation of other religions and beliefs and recognising the similarities and basic meanings, notably the same divine force, God."

Poopo. 4th April 2018

This discussion with Bill exemplifies how the old powers and the interpretation of the quest for meaning to life are immortalised in the stories and remnants of old beliefs, despite their persecution through modern religion and subsequent cultural erosion.

"Whoever is up there, is looking down upon us and watches over us".

Bill, Poopo. 4th April 2018

According to Bill the church now has shifted cultural values related to the environment, even though he believes that God uses nature to reprimand humans.

"Nature is part of God's creation, used by God to reveal His power. The human condition and God are bridged with nature."

Bill, Poopo. 4th April 2018

Bill expresses that the fundamental law of living is "*loving God and his creation, and that we must do good by him and all he creates*". He refers to humans being cast out into nature, a way to punish us for original sin, perceiving nature as an entity separate from us as beings.

"Those who can understand culture, can understand and listen to nature."

Bill, Poopo. 4th April 2018

Bill is one of a few individuals who seems able to combine cultural and religious value systems and interpretations. He opposes yet reconciles the cultural values and authoritarian dogma he sees as misinterpreted by the church. While controversial with some members of the community, at times even seeming to become political, this may viably represent evidence of an emergence of a mixed-belief paradigm to comfortably allow the flexibility for modern more liberal interpretations of faith. This complex consideration of belief heterogeneity is illuminated by Kelli Swazey (2007:148), the implications of which are explored from an applied perspective in the discussion (217):

“Minahasans also turn the eyes of purification towards themselves policing the borders of meaning where traditional practices have been incorporated into a framework of Christian belief. Discourses surrounding the incorporation of traditional practices, narratives or terms used in worship focus on how underlying meanings align with Christian beliefs, in essences making these traditional practices into Christian ones and establishing a sense of timelessness to Minahasan Christianity and ethnic identity. The heterogeneity of discourses surrounding indigenous terms that have origins in disparate pasts are aligned in an underlying belief in divine design that guides life.”

Here, Swazey captures how this coalescence of the old and new has occurred, pointing towards how rather than extinguishing traditional practices and customs, many have been merged with the new Christian and Islam ideals, some causing tensions while others blending with a diverse and new religious ideology. Aside from Bill, another striking figure in the community here who advocates for this pluralistic interpretation of belief is Friko, the to’naas healer friend of Bill:

Ethnographic account 5.16.

“Recollecting the intense experiences with Friko today, my first proper interaction with a to’naas traditional Manadonese healer, I recall his powerful aura. He eloquently recounted the hallucinogenic tale of how he came to obtain his healing powers, his sight and wisdom. Age fourteen, he fell into a trance, and met his deceased grandparents accompanied by spirits in the spiritual plane. He saw visions of animals, including monkeys and pigs as he levitated to the ceiling, his wife holding him back. The spirits called on him to help others. He was given a message written in an unknown ancient text, which he was able to recall and subsequently had tattooed onto his arms. Battling with demonic forces following the spiritual encounter, he spent three years in hospital, and in that time came to understand light and dark and the powers of nature, perpetuated by the commandments in the Bible. Many people suffering from ailments visit him and he is known to be a reliable healer. His treatment involves praying to spirits in the old language, requesting strength and performing a ritual with lemons and herbs, extracting “voodoo wrongdoings” from the body. His services are voluntary, and he is sworn to help others for free, as is the to’naas obligation. He expresses how medicine comes from nature and should not be paid for.

Friko calls for what he describes as a “nature religion”. It seems he is suggesting a new modern interpretation of Christianity, based on nature worship as was integral to the Malesung animism. Using the Tumotowa Stone as an example, he states that God uses nature as a balancing intermediary to convey things to humans, too powerful to deal directly with us. This challenges some of the powerful forces of modern religion now entrenched in society here, which is often guarded and strict in its adherence, largely to maintain control and exclusivity. It is not surprising therefore, that he is not always well received in his beliefs. I imagine some of the arguments, fights even he must have endured over time with regards to his mixed beliefs and occultist-like capabilities. It appears his convincingly coherent call for blending modern and old beliefs may be what allows him to continue and stay an integrated member of the community. I found myself holding some internal tensions. The main source was that despite the fluency of this intellectual and powerful man, I was struck how few direct references he made to nature. As consistently observed with Christianity, the ideologies were profoundly anthropocentric and unrelentingly egocentric in focus. Despite this, he did explain the omnipotence of the spirits, God and the connectedness of all. Friko possesses a philosophy of inter-relationships, and a more culturally associated preservationist worldview, which by default means a greater reverence of nature.”

Poopo. 6th April 2018

I found Friko to be a captivating character and appreciated his call for the tolerance and merging of old and new beliefs. In terms of others' perception of Friko and the faith-pluralism ideology, I observed opposing views. Some were adamant this was dangerous, borderline blasphemous and not to be endorsed. Others, such as Tommy believe in his powers, saying they witnessed unexplainable things, and believe what they saw with their own eyes. However, they do not approve of “*those who want to take the power just to get high*”, an apparent abuse of a supposedly affirmed gift.

The secretary of the sub-district offered an interesting perspective. He remarked that Indonesians' behaviours are governed by three types of norms, social, religious, and legal. I appreciated this interpretation, certainly a novel lens through which to see normative power through. Discussing this in the context of PEBs, this triad of norms may be a valuable viewpoint to assimilate the complex relations between people and nature.

The accounts presented in this section offer a number of contributions toward addressing my research objectives. Firstly, I observed that the cultural practices still performed today such as the Mah'zani songs are celebratory and appreciative for the benefits of natural resources. This gratitude to nature is convergent with the environmental identities of the traditional community groups Lansia, also normalising outdoor ecotherapy type social cohesion. Furthermore, in Chapter Three (74) I cited Bron Taylor's work which examines how religion may hold latent potential to support environmentalism. Friko's calls for a new nature religion blended with Christianity and animism encapsulated this strongly. With this blending of the spiritual reverence of the sacred infused into the customs and doctrines of the old beliefs, green religion may offer a more conscientious interpretation of religious authority and thus challenge the prevailing paradigms of dominion over nature as perpetuated by modern Christianity and Islam. I will retain these lessons as my understanding of the complex relationships between pro-sociality and pro-environmentalism continues to evolve. I now further extend the focus to social norms, and the bedrock of pro-sociality, reciprocal altruism through forms of mutual aid system.

5.3.2. Gotong royong and the preservation of traditional mutual aid systems: a potential conduit for fostering biospheric concern

My first encounter with the local "gotong royong" or "mapalus" mutual aid system provided insight into cultural exchange that acts as a form of social adhesive, binding the pro-social characteristics of communities in the region. While mapalus can represent any form of social practice, communal farming seemed to represent the most common interpretation of this term, a social occurrence which brings people together for a specific task, often involving manual labour beyond the capabilities of one farmer alone. The intricacies of this tradition have certainly altered over time (for example in the past a conch shell was blown and steel drums banged to signal the start of the communal farm day) though much has also been preserved.

I was directly involved in mapalus in Taratara, on my third day immersed with the community there, thus also a powerful way to become more intimately engaged with the friendly people. From talks with several people in the rice fields, the

estimated profit from the work in the rice field that day was only around IDR500,000 (roughly £27). Profits are small because each person also got paid, whereas in the past there was trade only in time and services, a mutual and fair exchange between neighbouring farmers. There are other benefits, such as distribution of a proportion of rice to each worker. However, we were told that the most important thing is cooperation to achieve the goal of raising money for the common interest in the fellowship of the Church:

Ethnographic account 5.17.

“I had been excited about getting my hands dirty and helping out on the farm since they had described the communal farming here and scheduled a gathering for the church this Saturday. So, early on the Saturday we arise with a bright sun and together with Johny and all his neighbours we head to the nearby rice padi farms to begin the harvest of the rice. My first real experience of Mapalus! I was in my element! We proceed to have an enriching experience on the padi farm, learning how the people come together to support one another. I felt as though I had been projected back in time, or perhaps frozen in time culturally, sensing the preservation of the old ways, unchanged and raw, real, and suddenly away from the modern cultural trappings.

A positive energy was immediate evident on arrival at the farm with everyone coming together and helping out; a communal, instinctive, and natural feeling of camaraderie. In the bright and intense sun, it was pretty hard work. I wonder if it was maybe made a bit more exciting by having the bule (white person) there lifting their unthreshed bundles of corn, though I felt their normal spirit, probably as it always was. What a wonderful experience, so many lessons in social dynamics and pro-sociality. Reciprocal altruism is evident, with everyone aware of the importance to help one’s neighbour, but also knowing they will likely also return the favour. The men either cut or carry the bundles, and the woman gather in the sabua (farmhouse) to prepare a feast, which we share together after the harvest. There is a decent bit of hard work and feasting commonality, shone upon by a bright and bonding energy, and a satisfying, tangible sense of communal achievement.”

Taratara. 18th November 2017

EA5.17 provides an account of communal lifestyles, further supporting the insights into pro-sociality and benevolent values characterising these communities. I also discovered that up until the past decade or so, the Mah’zani described earlier were the accompanying songs to the communal work. Similar social interactions like this can be found in many other cultures, such as African

American songs originally developed in the era of slavery, between the seventeenth and nineteenth centuries. Workers on the cotton plantations were often enlivened by the singing of what was known as “work songs”. Singing moved the work along faster and made the physical labour and drudgery a little easier to bear. The iteration in North Sulawesi had a similar motive, though Mah’zani songs were focused on reverence with the land and natural elements, pertinent to this research. The songs are rarely sung nowadays during farming and only a few individuals are still able to speak the old languages such as *Bahasa Tombulu*, which represents the sub-ethnicity of Tomohon district. However, some songs have been preserved in the form of a competition organized by the Cultural Department of the Tomohon District Government to celebrate and maintain these customs, with prizes for the best sung songs. While arguably conjecture, singing these songs and maintaining cultural customs which revere and appreciate the land is plausibly likely to enhance attachment to place and thus a sense of connectedness to nature. I will explore this notion further in the next chapter.

Aside from experiences in the farmlands, I also attended several community events each week, particularly around Christmas time in Taratara. The majority of events were focused on worship, or special celebrations such as weddings or funerals, the activities steeped in religious ceremony. I reflected on the impacts of this socially, including the pressures of payment systems integrated into the attendance of events. Normally, those in attendance representing one family will provide a contribution to the event, normally a donation of around £5-10 to go towards food and preparations. I noted that with an increasing number of events this was becoming a burden to some who lived with lower incomes, especially as some weeks there is a gathering almost every day, which as I describe in EA5.18 may even instigate a change in behaviours and become a potential source of social anxiety:

Ethnographic account 5.18.

“Today I observed an interesting phenomenon I had not encountered before. Following a funeral gathering of some distant neighbours, there were several people who did not attend (in this case, Ibu, Viani, and Om Daud). As the participants began to disperse home, they quickly hid in their houses to avoid the public shame! They said that they were unable to show their faces if they did not attend! After somewhat suspiciously fervent stories of getting wounded in his farm I am curious if Om Daud really did have a valid excuse, or if he devised excuses to avoid going, as here you cannot evade attendance without genuine reason, it is impolite or socially unacceptable.

I found this public pressure and accountability at first somewhat amusing, though on further cogitation it appears to reflect the profound social trappings living in such close quarters. This exemplifies the intimacy of communities here and the salience of public perceptions and social pressures. I reflect that life here is governed by perceived behavioural control and a mosaic of self-efficacy barriers.”

Taratara. 14th November 2017

Despite the demands of the system and the effects socially, family and neighbours would provide a contribution known as "serikat" where goods such as rice and oil were provided to support the gathering. Observed in all villages, during funeral preparations, one of the close relatives was put in charge of coordinating the contributions, documented in a standardised table to record who had paid, when and how much. There was also interestingly a voluntary monetary contribution instead of the traditional serikat produce, which although was apparently the less frequent option it was still preferred by some and as remarked earlier it has now become the standard for all in attendance, likely due partly to convenience.

An additional note furthering the volunteerism and helpfulness principles was the collective responsibilities of tasks involved in arranging a gathering such as this funeral. I was informed that when the body is at the house once it has been preserved in the interim between the funeral event, people are unable to sleep so they take shifts to support one another through this. There is a saying, “*jaga air sampe pagi*” (look out for the water until morning) which means to serve those involved drinks and refreshments, with people continually making tea and coffee until the morning.

Yet another pro-social system is "*memejaan*", the term I learned to denote the support to help prepare for the wedding we attended in my final week of stay in Taratara. There is a systematic process of feeding those closest to the family preparing food directly to plates onto the table and be served first, whereas others in attendance will receive the traditional buffet system. Then there is "*antar harta*", which means to "bring the treasure". This is a type of dowry, which a groom will pay for the bride, "*ganti air susu*", a fee translated as the exchange for breastmilk.

Weddings also come with a seemingly complicated system for owing for this *memejaan* system, whereby if someone was provided for in the past, they would then owe for the future. Again, the familiar adage of "what comes around, goes around" was referred to, invoking reciprocal altruism, embedded within a sense of accountability and commitment for equality and fairness expected of such an intimately close community. Worship-oriented gatherings with similar principles are widespread throughout Indonesia. "*Arisan*", is a form of "*kompulan*" (gathering) which is held by a family and neighbour group, often less than twenty individuals and involves a form of collective financial saving, a type of rotating credit association:

Ethnographic account 5.19.

"Arisan are one of the most fascinating and complex, yet socially embedded and ubiquitous cultural customs I experienced. I have long been fascinated by the system, struggling to understand how it works, developing a curious scepticism over its efficacy and ability to actually work without issues; it does seem littered with potential pitfalls! I enjoyed many discussions about arisan, the economic benefits, but mostly the social nature and implications of integrating social compliance with economics, for me immediately bringing significant questions of accountability, trust, transparency, capitalism etc. I was consistently surprised by the confusing rules of the system, despite insistence of simplicity.

I find it heartening to learn of the attention to equality and social fairness, though it does seem to me like a minefield of factors and complications. I raised these quandaries on several occasions, and was always reassured that somehow, these complications are dealt with apparent ease. This further indicated the adaptations and normalisation of this way of living, avoiding the rise of politics wherever possible and spreading fairness and pro-social paradigms within these societies."

Taratara. 14th November 2017

These arisan and memejaan systems represent core mechanisms for social binding, prominent social practices that keep the communities here close together. There are many distinct values at play with these meetings, especially as money is involved, bringing in pro-social concepts of helpfulness, supporting neighbours and family members financially; and empathy, recognising others' needs especially in times of hardship. The key is reciprocal altruism: helping one another is a given here, an unwritten social commitment. Occasionally there are those people who shy away or break the rules of the arisan, though this is apparently rare and there is a collective authenticity in the majority compliance.

The systems examined in this section are testament to how the Minahasan and Bolmong people support and propagate norms and trust, and thus also the openness to change, to develop and adopt new systems which may eventually enable the normalised protections of nature. One of the most prominent denominators in these complex dynamics is empathy. I carry this notion forward and follow this section into a deeper exploration into empathy, its role in the pro-sociality observed and extension of human values to the biosphere.

5.4. “They bleed the same blood”: Empathic sensibilities and an appetite for wildlife

I present in this section another central frame for this research, compassion and caring; supporting other work which has demonstrated how empathy for nature is crucial in our understanding of motivations to protect it (Daniel, 2010; Sevillano et al., 2007). As touched upon earlier (36) empathy helps create and maintain social bonds by enabling people to comprehend, share and respond appropriately to others' emotional states (Hofelich & Preston, 2012). This form of extending one's cognitive and affective consciousness to other individuals within their community, and the propensity to extend this to the biosphere, is of critical importance to this research from both a conceptual and applied perspective. I aim to shine light on how animals are treated and perceived, particularly in the practices of hunting and consumption of animals, learning how these interactions shape the relationships humans hold with non-human parts of the environment. I

begin by looking at cognitive empathy, or perspective taking and its relevance to understanding the plight of others.

5.4.1. Taking perspective creates connection

Rudy from Pandu presented numerous statements indicating his and others' connection to nature. While in recognition that there may be an aspect of subjective bias, his opinion on how the people are interconnected with nature, and in what ways is highly informative and contributes to the engagement with my second research objective. One of his remarks was that it is not just humans who are affected by drought, recognising the needs and embodiment of other beings also. Rudy made several references to the animals as friends and went into great detail describing the creatures that visited his farm or the more mysterious beings which frequented folklore and superstition.

“It is not only us that can suffer...he feels this too, poor thing”
Rudy, Pandu. 20th March 2018

One of the most striking instances I found was on Rudy's reflection of the suffering of snakes, as above and in EA5.20:

Ethnographic account 5.20.

“On several occasions Rudy referred to the needs of the birds and other animals, the same as humans possess basic requirements for life. He assigned them a place within his scope of concern, and even adapted his behaviours to accommodate them. He described a story of a long-time family pet, Nino, who died at 10 years old by strangling himself with his own chain when tied up at the farm. Almost in tears he told us how he felt ashamed that he died like that, and he buried him in the farm, unable to face the family and their reaction, covering up the story and holding the secret to himself. He reminisced on the dog like a family member, describing him as brave and strong, how he also once survived eating “potas” (poison) which is the preferred method that the dog thieves use, common to the area. This led into an interesting conversation regarding the cognitive dissonance of people loving dogs but also eating them, a topic of conversation that often arose feelings of guilt and shame. Rudy himself does not eat dog or pork, saying he feels that they do not deserve to be killed for humans.”

Pandu. 21st March 2018

The paradoxical statement below indicates that it is ok to "use" animals for human utility, but their welfare should be considered also, an intriguing push and pull again between two polar loci of ethics, a dualism of the roles of carer and exploiter.

"Animals need to eat enough and drink enough, before they are used."

Rudy, Pandu. 21st March 2018

Riadi in Imandi also remarked on the relationships we have with animals, noting their similarities to us:

"There is a connection, because their blood is red, the same as ours."

Riadi, Hulu Tonom farmlands, Imandi. 10th September 2017

Despite the notable findings of individuals ascribing empathic qualities to other species, I also observed a diversity of attitudes and behaviours out of line of these seemingly compassionate tendencies. During a stay in the Hulu Tonom farmlands, I was informed of four monkeys trapped after entering a farmer's corn field some nights before, with two individuals "passed on" (despite our inquiries to the unknown final destination) and two others tied with ropes to Aso's farmhouse on the forest edge. We encountered the macaque monkeys on our walk to the forest one day:

Ethnographic account 5.21.

"Seeing the two juvenile monkeys tied to the farmhouse with ropes and discussing this with their captors was a crucial moment for us, as we were able to see how people here responded to this and empathised with the plight of trapped animals. There were varying emotions flowing by those who informed us they were caught. Aso, who appears to have such a sweet temperament and gentle character, noticeably seemed to struggle with the normative pressures of capturing animals like this, and the evident suffering it was causing them. He said their stomachs were hurting where the ropes were tight and intended to loosen them to stop the pain they were feeling; pain like us, he exclaimed. They were not kept there long but were already in poor health, with painful sores and infections from the ropes. Their initial intention was apparently to keep them as pets, but they reasoned with the troubles of doing so and the inherent issues of keeping wild animals as pets, so conveyed that they would release them, further away from the farmland.

Rae, Riadi's grandson whose mother died in a car accident a couple of years before and as such lives mostly on the farmlands, is a calm and curious child though slightly unsure of himself. Just after discussing the recent capture of the monkeys with Aso and Riadi, he exclaimed "If I see monkeys here, I'm going to kill them". This blunt comment, so nonchalantly presented, took me by surprise and muddied the atmosphere. I tried to inquire why he would say that, but he became unresponsive and distracted.

I remember feeling saddened by the ignorance of humankind and the barriers to natural compassion of these people, who are good people, just sometimes blinded by a lack of connection and empathy, likely brought about by normative social frames and viewpoints."

Hulu Tonom farmlands. 7th September 2017

I tried to understand what happened on discussion of the captured monkeys as recorded in this EA5.21. Rae's character didn't reflect this purported attitude, as with our time spent with him he appeared to exhibit clear caring instincts, with appreciation for the birds, fresh air and the beautiful natural area to play in. However, this is an example of how other's (especially children's) behaviours and the dominant social norms can influence us. If the monkeys are demonstrably persecuted as crop pests then he may be thus more inclined to follow and be more instrumental in his value orientations, thus inhibiting ethical, compassionate predispositions.

Other instances where interactions with monkeys and other animals were reported during the research period, included three captured in hunter Siron's traps in Poopo and Lucky's collections in Imandi which had in the past included monkeys. In Taratara, compelled to share his information and knowledge related to nature in the area Edwin reported an individual in Tomohon city, emphasising his affinity with wildlife:

Ethnographic account 5.22.

"Watching the villagers go by, Edwin the enthusiastic (and often drunk) local policeman who I met at the choir, pulled by on his bike and shared some of his views and news. Edwin seemed compelled to express his affinity with nature, eager to show how he can call animals out, proceeding with some fairly impressive examples, including a dog and mosquito. He also insisted that the Guinness world record committee were knocking at his door because of this skill, suggesting some of his truth may be a tad variable.

He shares information from a friend in Tomohon that a monkey is being kept as a pet behind the local police department. He seems determined to find a solution for the monkey and keen for us to help out, expressing his level of care for animals. He added that he cried when he heard about a whole group of monkeys hunted a few years back by citizens of Taratara, which made his hair stand on end, and compels him to ensure others learn from the case.

When he watches TV and sees deforestation and environmental issues, he feels sad. He shares that he firmly believes in the climate crisis and sees the effects himself. Edwin leaves us with what I perceive as pertinent etiological information. The word "saudara", which denotes a brother or sister and is often used to promote oneness, aligning with the Minahasan slogan, comes from root words, "satu" (one) and "darah" (blood). This feels like a poignant discovery, fitting the Minahasan solidarity and oneness perfectly."

Taratara. 9th February 2018

This caring account of Edwin was not an isolated case, consistent with the idiosyncratic profiles of the communities I studied. Innate empathic tendencies and cautious expression were commonplace, though likely constrained by societal structures and normative barriers. Another startling incidence of compassion and perspective taking was in Pandu, hearing from Rudy about the relationship that people have with the working cattle:

Ethnographic account 5.23.

"Apparently, farmers form a close connection with their cattle, recognising the importance not to hit or overwork them, though Rudy also acknowledges that not everyone has this natural tendency to consider their wellbeing. He recollects a story of a cow who was crying every day from exhaustion, and eventually died from overworking. He was empathising with this cow's suffering. It made me think critically if others really felt like this, or whether Rudy was perhaps just an anomaly. I reflected from early on whether these self-reported attitudes are really practised, and the likelihood of subjective bias on their reported attitudes compared with actual behaviours. I have always felt the people here both frank, direct and honest, genuine, and thus unlikely to untruthfully express something like this. Culturally they have a habit of saying what they feel, though there is also the need to save face to avoid confrontational or antagonistic statements.

Aside from the diversity of behavioural observations of both caring for animals and the inhumane treatment of domestic animals, likely skewed by ubiquitous societal prejudices of companion and domestic relationships, I was also reassured of their genuine expression of compassion. On one occasion, we embarked on a wonderful walk through the forest edge to a stunning viewpoint overlooking the ocean and surrounding islands, a breath-taking view, and an enriching time spent learning about traditional medicines in the forest. As we approached the view from the forested mountain, known as Mount Tumpa, I was taken aback from the awe and wonder by which Rudy took in the view: "luar biasa...kita rasa bangga ini", exclaiming how he is proud of the incredible natural scene in front of us. He went on to explain himself, perhaps concerned that we may have found his enthusiasm disingenuous. He said that his expression there was not just being bold or because he was in our company, but that it comes from within."

Pandu. 22nd March 2017

EA5.23 adds another layer of rigour to the explanation and relevance for the empathic sensibilities observed in all of my study locations. Earlier I described studies that demonstrated how empathy-mediated altruism may be controlled by a non-egoistic motive system (Davis et al., 1999; Penner et al., 2005). Also, my empirical evidence supports recent findings that humans are soft-wired to be pro-social, with the deep desire to connect and belong, not predominantly self-serving and competitive or materialistic to the core as framed by dominant and still prevailing philosophical paradigms (Rifkin, 2010; Waal, 2011). Finally, that it is animals' role as a contrasting class to human beings that has resulted in both the negative and positive human attitudes towards them as outgroups through the process of dehumanisation (Kasperbauer, 2018). As the bedrock for pro-sociality, these observations of empathy are key, especially if we are to attempt to trace empathic advocacy through to biospheric concern. Another important related cultural characteristic of my study community is that of food consumption, which I will address next.

5.4.2. Nature as provider of food: a culture of consumption in a caring community

Consumption of food represents a keystone behavioural practice regarding human relationship with natural resources. Hunting for wild animals to provide this food source, and its associated practices of trade and consumption, is

therefore of critical importance to my overarching aim of this research and is highly relevant as it remains prevalent in my study villages.

Taratara is located within Tomohon District, known for its identity as a hotspot for bushmeat consumption with high rates according to previous research in the area (Bailey et al., 2021; Lee, 2000; Hilser et al., 2014) and home to the infamous Tomohon traditional market, referred to commonly in the past as the “extreme market”, though which is in the process of shifting away from the extreme market identity.

The overview with regard to bushmeat that I have gained during my time in North Sulawesi is that there is typically less of an immediate demand now and that there is a form of passive market based on norms of consumption at local scales. Results of my own bushmeat market research support the findings of other studies that no specific demand for protected species exists (Clayton & Milner-Gulland, 2000; Rejeki, 2018), and that there is still a relatively stable trade in bushmeat overall across the major traditional markets in the province. Though in general there is a decline in bushmeat for sale there is a stable encounter rate for protected species (Bailey et al., 2021), with bats and other species likely representing a shift in bushmeat consumer demand (Latinne et al., 2020). Several participants including bushmeat sellers at Ibolian market conveyed that they felt bushmeat was a healthier and more natural form of food than farmed meat. Interesting talks were had with those sellers as they defended their belief that their meat is clean and good to consume. Consistent with the authenticity of participants and frequency of accounts reported in my research they were open and honest, although conceivably misunderstand when I asked about the issues surrounding sales of bushmeat. The market seller in Ibolian reiterated some of the apparent normative pressures of selling protected species:

"Monkey is a prohibited animal. Someone was arrested by a forest ranger for selling the meat, so we are more afraid now of selling monkey meat. Last week there were residents who caught a monkey in a snare trap at the edge of the forest. People know it is protected though nobody reprimands, and there are usually no officers. People know the laws, but if you can find the meat, people will keep eating."

Trader, Ibolian Market, East Dumoga. 6th April 2018

In addition to the ecological consequences of consuming protected species, my ethnographic notes reported that people are also becoming increasingly aware of the health risks of eating animals, in line with a steady increase in global awareness of the associations between animal consumption and human health (Hopwood et al., 2020; Macdiarmid et al., 2016). Throughout all villages I frequently heard that life expectancy is decreasing, and many expressed this with grave concern. People are dying of heart disease, cancer, and other diseases younger, with consumption of meat and pesticides reported in my ethnographic interviews as suspected causes. With the production and consumption of food a central practice to social exchange in all cultures, this has major implications for the pro-social attitudes and behaviours relevant to this research. Understanding the correlations between food choice and environmental impact and human health, this is a poignant area of interest and applicability to the research objectives. Bill determined the reasoning of decreasing life expectancy was related to consumption of bushmeat, although he speculated it may be more specifically about their eating habits and practices.

One mechanism of perpetuation of the persistent norms around bushmeat consumption are idioms, brought up in almost all new social situations where the topic of bushmeat arises. Two adages are most commonly cited; the first proclaims that “*the Minahasan people will eat anything with four legs except the table*”, the second a provocative and surprisingly controversial reference that they would “*eat Jesus if he was made from meat*”. These trivialise the moral issue surrounding bushmeat consumption, supporting the associated identity of the Minahasan people and via injunctive social norms effectively dilute responsibility to address threats to endangered wildlife.

My time with the communities revealed a plethora of myths surrounding eating habits, with taboos or superstitions, even self-perpetuated misinformation surrounding food consumption, almost always unsubstantiated and against common scientific or reputable nutritional knowledge. This includes eating cat meat as a treatment for asthma, despite no known scientific evidence between the consumption of cat or dog meat and health benefits (Dugnoille, 2016). Another example shared with me was that “*asam urat*” or gout, is caused by vegetables such as the common staple of water spinach or beans like soy, thus

perpetuating an unhealthy diet heavy in meat. This is often the case as with bushmeat as many claim it is cleaner and thus better for those suffering with gout. Gout is a type of arthritis, an inflammatory condition of the joints affecting an estimated 8.3 million people in the US alone (Zhu et al., 2011) and is surprisingly common in North Sulawesi, affecting many of the community members from my research. Reputable research provides information entirely counter to this common social myth, that gout is actually associated with consumption of red meats particularly liver as well as alcohol, sugary drinks, and a diet high in other foods with high purine content (Hainer et al., 2014). This leads one to conclude that misinformation, communal attitudes, and social phenomena are exchanged between different levels of society through cultural transmission and misinformed communication.

One prominent finding from my ethnographic interviews is that it was in the 1980s that bushmeat consumption began as a popular commercial trend in North Sulawesi, whereas hunters before then were reported to hunt only opportunistically and not target unusual bushmeat to supply a demand for ceremonial food. Participants also claimed there has been a decline in bushmeat consumption since 2010. Concurrent with the discussions with community participants, one may infer an increase of social pressures and possible increase in awareness of the impacts of bushmeat consumption since this decline. It may also be concomitantly due to wildlife population declines. This report was corroborated by many participants in our discussions, who highlighted a major difference in terms of attitudes and behaviours. In the past, we were told, there were less people opportunistically hunting or consuming without discretion. They also interestingly reported a greater abundance of other food choices with a larger proportion of soy-based products such as tempeh (fermented soybean) and tofu consumed as primary protein sources and overall less people to compete with and feed. Food was grown or hunted just for subsistence rather than to sell:

"In the past, people never used to have "*daging aneh-aneh*" (unusual bushmeat). But now, at parties people order bushmeat as a delicacy to make the occasion more special. As an example, the wedding party this Saturday will likely have monkey meat, though I am not entirely certain."

Tommy, Poopo. 4th April 2018

This is a complex situation to understand. Firstly, considering the triggers for why the increases have occurred in the first place, one could plausibly attribute this to a combination of increased access from large-scale commercial logging and transport infrastructure, access to guns, geography and a flux of social norms perpetuating the identity and custom of eating bushmeat. While bushmeat consumption is declining, the youth still look to get "*tola tola*" (a snack to accompany drinking) which is preferred to be served as unusual meats.

Similarly, Oma and Opa Tangkuman, an elderly couple whom I visited to inquire about the Mah'zani in Taratara explained that they were particularly fond of turtle and frog meat. They and others might eat monkey meat if available, but many are aware now that they are protected and the last time they consumed monkey was 15 years ago. A majority of participants in Taratara knew the protected status of the monkeys from a 2014 hunting case, whereby two hunters from this area were prosecuted and sentenced to 17 months in prison for cutting down the sleeping tree of a group of monkeys killing 14 individuals. Prior to this, people felt free to trade or consume monkey meat. The 2014 incident shifted injunctive social norms surrounding hunting protected species. Hunters, including the main hunter of the village Theo, told me he and others were afraid to bring monkey and other protected species back to the village now, as it would bring shame on their family. This demonstrates the rare impact of law enforcement as a powerful deterrent of environmentally threatening behaviours.

One particular lesson related to animal consumption customs accompanies the account of a cow slaughtered for the religious sacrifice of "Eid al-Adha". This provided one of my most profound cultural experiences, deeply immersed in anthropological lessons. The transformation of the living, breathing animal, into a food commodity was incredible to witness. One of the key things I noted was cognitive dissonance, Jun being a key example:

Ethnographic account 5.23.

“Jun feels uncomfortable to see the slaughter process, to see the head and body on the table; she loses her appetite. But, as she says, is fine once it becomes "meat"!

I am stood about 10ft or so from the cow as they skilfully restrain it, bring it to the ground, pin it then tie its legs tight. It struggles at first, then as if giving itself in to its fate, the struggle ends, and its neck is brought to a block. There is a very limited and somewhat superficial ritual of washing the cow's feet and head, before an extremely sharp parang (machete) is taken to its throat. This is not a quick or painless death; I recorded at least 5 minutes before the animal stopped struggling, let alone before it was completely dead. I expected there to be more blood, the spray from the neck deflected by a leafy branch. The cow's eyes never moved from my gaze, until its essence appeared to leave those suffering bulbous globes. It was an emotional, disturbing, and raw experience and though I maintained a passive objective, bystander role, my compassion was raging at the injustice. The unnecessary pain and suffering tangible, the empathy pulsed vividly through me as I just looked on, helplessly locked into the social void of acceptance of the act.

There were many watchers, with that staring look of morbid fascination; an inability to divert one's eyes from a grizzly or unpleasant scene. However, there are others, such as Jun, who did not watch the actual slaughter. I noted that she was making a particular effort to joke with the kids right before the cow was killed, seemingly nervously. This is intriguing, caught somewhere in cognitive dissonance. Seemingly this is not an immoral act, they will be telling themselves, as everyone else is accepting it, and it is what we know...yet somewhere deep down, even if the behavioural manifestation is numbed by normalisation, there is revulsion and an innate response to recoil with disgust at witnessing the inside-outs of this poor being.”

Imandi. 24th June 2017

I went on to reflect further on this poignant experience:

Ethnographic account 5.24.

“This was the first time I had witnessed a slaughter. I did not feel nauseous, although I was certainly sickened by the process. There did however seem to be a kind of normative essence, a perverse nonchalance to the grizzly show. To my surprise, it did not appear that special or unique, people were behaving as if it was just a normal Saturday morning activity and there was little in the way of ceremony of festivity.

I found myself delving deep into my ethics and trying to peel back the layers of social illusion pasted onto this as a human practice, and to see things from an objective, reductionist stance. With regards to understanding how these social structures affect our relationship and connectedness to nature, it is important to frame this with regards to values. In this case clear instrumentalism, the cow being perceived as a commodity. With this being normal, the cow is something rather than someone. Tied into this community, there is paradoxically a directness to the kill, in full view and not hidden behind doors as in western cultures, the raw, bloody dismemberment of its body and utility of every bit. This is arguably a greater connection to the animal as a being than Western denialism and illusion of pre-packaged meat. However, the human condition eschews us with a highly honed ability to immediately disassociate the fleshy lumps with a living, breathing being. In the west, people are perhaps more tuned into the sentience and emotional lives of animals, as well as their proven ability to think and feel. However, as we do not bear witness to the animal at any point before the resultant body parts are consumed, we miss exposure to the origin, the authentic reality of food."

Imandi, 24th June 2017

The killing of the cow represented a poignant moment, to me epitomising our relationships both with animals and the natural world more broadly. Perpetuation of culturally entrenched dominion, the assumed right to slaughter and consume the flesh of this being, integrated deeply into traditional customs, involving a complex and diverse plethora of aspects such as sharing and rights, kindness and greed, social status, and community cohesion. Things were apparently not always this way:

"Fifty years ago, if a working cow died it was buried, not eaten."

Tommy's Father, Poopo. 5th May 2018.

That is a significant observation, that the most valued cows, for which they develop closer bonds as they work with them daily sometimes giving them names, would be buried rather than eaten. They are afforded the cultural dignity as they would a member of their family or community, following an ancient and fairly universal custom not unique to one religious group. The sentiment expressed by my participants is that people were more caring for their working and companion animals than they are now, suggesting a cultural shift in human-

animal relationships over time, plausibly adding to disconnect from nature and general attitudes toward animals as the out-group.

Feasting commonalities represent a central facet of social cohesion which characterise the area (Jacobson & Larson, 2015). Following the normative structures and practices in the communities studied, fascinating social systems surround food consumption with numerous cultural customs linked to pro-sociality including the *serikat* and *memejaan* traditions, as described earlier. These food customs enhance a sense of security and brotherhood among family members and neighbours, creating a more stable community.

The salience of eating habits and commonalities for social interaction represents another poignant aspect which my ethnographic immersion uncovered, traversing all of my research objectives. As a researcher, trying to connect and bond with participants from a different culture, sharing of food is a doorway into society, and commonalities at this depth are usually integral to the process of gaining access. This was always going to be a barrier for me, while also fertile ground for exploring perceptions of animal consumption. Ultimately, the issues I am addressing as a conservation practitioner, hunting of protected species, is inherently tied to consumption of animals in general. As a vegan, I was aware from the outset of how the dietary aspects of my lifestyle choices would be received and the effects this would have on my experiences. This was not a new phenomenon or challenge for me, having not eaten animals for 14 years and living in Indonesia for most of that period. The identity associated with this lifestyle choice dictates a push-and-pull between a continuous burden of adaptation, gnawing social stigma and marginalisation, and the liberation from dominant conventions. Dietary behaviours inevitably became a major focus point for discussions, and I was faced daily with the challenge of navigating social situations and offers to eat animals, subsequently defending my rationale. As a guest this was challenging and at times, I felt distinctly aware of the focus on this and my rejection of offers to bond through food commonality. I experienced numerous cases of revulsion at my observations of consumption culture, illustrated for example in Taratara at Christmas:

Ethnographic account 5.25.

“During the sambutan (public statement, usually at gatherings or events) of the pre-Christmas worship last night, I noted a dark and ironic twist. The priest asked the owner of the house where the worship was being held how many “maklup” (creatures) there are here. He answered 7,500 chickens in each cage, and seven cages, totalling 52,500 chickens! That is a huge number of souls. What disturbed and upset me is the sick joke they made, as they ridicule their pitiful enslaved existence. He referred to their “mission”: their only value in life to grow so that people can grow. Just a few moments thinking about the reality of this statement makes sickening shame run through me. I reflect how I cannot help despising these behaviours in that moment. Less so the individuals themselves, but the system and trappings they find themselves in. Despite me observing people’s innate and natural compassion, the secondary drives propagate utilitarianism; stating the animals are solely for us, these poor suffering beings having no other meaning in life than to serve us with their flesh.”

Taratara, 16th December 2017

Extending beyond these deeply personal and subjective experiences during my fieldwork, food consumption and compassion are arguably two of the most ubiquitous intertwined, distorted sources of cognitive dissonance globally. I explore the connections of these social facets further in the next chapter, while the final section of this chapter looks at the connection between compassion, related to the attitudes and behaviours more favourable to the environment and animals.

5.4.3. Compassion and pro-environmental tendencies

This section presents a small selection from numerous accounts of human-animal interactions recorded during my ethnographic fieldwork. Analytically, I attempt to ground the experiences within understandings of empathy and compassion and the conceptual connections to my research objectives, while focusing largely upon the descriptive accounts from my ethnographic diaries.

Speaking with children in the villages about animals offered insight into the attitudes and values amongst the younger demographic, those whom are expected to be less impacted by conventions and ideologies usually more pertinent in adulthood (Green et al., 2016). Studies presented earlier demonstrate

that close bonds with nature may foster empathy for the natural world, which in turn may motivate caring and altruistic behavior (Schultz, 2000). While acknowledging limitations regarding generalisation, my ethnographic notes recorded what I perceive as a trend toward a natural affinity for wildlife and latent carer propensities within many of the younger participants. They spoke fondly of their favourite animals as children typically do. In Imandi Riadis' grandchildren remarked of their awe of certain species, referring to the sharp-eyed owl and the crafty intelligent monkeys. I also noted instances of affective empathy:

Ethnographic account 5.26.

“Today we took a visit to the maleo (an endemic ground bird) sanctuary in Tambun near to Imandi. When Jun saw the enclosure for baby maleo birds she recognized that they must feel stressed living in a cage. Jun had once eaten a maleo egg when she was small, but now found the idea unappealing as she could see them in front of her, and the efforts gone in to protect and breed them at the sanctuary.”

Imandi. 25th June 2017

Dispositional empathy with nature (DEN: Tam, 2013) explains this tendency to share the emotional experience of the natural world. On other occasions however, I observed barriers to empathy of other creatures:

Ethnographic account 5.27.

“On driving into Imandi, I noted birds hanging by their legs all day; coots, moorhens and rails. Every time we drove past these poor birds, I found myself imagining their suffering and strife, trying to comprehend what it must feel to experience such torment. As if somehow my embodied empathy would provide some form of repentance for the behaviours resulting in their cruel fate. This indicated to me a clear lack of compassion for these animals in this instance. They must be numbed to their suffering and thus oblivious, identifying these birds as nothing but commodities and prioritising freshness of their flesh by keeping them alive despite the conspicuous and prolonged torment.”

This scene was not the only experience which shook me during the research:

Ethnographic account 5.28.

“On arrival in Taratara for the very first study day, several children brought over a crayfish from the spring. Just five minutes later, the kids brought over a baby Sulawesi rail chick, maybe a week or so old, unlikely to survive the tormenting of these children for long. That same day, the conversations of the Muslim halal killing method was also discussed, perceived as some to be a glorious standard of welfare, using a sharp blade and apparent fast death though still no anaesthetic. The conversation also turned to slaughterhouses, a bloody and disgusting description of conditions, which I have personally encountered through my friend’s footage. They would bury a dog’s head under the foundations of a house to strengthen the building, and for the slaughterhouse they ritualistically spread kesegaran (local alcoholic drink) and spray chicken’s blood on the walls to bring good fortune.”

Taratara. 16th November 2017

This was just one of many prominent first-hand observations of blatant animal cruelty, suffering, and empathic inhibition of people during the fieldwork. Almost all the different domestic animals I encountered were subject to abusive treatment at some point during my research. I was shocked to see the extent of the increasingly intensive animal farming, particularly in Taratara. Some farms housed thousands of pigs and tens of thousands of chickens. EA5.28 is written at the house where we stayed which also kept a few dozen pigs. I wrote this in a candid and confessional style, with the aim to convey how the shock of the experience affected me, and thus my view on the interactions between humans and animals in its rawest form:

Ethnographic account 5.29.

“A strange, exciting, new, exhausting, and surreal day today... After a pretty late night, then deciding to arise to follow the beautiful loving kindness meditation at 3am, I had a restless sleep, reflecting deep as the meditation made me reach out to the poor sweet pigs which are on the farm here at the house. So, a dreamy semi-sleep brought me up to around 4am when I heard the dark, soul-piercing cries of a pig being murdered in the back garden, visions of blood splattering all around, ethereal vivid dreams merging into a haunting reality.

This was a truly bizarre experience, to hear the cries of the victim, unnecessarily slaughtered for what I know is not food required by these people, only causing ill health, cruelty, and detriment to the environment here and globally. Oh, how this must cause such conflict within people's hearts and minds as they plunge the knife into that innocent being. How could anyone work in a slaughterhouse? How the torturous suffering, the cruelty and end of life can be numbed is hard to imagine, though recognising how any of our senses and responses to stimuli can be numbed, even this, the greatest of empathic responses, can be shut off over time. Humans are experts at being conditioned. This experience, while powerful and emotive and full of lessons, leaves me chilled to my core and shameful of humanity."

Taratara. 18th November 2017

While the tales and direct observations of people's relationships with animals points to a complex combination of both compassion and normalised maltreatment, some of the interactions with animals are less unsavoury. I continue my analytical exploration by introducing the accounts and statements of several individuals. Firstly, Jimmy, a respected and prominent figure in the community, a registered veterinarian in charge of vaccinating dogs in 44 villages within Tomohon, mainly due to concerns of increasing numbers of rabies outbreaks. He expressed that in 2018 there was a new regulation introduced that dogs must be vaccinated and not roam feral in villages, apparently with a target for 2019 for Tomohon to be free from rabies.

He expresses his motivation to vaccinate the dogs in the village:

"Most people just want to work for money. For me, it is firstly to gain knowledge, secondly to save animals and thirdly to save humans."

Jimmy, Taratara. 21st November 2018

While it is culturally unusual for Indonesian people to be happy to share their affective experiences, Jimmy openly expressed his love and affection for animals, especially dogs whom he has an apparent rapport with. He remarked that despite the fact they cannot speak, they are smart and wise, and deserving of admiration. In our discussions Jimmy provides examples of the possible relationships people

can have with animals, including fish who he said are capable of understanding who he is. The statement below was expressed with a combination of gratitude and sentimentalism, reflecting fondly on the past and how it was even more socially rich than now, congruent to many others I spoke with about the level of community cohesion before:

"The forest here has changed. In the past, people gathered to work together in the garden of one person. Social ties were very strong. Vegetables and chilis were not bought but shared with one another. Now everyone pays for themselves."

Jimmy, Taratara. 21st November 2018

Rudy from Pandu also demonstrated affection towards pets and spoke fondly of animals and their lives, knowledgeable also of their symbology:

Ethnographic account 5.30.

"Rudy shares his tales of animal relationships from his humble farmhouse. There are many cats and dogs in the village he tells us, though the majority of these are destined for food. Large snakes are revered and even feared, with superstition surrounding their presence, same with birds. I mentioned that these signs all seem negative and inquired if there were any positive signs. Apparently, there are, though as he could not recollect them it seems foreboding signs are more prevalent. I explained about money spiders in the UK, and this jogged his memory, sharing that similarly there was a similar idiom that you would become rich if a spider left you with an itchy left palm. Also, there was the myth of the "ular tikar": a super wide snake which brings fear and bad luck into all houses it goes."

Pandu. 21st March 2017

The pattern of superstition is the same in all locations: a form of animal-based sign that almost always results in something negative happening. Contextualised into our knowledge of human-animal relations, this may serve to perpetuate out-group dehumanisation, the distance between humans and animals, drawing focus on fear and disgust, repulsion of our relationship with nature as well as its reverence. I asked if Rudy would kill snakes if he saw them. He replied that he does not kill them, positioning himself at odds with the popular attitude of opportunistically killing most living creatures, especially if they are perceived as a threat or food:

"There are two opinions. If an animal goes by, you can let it go, or harm it. They are only looking for their own food."

Rudy, Pandu. 22nd March 2018

Here Rudy empathises again with the snake and its needs, indicating its intrinsic value and right to live. He followed this with an animated story of how he once found a black snake with a frog in its mouth, and he scared the snake to drop the frog. Rudy's environmental and empathic concern was unmistakably apparent, acknowledging the plight of the frog, feeling remorse for its suffering, stating that "*dua-dua ada nyawa*" ("They both have a soul"). Rudy provided numerous other examples of PEB, including his own reluctance to kill animals. One such case is the way that he devised non-lethal protection for chickens from monitor lizards, incongruent with others in the village who may typically persecute these creatures and take them for food. The numerous references to empathic bonds and care for animals epitomised this often-overlooked element of the human-animal relationship, assuming it is simply one of utility, disgust, or fear. This fascinating farmer serves as an interesting case.

"I am so grateful that there are those who care about nature!"

Rudy, Pandu. 21st March 2018

Rudy expressed thanks to us on numerous occasions for playing a role in the protection of the lands he clearly depends upon and cares about. There were multiple references to the importance of protecting the forest, not just from Rudy; people seem overall to be highly supportive of PAs and recognise the need to do their part, but do not always understand what that means in practice and how their own behaviours play an important role also. It may be that people do not possess the emotional capacity to share the experiences of the animals with which they encounter and make use of in their lives. That was not always the case, and my empirical data demonstrated a surprisingly large number of cases coded throughout my consolidated notes of both affective and cognitive empathy

and emotional contagion, evidenced by this affective empathy displayed by a government staff member:

Ethnographic account 5.31

“As we visit the sub-regency Ranayopo government office near Poopo, one eager staff member tells us a story of 20 years ago, as he was hunting, he came across a monkey who was crying. He exclaimed that it was perhaps because he was suffering, empathising with the monkey’s situation, and so unable to take its life. From that time, he exclaimed, arose compassion and empathy within himself and to this day he has stopped hunting monkeys: “The monkeys are the same as humans, they have feelings”.

Poopo. 4th April 2018

Another example of pro-environmental attitudes was in Poopo:

“The tiredness is paid off by the enjoyment (when in nature)”

Siron, Poopo. 18th April 2018

This quote was from bushmeat hunter Siron when asked if he gets tired walking so many miles in the forest each day. He also exclaimed that *“for the future of grandchildren, we need to love nature”*. I asked Om Tete in Poopo if the relationship with nature is different nowadays, and he replied that there was a better relationship in the past, more wholesome and connected. People only hunted irregularly and mostly only forest pigs to prevent their impacts as pests. Apparently, there was a very different form of food consumption then, not the three times eating meat/ fish daily as is now expected at mealtimes, instead meat was saved for special occasions. A supposed vision of tranquil sustainability was often painted, romanticised about the time of the elders where the nature relationship was more harmonious. To this I indulge in a degree of trust, yet I remain cautious to avoid subjective bias and the exaggeration of the “good old times”. Building upon this analytical discourse of temporal variation in human-nature relationships, the participants’ accounts and observations suggested a sense of shame arising from the way the new generation were behaving and continuing to disregard the importance of balance between humans and nature, as well as the cultural erosion I have observed. They reported that the previous

generations were more harmonious and better stewards of the land. In the final focus group, the village head remarked:

"Previously trees could openly be cut down, though they had to be replanted. According to our elders, if trees are not replaced, water is reduced, and the consequences will be that it becomes increasingly hot."

Tommy's Father, Poopo. 5th May 2018.

Despite modern relationships painted as less conscientious than their ancestors, a surprising number of instances of PEB were revealed, with several poignant observations of compassion and animal welfare in action. For instance, in Taratara:

Ethnographic account 5.32.

"While preserving as passive a role as possible, I explained how playing with a freshwater tortoise was likely to cause it stress. I encouraged the children to question whether they should be playing with these creatures or returning them safely, subtly planting seeds of empathy in the children. This resulted in its swift return to the spring, in place of what was possibly another more ominous fate of the cooking pot or as a plaything, as we had observed earlier with the crayfish and maleo bird. These children seemed to understand.

Okni described his plans to renovate their toilet into a garden along with a fountain to make it more natural, stating how he likes to preserve the natural elements and bring them close to where he lives. He expressed that he finds happiness if he has a beautiful garden and planted trees around the house because he realizes how important green space is. He speaks fondly of the sunbirds as we watch them each morning, their fluttering wings and grace charming to observe. With a broad smile he remarked how he aims to make feeders for them. These playful sunbirds apparently previously stopped visiting, as people would shoot them. Now guns are mostly prohibited aside from registered hunters, the birds are back...to his delight."

Taratara, 7th May 2018

Analysing the observations in EA5.32, it appears that creating the space and validation for discussing wildlife topics openly (likely not commonplace within usual daily dialogue) evokes an affinity for wildlife. Participants became increasingly keen to talk about nature with us as they recognised this as a

pertinent and valid topic, potentially infusing a deeper sense of environmental concern. The potential for bias is acknowledged here, centred as a by-product of methodological reactivity, though one inherent to the ethnographer's inquiry.

The village is not devoid of environmental programmes from the government, and there was previously a project to clean up the riverbanks to address plastic waste, making what was once a river enjoyed by the community to a polluted cess pit, mostly affected by the sewage run off by the increasingly extensive chicken barns alongside its edge. There was mention of a project involved the planting of 40,000 trees in 2004, a reforestation project from the previous mayor with every village having people involved. I also notice how in many areas in North Sulawesi there were many reuses for plastic bottles, a scourge for Indonesia's environment¹. Okni intercepted plastic bottles from someone throwing them out, planning to plant in them. He appears proud to use them and to get involved in activities such as upcycling. Further examples of plastic bottles with plants in appeared in the village hall. These types of community-based activities enhance a sense of connection to nature and may promote pro-environmental attitudes and behaviours, resonating once again with principles of environmental citizenship.

I was pleasantly surprised to hear of a local, community-based initiative to preserve the natural areas in Taratara. The forest around the spring, located very close to where we stayed has been protected since the 1980s, with a limit to build or extract resources within a 100m radius. This is not legally binding legislation through a written local bylaw (Peraturan Daerah: PERDES), but simply a common local agreement. While this may sound unlikely to hold up to prohibition of natural resource extraction, it is powerful if agreed at the village level and with the buy-in from the community members. I explored this further and everyone we spoke to agreed that the rule was strict and well abided by. Beyond its instrumental functionality and clear benefits for the community, the spring is assigned spiritual reverence and importance. Stewardship results as they are thus bound by religious group association and a shared social and environmental responsibility. This is a fascinating and potentially powerful phenomenon where local social norms and community pressure may be more effective than legally binding

¹ Indonesia has the undesirable accolade as the world's second-largest plastic polluter after China, producing 3.2 million tonnes of mismanaged plastic waste annually; 1.29 million tonnes ends up in the sea (Mongabay, 2018).

regulations, of potential value with regards to aiding the enforcement of regulatory measures to prevent wildlife trade or other threatening resource extractive practices. Building on this was an idea which emerged from Viani in Taratara:

Ethnographic account 5.33.

“Viani regularly sat with us in front of Johnny's shop, watching the world go by, during long hours of chatting as many of the community there did. He often focused on environmental topics in his discussions and told us of a supposed proposal he had to the village head to make a “jalan hijau” - a sort of green walkway in the village, an area to be enjoyed by locals to gain the benefits of nature. He seems to know a good location nearby. This sparked an idea which I had been nurturing of each village to have a small, designated park space, where locals can sit, enjoy shade, well-kept gardens, and fresh air away from the usual noise of the village. If funds were able to be allocated and maintained (i.e., from relevant district government developmental programmes), people from the village could be employed to look after them, grow flowers and create a school teaching area, for compulsory outdoor classes from each school at least once a week.”

Taratara. 9th February 2018

EA5.33 provides further evidence to environmental concern of the individuals in our study. Another example of unexpected attitudes and values is presented below:

Ethnographic account 5.34.

“Sitting in the communal area of Hulu Tonom, I found myself taken aback by an extraordinary character, one of the first and only Indonesian vegetarians I have met. In the small wooden farmhouse, his exclamation of this profoundly different lifestyle choice and his animal ethics position as the rationale to avoid eating animals surprises me. Much to my amazement, he expressed that he felt compassion and sympathy for the animals so decided one day that he is unable to kill or eat them. There was melancholy to my first encounter with a vegetarian Indonesian and it felt significant in an intangible and esoteric way. It catalysed a deeper reflection in me of the inherent connections between animal consumption and the environmental crises for which forms the ultimate motive for this study.”

Hulu Tonom Farmlands, Imandi, 7th August 2018

Following this characterisation of social values, I recall the very first day of the research. A man from a funeral gathering I was invited to remarked how he is amazed at people who enter the PA to see or research the flora and fauna, to

take photos rather than hunting or cutting. This demonstrates an assumed universal instrumentalism, the normalised utilitarian worldview so entrenched in society that deviation from such ideological positions are met with surprise and resignation. Recreation was rare, but not entirely absent from our participants. During focus group discussions we encountered reference to those enjoying the time in the forest for walking rather than with a purpose, though on further discussion this appeared to be socially less favourable, but more a subconscious positive by-product of checking on traps or tending to crops such as the sugar palm trees growing within secondary forest, common to many of the farmers either as intended agroforestry mixed cultures or simply opportunistic usage of the forest's natural resources.

During a day trip visit while researching Imandi, I met village head Benny, renowned for being an environmentalist:

Ethnographic account 5.35.

"Benny demonstrates a high level of environmental concern. This attitude was also manifested in a range of PEBs. He is against mining and talks of a mining company in nearby city Kotamobagu. I was impressed by how eloquently he communicated his reasoning why he was opposed to forest destruction; looking out for his grandchildren and the future, speaking of how pro-environmentalism is divergent to the greed of officials. He informed us of his many awards, for reforestation, clean energy with hydro power station and other initiatives. He supports the development of local laws to protect nature and suggests including a requirement for regeneration. Benny described how traditional medicines are still widely used in the village and that people are connected to their ecological roots. His final exclamation is how he does not like to receive money for meetings, but rather prefers the organizers to plant trees instead!"

Imandi, 9th August 2018

Benny was an example of someone who appears to have transcended socially entrenched stereotypes but was not the only one I was to meet. I found myself on several occasions surprised by the level of environmental concern and examples of PEBs, their embodied narratives told vividly by our participants. Also surprising was the awareness of several community members about conservation activities. During a visit to the house of Siron the hunter to assess

the condition of a mother and infant monkey trapped some weeks ago, Siron's sister told us without prompting, the three key elements of the conservation message the conservation NGO I lead has been promoting. This includes that the monkeys are: endangered, endemic (only found in the province) and protected by law. I learnt that she had come to know of this through our campaign materials installed featuring prominent local representatives.

Siron is a farmer, though like others he set traps primarily to catch wild pigs to sell for their meat. He had found the monkeys caught in his traps, wire snares which are indiscriminate hunting methods, endangering and increasing pressures on wild animal populations globally (Gray et al., 2018). Siron spends every day walking the forests, checking, and resetting traps and bringing home any of his catches, often a couple of large pigs every week. He volunteered to release the monkeys, and was very cooperative and obliging, asking for us to help. I recall the account of the dramatic final day of fieldwork including the eventual release of the monkeys, exhausted after a long week and final village event the night before, but elated at the unique experiences:

Ethnographic account 5.36.

“With support from partners at Tasikoki wildlife rescue and education centre, we were able to coordinate the adult male monkey to the centre to have treatment for his badly injured foot and prepare the mother and infant for release. I will never forget the incredible journey together carrying the (surprisingly heavy) monkeys in a transport crate hoisted by a single trunk of bamboo onto our shoulders, up to the peak of a steep and slippery mountain. After several hours of hiking and engaging with Siron in what are his natural surrounds, we released them back into their natural habitat, hopefully far enough away from the traps to find safety. It was truly a heart-warming and empowering sight to see them emerge from their captivity and return to the lush green forest. Siron was at ease in this environment, while I struggled and slid around the slopes, puffing, and panting, the sweat relentlessly pouring from me. That was a magical moment in the beautiful forest, with a hunter, who had embraced his natural compassionate, empathic and caring side, to return a wild animal back to its habitat. I found this experience symbolic, especially as this happened to be the final day of my field research, a powerful, meaningful way to end the journey of my rich nuanced insight into the lives of rural communities in Indonesia.”

Taratara. 18th November 2017

The unique experiences of EA5.36 bookmarks this chapter in a poignant place. I have traversed a complex and intricate array of social norms, interactions, religious foundations, and the influence of pro-sociality on pro-environmentalism. Through immersive ethnographic fieldwork, I brought this empirical journey to a close by recounting how I bonded with a hunter to release one of the victims of our broken relationships with wildlife. The implications of this are profound, and neatly set my analysis up for the next chapter focused on connectedness to nature.

Summary of Chapter Five

To summarise the findings and insights to address the objective under exploration in this chapter, I highlight five central observations described within this body of empirical evidence gathered from my ethnographic fieldnotes and observations.

Firstly, the coalescence of the old and new belief systems was examined, with powerful examples of cultural customs, superstitions, myths, and stories. The emergent narratives point to the infusion of traditional practices and customs with the modern Christian and Islamic ideals. While naturally social tensions have arisen, a new diverse belief system has developed with important implications for the control of individual expression of attitudes and alignment of behaviours with values, social living, and nature-based relationships.

Secondly, religious group association and shared social and environmental responsibility can result in stewardship of natural areas, as evidenced with the protection of the spring in Taratara. A form of environmental identity was documented, the notion of which I will look at in greater detail in the next chapter. Agreed at the village level, this exemplifies the democratic power of cooperatives and social adherence beyond state legislation. Local social norms and community pressure may be more effective than legally binding regulations, representing a poignant and potentially powerful phenomenon. This may be valuable with aiding enforcement of regulatory measures to prevent wildlife trade or other threatening practices.

Thirdly, the people whom I encountered were welcoming, warm and instinctively focused on social cohesion and promoting pro-social tendencies, distinctly characteristic of the Minahasan regency (Jacobsen, 2002). The generational variation in interest in the pro-social mapalus systems, though also the more environmentally destructive practices of hunting and consumption of wildlife, and even farming, were also reported as diminishing in the uptake or longevity of its practitioners.

Fourthly, my observations have painted a diverse and intriguing picture of the Minahasan and Mongondow ethnicities, particularly in terms of capacities for compassion and pro-environmental tendencies, with the various manifestations of empathy guiding social exchange and relationships with wildlife and the physical and conceptual notion of place. The personal, embodied tensions I experienced through food-related commonalities and cultural exchange bore powerful lessons and insights into culture, compassion, and interconnection.

Finally, important to conservation is the sociological perspective which emerged from analysis of the ethnographic accounts in this chapter. That is of observing the world as a singular, connected entity, which incorporates all living systems on a biospheric level. This ecocentric positioning is central to my discussion and foregrounds the next chapter where I progress the analyses of connectedness to nature observed in the communities studied.

Chapter Six. Connectedness to nature

This chapter now addresses the second of my research objectives:

To *examine* the role of connectedness to nature in human behaviour

I contextualise this human-nature relationship into current understandings of the field across a range of research traditions, largely drawing from social psychology and sociology. Through the ethnographic fieldwork I was able to obtain a unique perspective on rural and urban living, and how local communities perceive the natural world around them. On a broader level, insight was gained into the socio-cultural tensions between utilitarian and preservationist ideologies, as well as relational and intrinsic value orientations. As with the previous chapter, I draw upon empirical evidence ascertained from my mixed ethnographic field methods, presenting data from my consolidated fieldnotes and direct quotes from key participants based on ethnographic observations, interviews, and focus groups. I finalise the analyses by supporting the summary of each thematic area with the results of the connection to nature scale survey.

The previous chapter was predominantly centred around the theoretical underpinnings of behavioural motivation building upon the core principles engaged with in the review of relevant literature presented in Chapter Two and substantiated with the findings of my empirical investigation. My focus is now brought to a closer degree of magnification into the ethnographic “storied reality” (Madden, 2017) and what my direct experiences can reveal in terms of the human-nature relationships, foregrounded with my encounters and observations in the field while positioned among several relevant knowledge bases.

This chapter builds largely upon the proposition from Wesley Shultz:

“People’s sense of connection to nature and the degree of integration into the natural environment to which they view themselves is a fundamental determinant of the level of concern for environmental issues.” Shultz (2000:391).

This aligns with my objective to understand the role of nature connectedness in human behaviour, particularly in relation to the utilisation of natural resources and focusing on hunting. Importance is underscored in this chapter about the notion of interdependence, which I carry forward to examine the dualism of alienation and connection. I then explore human-wildlife conflict, tolerance and shifting local perceptions and the changing relationships with the land and wildlife. This leads finally to an examination of a sense of self and ecological identities, a powerful predictor of our relationships with the environment (Bragg, 1996b). My findings indicated possible struggles with a sense of self in the participants and signal toward a deeper ecological-self latent in all, though not often consciously recognised or purported socially. These tensions and their possible remedies are explored in the final section of this chapter, leading into the discussion of the findings of the empirical chapters. First, a logical place to begin is with a reminder of why time in nature is valuable, and what my ethnography has revealed about knowledge of the benefits of this human-nature connection.

6.1. Benefits of time spent in nature

Earlier I explored the emerging scientific domain of conservation psychology, the study of the relationship between human beings and the natural world through ecological and psychological principles (Brown & Hillman, 1995) and the clinical or applied form of ecotherapy (Buzzell & Chalquist, 2010; Jordan & Hinds, 2016). The multitude of benefits of nature connectedness are well documented; see Chapter Two [\(40\)](#) for a review.

The individuals involved in this research were knowledgeable about the latent benefits of time spent in nature. While they were diverse in their responses to various social, economic, and environmental inquiries within the ethnographic interviews, there was an unwavering consistency in the responses regarding preference for urban and rural living. According to our focus group sessions, there were confident, frequent replies of preference for spending time in the farm or forest over time in the village or city, with little hesitance to list the benefits of time in nature. People were tuned in to the positive affinity for nature [\(42\)](#). This is concurrent with other cultures documented through a range of studies exploring

this attraction (Ann & Douglas, 2020; Chen, 2020; Ives et al., 2017). Principles of ecotherapy emerged in the trends in the data, given the focus on health and wellbeing when inquiring about the benefits of time in the forest. Participants, such as within this account of a sugar palm farmer from Taratara, consistently and enthusiastically referred to “*manfaat dari alam*” (benefits of time in nature) as soon as we began to engage in conversation about their relationship with the natural world:

Ethnographic account 6.1

“Jansen described in fond and meticulous details how there are four groups of monkeys living nearby. The first group has 13 individuals, and the other 40. He is also able to tell us how many individuals of each age. I asked how he knows their numbers and he said he calculated them when they were jumping. Whenever he sees them, he stops what he is doing and observes their behaviours, especially watching them play, apparently a refreshing pastime for him. His fondness and sentimentality towards the wildlife he shares his farm with is pleasing to watch and hear, and he remarks how his stress is reduced when at his farmhouse observing wildlife. Jansen clearly appreciates the beauty of his natural surrounds and receives benefits from this type of engagement.”

Taratara. 18th November 2017

As remarked earlier, I also observed that many of the villagers did not regularly visit areas considered as “nature” (in this definition primarily including farmland and forest areas). Noteworthy was that the younger generation especially did not spend much time on the farms or in the nearby forest. They did however use the natural elements close by to their homes for recreation. Nature is a place of leisure, providing awe and wonder even on a small, localised scale. One does not necessarily need to venture into the wilderness to be able to enjoy the benefits of time outdoors, with wellbeing studies highlighting the benefits of localised and easy access nature experiences (Kaplan, 2001; McEwan et al., 2020; Richardson & McEwan, 2018).

6.2. Interdependence and an acknowledgement of nature as place

I began this inquiry with the aim of understanding whether people are aware of their part in nature and effects of time spent in nature on wellbeing, and conscious of its increasing degradation and destruction. This latter sense, an extension of empathic reach toward nature is addressed in this section. In all locations my ethnographic observations and interviews indicated interdependence with nature, exemplified by Riadi's exclamation during our discussions in Imandi:

"Humans need to protect the Earth but we are protected by the Earth also. "
Riadi. 10th September 2017

Another observation was that the majority of communities I engaged with associated their farmland as "nature", rather than specifically the nearby forest. This was certainly evident in the Hulu Tonom farmlands, which is also the site of a makeshift illegal gold mining operation, where people are rarely bothered to enter the forest. To me, this was intriguing; physically close yet still disconnected from what we like to refer to as wilderness. This catalysed a deeper investigation into the concept of wilderness, and its importance in defining natural spaces (Fredrickson & Anderson, 1999; Scott et al., 2014). Watson et al., (2015) observe that we have learned to acknowledge that natural areas do not necessarily mean the same thing to all people in all places. Using the term "wilderness" as a case in point, Watson guides us through the evolution of relationships with nature in the US, pointing to an incongruity of description, despite the establishment of legal definitions of wilderness in the Wilderness Act of 1964 (Watson, 2004). This diversity of interpretations was evident also with my participants. When referring to "*alam*" (nature), it seemed a typical definition of wilderness was not entirely necessary to describe the connection they held. For many, the forest was sacred, but to others the green, lush and usually fairly heterogenous croplands were also natural and wild; an escape from the numbing effects of urban living.

I personally felt the deepest connection to the land when in Hulu Tonom, a muddy and bumpy one-hour drive by motorbike from Imandi but owned and farmed by its residents. During my stay we experienced the lives of the farmers and gold

miners first-hand. There the metaphors of interdependence were frequent and tangible, realised through our own perceptions and realities, witnessing directly, the lush vegetation of the forested hills and farmlands and the peace of the natural surrounds. Relaxed and seemingly un-preoccupied with pressing tasks on the farm, Riadi discussed his relationship with the land, his beliefs, and thoughts about the future:

Ethnographic account 6.2

“We followed Riadi to the top of the farm and rest when we reach Lucky’s sabuah (farm hut), enjoying the expansive view of rolling forested hills and farmlands, birds singing and swooping all around us. I noticed his nuances such as the signature cobwebs in his hat and dark brown, sun-aged skin, thick and craggy across the many lines on his drawn but beaming features.

Hulu Tonom is expanding quickly. Just four years ago it was only Riadi here with his family, now there are several other farmers and more joining annually. I tried to inquire about the sustainability of these lands and the possibility for the future here, but the questions were often diverted more toward cultural customs and beliefs. Riadi is aware of forest degradation but doesn’t seem to be too concerned, as with many others believing there will always be fertile land here. I ask whether the forest will still be here in 20 years or so and he reasons that it depends on people, their wants and needs. We focus our talk on the spirits, although it is challenging to get to the bottom of their intention. Are they there for the protection of people or nature? His replies indicate mostly instrumental perceptions providing benefits for people, though also to ensure respect to the lands. They seem neither particularly benevolent nor malevolent. A special prayer is said to the spirits to request permission to work the land. Young people nowadays are less likely to enact this though (confirmed by chats with the miners and younger farmhands, though most expressed respect at these customs, as Riadi is a highly respected elder). He would like to make a type of law to respect the cultural traditions, which seems would entail a combination of Islamic and old animistic beliefs, that mysterious combination which I am hoping to understand better. When someone plans to work the land, traditionally they should prepare a concoction of palm sap, barks, and other natural items. He explains that the forest spirits (of which there are spirits for the river, hills, and forest) demand people in the mines and farms to be very respectful. People should be as quiet as they can and avoid fighting. Men have gone missing before, some because of shouting and fooling around in the forest, one just for throwing away wild chicken entrails. At other times he exclaims enthusiastically, the spirits simply stir up a wind strong enough to shake the house almost to collapse, a sort of warning, but sometimes with worse consequences, if nature is not respected.”

Hulu Tonom, Imandi. 6th September 2017

EA6.2 furthers the notion encountered in Chapter Five (123) that spiritual reverence echoes the pro-social tendencies and normative influence that the blended spiritual and modern faith ideologies have on attitudes toward wildlife and the lands, with spiritual taboos and superstition often inhibiting natural resource exploitation. Furthermore, stewardship may emerge as people are bound by religious group association and a shared social and environmental responsibility. Earlier evidence (152) suggests support for Riadi's proposal for a localised bylaw, as local social norms and community pressures may be more effective than legally binding regulations, aiding the enforcement of regulatory measures. As I highlighted previously, there may be powerful implications of these findings in terms of environmental management. Despite many Indonesian PAs representing "paper parks" or having ineffectual protection (Bickford et al., 2007) we are informed that there are forest police operating here, who have been known to arrest illegal loggers in the past, potentially providing some disincentive through prospect of law enforcement. Mining however, despite being illegal in PAs, is apparently not subject to enforcement:

Ethnographic account 6.3

"Riadi prefers mining and it is more profitable. However, he is too interested in farming to mine exclusively, also expressing that he feels farming is more respectful for the land. The first mines were established here in 1988, intriguingly with support, to an unknown extent, from the World Bank as a form of sustainable development programme. This effort however, was closed due to corruption. The Gold Rush started in 1999 and was the time that the conflict between villages began. In the beginning, digging 4 meters deep could yield several ounces of gold. The miners explained to us a very interesting loophole in the law. The government does not allow big mining corporations in because it violates the policies of the National Park authorities. However, it closes its eyes toward illegal mines, with consideration that people's livelihoods depend on it. Illegal mines do not need paperwork, so since the government did not issue permits, the government is not technically doing anything wrong."

Hulu Tonom, Imandi. 7th September 2017

Law enforcement and management for PAs has important implications for the perceived behaviour control of people in terms of how well the land is managed or exploited beyond sustainability, thus affecting the human-nature connection and attachment people have to the land.

"Better to die from a bullet than to die from hunger."

Jun, Imandi. 24th June 2017

Following this rather frank and direct statement from Jun regarding law enforcement, it seems that current legal systems along with socio-economic situations, may not effectively disincentivise people to abide by laws, whereby a certain threshold will be followed until basic needs and wealth acquisition outweigh potential risks of getting caught performing illegal operations such as mining, hunting, or logging. People are somewhere between recognising the quality of life in this natural surround, yet more focused on livelihoods, on the instrumental value of nature instead of its intrinsic value.

"The forest can't be taken apart at will, that will risk our children. Between law and customs, cultural customs prevail. Seeing corruption by powerful, educated people, normal civilians become corruptors too."

Jun, Imandi. 24th June 2017

I also witnessed a recognition of interdependency with nature as I remarked upon at the end of Chapter Five ([152](#)), resonating with notions of relational values held by people regarding their interactions with the environment. The farmers of Hulu Tonom and others exclaimed philosophically that humans exist from the same energy source, sharing life together and are thus interdependent. It is through this bidirectional, relational lens of human behaviour and place within nature that this study has been designed, seeking to bring focus to the notion of interdependence and capture the role of other-oriented values and empathic sensibilities on the preservation or exploitation of natural resources. Chan et al. (2016) proposes benefit in taking a deeper appreciation of relational values. These value types are more concerned with the interactions and interdependencies between humans and the environment, demonstrated by indication of awareness of our impacts and the inter-connectedness between us and those impacts. Through a practical lens, environmental policy makers and managers must consider the relationships people already have with the land and wildlife, and how these values might be engaged with to lessen the negative effects of human lifestyles on ecosystems and enhance more positive interactions.

"Nature will always be used and serve a purpose, and it is certainly there for man - when it's managed with greed, the outcome won't be good"
 Ustad (Priest), Imandi. 8th June 2017

The extrinsic, instrumental value-based statement above was from the Ustad (Muslim priest) who was leading a funeral ceremony. He was very outspoken, confident, and certainly an entertainer, brought in to lead the worship, but also to provide an evening of what appeared to be stand-up comedy. After feasting we had a chance to sit with him and explore his opinions regarding nature. He was critical of government and what he termed corporate capitalist greed and appeared fairly pessimistic about the future of land stewardship. However, he did make clear that humans were a part of nature, intertwined with the landscape and connected to the wildlife and that Allah placed special responsibility on humans to look after it.

I build next upon the notions of agency explored in this section and contextualise stewardship within the dualism of connection and disconnection with the natural world.

6.3. Shifting nature relations from alienation to connection

As my ethnographic notes and observations have indicated, a common trend of instrumentalism was apparent in the study communities. In this section I will extend this understanding and examine the instances of disconnect, building upon the insights regarding pro-sociality, unpacking meaning from the evolving advocacy profiles in this investigation thus far.

"About relations with nature, in my opinion, nature is useful for humans. If there is no nature, we are not healthy. The human body needs nature. I prefer to stay in the farm than in the village, only going for family matters. Right now, only I know about Mongondow's habits, and people listen to me when it comes to culture. There is a loss of connection and respect between the youth, culture and nature."
 Riadi, Hulu Tonom. 6th September 2017

Imandi is congruent with all locations in the trend toward increased time spent in the urban environment, thus diminishing the level and quality of connection with the natural world. Riadi here highlights the importance of nature, and remarks that the younger generations are losing cultural customs and traditional wisdom, particularly the identity of the people of Bolaang Mongondow. People only go to the forest if there is a purpose, and I saw that farming and hunting and other nature-based activities appear to be decreasing, even possibly at risk of disappearance (179). I began to explore the thoughts around alienation to nature on the first day in Taratara:

Ethnographic account 6.4

“Today I engaged with thoughts of whether the new generation would be more aware to the plight of others, more environmentally connected, and less likely to be egocentric or self-concerned. Perhaps they will be more focused on social media than on hunting or consuming animals. A relevant example is with Mesy, the daughter of my hosts in Taratara. A student at the Adventist University of Klabat, she expressed that despite an appreciation and longing for the natural world, she never really spends time in the forest or farm. With rarely any opportunity to connect she seemed indifferent to its protection. This would support the imperative call to ensure environmental education highlights our interdependence with the natural world, and that everyone has access and motivation to spend more time in nature.”

Taratara, 16th November 2017

Congruent to this is apparent narcissism in the young generation in Indonesia, with possible social and psychological ramifications (McCain & Campbell, 2018):

Ethnographic account 6.5

“During one particular worship gathering, the girl sat next to me was constantly flicking through her own selfies. It seems there is little else in their lives of more importance than their public image, an increasing obsession I have observed. This may be just one example of the outcomes of disconnecting from the natural world, decreasing direct social interaction with a surrogate within the virtual world. Increasingly self-centred, they may become more focused on appearance and thus more egoistically oriented, plausibly depleting altruistic and biospheric orientations. Surely, by definition this girl was narcissistic, constantly turning her camera and taking selfies of herself and scanning through her own social media pages of other images exactly the same. These are the future generations, in charge of our lands, responsible for social and environmental justice and as such this modern trait and disconnect from the real world feels of grave concern.”

Taratara, 16th December 2017

I found however that on a broad scale, time spent in nature was valued and benefits broadly recognised, indicating a relatively strong sense of connectedness to nature. There was a consensus among participants, especially within the focus group discussions, that they prefer the forest but commented that they regard the city as having more opportunities, and there were several examples of the lifestyle shift shared by individuals who have moved from the village to the city:

Ethnographic account 6.6

“With the spring behind the main block of houses, some of the kids are playing every day in a nice green area, immersed in the natural world. Others conversely are reportedly spending less time farming or hunting, with many drawn to the city of Tomohon nearby, the prospect of a more prosperous occupation especially appealing to the millennials. Most people here express that they feel the benefits from time spent in nature, and less welfare benefits in the urban environment. Jimmy expressed how after thirty years in the city he felt compelled to return to rural life, to seek the fresh air and simple more peaceful existence, beginning to feel unwell living in the increasingly smoggy and crowded city environment.”

Taratara, 16th December 2017

The children seemed to be both wanting for nature experiences but drawn by the materialistic ideologies of the older generations, often many glued to a screen in place of playing outdoors. Some were fortunate to spend more time than others in the farmlands, demonstrating deeper biospheric and compassionate values:

Ethnographic account 6.7

“The two charming children who lived largely at the small farmhouse in Hulu Tonom, Rae and Riri are integrated into the farm and forest life and have many metaphors and associations with animals. Rae is gentle and caring around animals and has a strong relationship with the farm dog. He remarks on the wonders of insects and birds he observes, and marvels at the bird identification book I have brought, keen to recognise what lives nearby.”

Imandi, 4th September 2017

I explored if there was any education regarding the importance of nature and its benefits, though this was largely unapparent even from talking with teachers. To my surprise however, some school classes are apparently held outside, and most children responded that they preferred outdoor classes, explaining how the topics

are more interesting, that there is fresh air and more to play with. The children spend some time outdoors, but many seem increasingly disconnected, more concerned with gadgets. Also, it seems with limited knowledge acquisition of the natural world, in contrast to their parents and elders who described upbringings steeped in the lessons from TEK (196). This disconnect became apparent also in a lack of knowledge or connection to nearby wildlife:

Ethnographic account 6.8

“I feel it is a shame that these children only know the unique monkeys or other wildlife from TV or from abhorrent local zoos, for which there are two in North Sulawesi. This lack of knowledge indicates a form of alienation, a disconnect from the local flora and fauna. I also notice a push and pull of emotions from certain people here, such as Nando, who resists his innate desire to pet the dog, as she playfully begs for affection.”

Taratara, 17th December 2017

The situation in Poopo was the same, with disconnect rising through the generations, alongside a general sense of taking for granted the benefits of nature. I was also struck by the ignorance of compassionate pleas from an animal in distress:

Ethnographic account 6.9

“One distinct moment this morning was when during a conversation with Bill’s parents, I seemed to be the only one distracted by the high pitched and very loud screaming of a piglet, tethered somewhere nearby. The shrieks were so deafening I felt it stressful and hard to concentrate, whereas others did not seem to pay any attention to the clearly distressed sounds, disconnected from the suffering.”

Poopo, 4th April 2018

The notions explored in this section have demonstrated co-existence of seemingly contradictory phenomena, connection, and disconnection from nature. My research has developed my interest in how dualism of identity and alienation with nature vary across cultural boundaries and how sense of connection to nature might be harnessed for fostering change in behaviour. Furthermore, whether negative perceptions, perhaps towards certain species of wildlife, or PA management have an impact on the likelihood to generate environmental

concern. I continue this examination of interaction framed within the scope of human-wildlife conflict and coexistence.

6.4. Human-wildlife conflict and co-existence

The types of interactions people have with nature will determine the predominant perceptions and attitudes and thus likely behavioural responses that people have toward the wildlife involved (Frank et al., 2019). This is particularly pertinent for human-primate interactions, as negative perceptions perpetuated by damage caused by opportunistic raids of agricultural crops are often barriers to education campaigns (Lee & Priston, 2005). In Imandi pigs are the most frequent crop raiders, and are hunted regularly, though the meat is apparently only distributed between non-Muslims. Based upon the experiences I had however, as with drinking alcohol, this appears to be another religious prohibition which is also not always abided by. There were a few isolated cases of crop-raiding by wild animals towards the end of the research period. As remarked earlier (140), we encountered two monkeys caught in large wooden traps set at the periphery of fields at Hulu Tonom where interestingly, the rare and endangered Sulawesi babirusa pigs (*Babryrousa babyrussa*), were also reported as common enough to be viewed as pests. The regular reports of endangered animals in the area may be due to proximity to a large national park, Bogani Nani Wartabone.

In 2015 in Taratara an apparent exodus of wildlife evacuated the forest due to fires. Many animals entered the village, causing some surprise and conflict with the locals. Some were killed for food, others fled. Overall, the incidence of human-wildlife interactions was low in Taratara, due to low wildlife populations and farm locations. There were indications of coexistence, though there was a report that if monkeys did raid crops, then they would be more inclined to be less tolerant, indicating the assumed threshold for which communities have regarding perceptions towards wildlife.

Little evidence of intolerance was observed or reported thus suggesting a common perception of tolerance toward wildlife. Participants reported that in the 1980s there was more crop-raiding than now, plausibly due to a higher density of animal populations at that time compared to extant populations which have since

reduced, a case in point being that of the Sulawesi crested black macaques (Johnson et al., 2019; Palacios et al., 2012). It is challenging to quantify the extent of human-wildlife interactions, though extrapolating from our samples and interactions in the villages, a small percentage of community members are predicted to be directly affected, i.e., farmers on the periphery to forest, with thus only limited perceptions of monkeys as pests. I noted that the monkeys were called "*linca*" by Ibu Lian, our host in Poopo, referring to them as crafty, smart, and cunning, though largely with negative connotations. Snakes and monitor lizards cause some conflict, at times stealing chickens, or even dogs and cats by the larger reticulated pythons, though it is primarily wild pigs (*Sus celebensis*), forest rats (*Rattus* sp.) and the macaques (*Macaca nigra*) which cause crop damage, usually during food shortages, and optimal foraging strategies extend to agricultural plantations. One interesting observation was that the Muslims see the monkeys as pests, whereas the Minahasans viewed them as food.

Despite the overall sense of tolerance, there were several references to the monkeys as crop pests in Poopo, more so than other villages. However, there I discovered one of the most fascinating aspects of social constructs and changing perceptions, a tale of shifting perspectives and an intriguing narrative, introduced by Baharudin:

"I love animals. I made a fence so that animals do not enter and get angry. Poopo people love Minahasa. We dance *maengket* and perform the *MaWolay* because we love the monkeys."
Baharudin, Poopo. 7th April 2018

This is the cultural preservation of the *MaWolay* dance, establishing a unique story of the paradigmatic shifts of the relationship between native wildlife once revered as pests, to become an emblematic symbol of pride in contemporary society:

Ethnographic account 6.10

“Bill is the Chair of the MaWolay community and engages us in a long and fascinating conversation of cultural depth in this intriguing tradition. Originally the MaWolay dance was as a form of scarecrow (“usir hamah”), large masks constructed from palm leaves and obscure monkey-like demonic faces carved into the woody leaves, which are then paraded through the farmlands to scare off any pests, primarily monkeys. The dance has been a tradition for hundreds of years, though in the 1980s the monkeys became rare, and thus conflict also unusual, so the functionality shifted from practical to ceremonial and cultural. Every individual in the dance has their own character, a standard performance is 14 people and lasts for around 20 minutes. Natural materials were used as paint, charcoal for black and special flowers for the reds. These explanations ignite instant intrigue in me, and I look to explore this cultural aspect further.”

Poopo, 20th March 2018

MaWolay has now become a unique cultural entity for the local people, a form of EI that distinguishes this village from all others. It is also an attractive way to promote tourism to the area, evidenced by the interest in Poopo and official designation as a tourist hotspot by the governor. I was informed it may have been largely initiated by my visit, and subsequent promotion of Mount Payung to people connected to the government, catalysing Bill to promote the area. I see MaWolay as an opportunity and a social experiment full of insight. This may even hold the potential to guide threatening practices such as hunting toward more sustainable livelihood opportunities. This is even more salient considering the diminishment of these nature-based livelihood and recreational practices, as I will explore in this next section.

6.5. Hunting: an immersive nature-based activity, and a potentially dying practice

Hunting, similar to farming, is a prominent practice in North Sulawesi, representing the highest hunting rate registered from all of Sulawesi (Rejeki, 2019). Few people are solely dependent on their catch and most set snare traps for passive capture, often to prevent raiding of agricultural crops. This is in favour of “active” hunting, which includes the patrolling of forest areas with guns to target certain prey species with the aim of consumption, either for personal use or sale at local markets or directly to neighbours. While I did not directly quantify the

number of households participated in hunting, in each village there were 3-4 main hunters who were commonly identified as the main hunter, often due to their reputations as successful hunters or their reliance on (active) hunting as their primary occupation. Hunting as a central occupation or main livelihood otherwise represented a small percentage of the overall number of households encountered in the research, and in previous studies hunting typically represents under 10% of households' main occupations in the province (Rejeki, 2019).

I relished the tales of the elders, whom in all villages recollected the times when the skies would be filled with fruit bats and forests full of wildlife. This same anecdote was repeated sentimentally in all areas, a sense of loss and recognition of the unsustainable hunting practice supporting an appetite for bushmeat. Consistent with other studies in Sulawesi (Rejeki, 2019), people realized animals were decreasing in populations and that some of the vulnerable and protected animals were locally extinct. The majority of my respondents agreed that populations of hunted animals need to recover, and that hunting practices need to be controlled and managed for sustainability in the long-term.

In terms of bushmeat consumption, in the same previous studies (Rejeki, 2019), a majority of respondents indicate that they only occasionally consume bushmeat (57%). This is reasonably consistent to our own probability sampled socio-demographic and attitudinal survey data (unpublished) that reports that 22% of respondents consume or have ever consumed macaque meat (*M. nigra*). Therefore, while consumption of bushmeat represents a minority subset of the overall population, the social norms still support its acceptance or are insufficiently spread yet to reject it as an unacceptable practice. That said, in our previous research, 83% of respondents said they would not consume macaque meat in the future.

For those who do partake in hunting, it was reported to represent a significant facet of their daily lives as livelihoods or recreation immersed in the natural world. It conceivably also increases their sense of connectedness to nature. Indeed, in other countries hunting as a recreational activity has been correlated with greater motivation to preserve natural areas as a form of active "participation in nature" (Scott et al., 2014; Wolsko & Lindberg, 2013). Aside from a source of income

hunting and fishing is still a popular recreation worldwide, with wellbeing benefits reported from the time spent in wilderness and strengthening a recognition of humans' reliance on natural systems (Peterson et al., 2011). These effects are likely to be playing out in the same way in the villages included in my research and so it may be reasonable to assume is a universal phenomenon.

"Consumption of wildlife goes back to when we first started drinking local liquer and eating snacks. The hunting goal is normally wild pig, but finally we end up with monkey to cook. As well as cats. This is the result of the freedom to use firearms. There are people who know some animals are rare and yet there are those who still eat them, so better they are caught by law to be discouraged."
Palm sugar farmer, Kroit. 2nd May 2018

Discussing hunting with Tommy in Poopo he expressed that people rarely hunt monkeys now as people are apparently increasingly aware of their protected status. While I was a little concerned that they may have felt pressured to make such a statement as the availability heuristic form of cognitive bias (Agans and Shaffer, 1994), it is supported by reports from fellow villagers, evidenced below by Opa Otam and EA6.12:

"I was one of the last people who liked (specifically) looking for monkeys. Now no-one is looking for monkeys, maybe people already want to protect them."
Opa Otam, local hunter. Poopo. 2nd May 2018.

Ethnographic account 6.11

“Tommy explains how rats, bats, forest pigs are still hunted, but, most bushmeat is actually bought now at either markets or the weekly trucks that drive by, brought in from more plentiful sources further South of Sulawesi, from Gorontalo or Palu most frequently. Fewer people can be bothered to hunt now he expressed, providing further evidence that forests are cleared from Central Sulawesi to cater for large bushmeat demand further North. If they hold an event such as a wedding or funeral party, they will search for rats near Kotamobagu city. There are no direct cases of prosecution there, but according to Tommy people are aware. Again, he referenced the shift in hunting practice from the 1980s; before that people never specifically targeted monkey or other protected species. Tommy supports awareness raising activities, suggesting we make a large banner to help people become more aware of the laws.

Tommy knew that we would be very interested in a mysterious friend called Bu Anders. Bu is the local wise hunter, a legend that we were informed of since our first reconnaissance trips even before selecting the village. He is the most active hunter, and similar to Om Theo in Taratara, openly incorporates a spiritual aspect to his hunting, speaking of the signs he sees and messages he receives from the spirits. Gifts such as his are inherited, but not so much anymore.”

Poopo, 20th March 2018

Following Tommy’s recommendations to meet Bu Anders, I recall my accounts of the experience I had when finally able to join him on a hunt:

Ethnographic account 6.12

“Today is the day for a real hunt, a day I have been awaiting for such a long time! 8:30am we stop by at the legendary Bu Anders house, known as the animal whisperer. I have heard a lot about his spiritual powers and everyone speaks of him with respect. He is a stringy, fit looking though surprisingly timid and placid guy with a broad smile with incredible stamina walking the unrelentingly thorny forest floor with barefoot, me struggling behind with walking boots and protective clothing. We were targeting white tail rats, the preferred species for consumption. He knows exactly where the rats are nesting, and hunts in the daytime, even when the rats are not active. He has the peculiar ability to sense where they are located and how many individuals there are, expressing that he gets a feeling. We start with a nice long walk, 45mins or so to the forest edge, and I am enjoying the beautiful, lush surrounds, tuning into the bird song and chirping cicadas, the humidity and welcoming mist of the forest welcoming us into its green depths.

We eventually come across an ancient bamboo clump, the largest I have ever seen, some bamboo stalks around 30cm in diameter, the mottled mosses creating a sort of camouflage effect, bringing a character of wisdom and mystery to these massive grasses. Immediately, without rest, Bu sets to work. I am buzzing to see how in the zone he is, and while I attempt to help, he is like a machine; systematic and focused, determined to locate the rats.

The different steps in the process are as follows:

- 1. Locate a nest*
- 2. "Clean" the area, removing dead wood, anything in the way of digging*
- 3. Tap the soil and investigate the area to find exact location*
- 4. Smell the soil and "sense" the area*
- 5. Dig! He is remarkably committed and digs tirelessly with his 3 dogs*

After around 15-20 minutes of digging, he reaches in deep up to his shoulder and pulls out a startlingly large female rat, roughly the size of a small domestic cat - bewildered and restrained by Bu's firm clasp. She is deposited in a swiftly fashioned bamboo holder blocked in with plants, but with a slither cut out to view her inside. While adrenaline is pumping from the atmosphere, my compassionate awareness immediately kicks in and I empathise with this poor mammal, trapped, and inevitably doomed. More digging produces an even larger rat, though this one deceives them, finding a back door and fleeing to the treetops, me sharing their disappointment yet naturally somewhat relieved for that individual. We continued throughout the day locating five other dig sites and came home with six rats and a monitor lizard, cruelly folded back on itself and tethered for the whole day. This lucky individual escaped the pot though when we finally reached the village!

I reflect on this as a practice overall on my sweaty return. I can understand why they enjoy the whole episode, and to experience it first-hand I get the thrill. A form of escapism, free out in the wild, responding to their inner wild urges. It involved getting your hands dirty and energised, is a healthy, decent session of exercise. There is a definite buzz and intrigue to not know what to expect and that impulsive feedback from collecting things that taps into human's addictive centres. It appears to be more of a systematic process than I had expected, familiar and fairly organized. Also, the satisfaction of the result was important; they were cheerful and merry at finally moving on with their quarry from the day's hunt.

The sentimentalism of these people resonates with traditionalist type values and I can understand how such a practice, while evidently from this research is a diminishing practice, is hard to let go."

Poopo. 5th April 2018

As expressed in EA 6.12, I relish the rich discussion of wildlife with these people even discussing hunting. They become engaged and often express pride in the special wildlife nearby, like they revere the wildlife with awe and excitement. To analyse this one might infer nascent connection and appreciation, with societal barriers to expressions of behaviours congruent to this, with incentives for exploitation such as hunting, still significant albeit diminishing.

Riadi in Imandi remarked how anoa, monkeys, hornbills and maleo birds are protected species and that forest police arrest people who hunt them. People who do catch anoa and hornbills apparently do so in secret, though I found this somewhat hard to imagine. Across all the communities an awareness of wildlife protection laws exists, as does reasonable social acceptance to neglect these laws. Several participants told us with rapture about the multitude of different methods that people used to catch their prey, from long stabbing staffs to electricity or poison in water for fishing. Previously they would often hunt anoa, and be "satisfied" always, never having to buy fish or meat, so in the past they were completely self-sufficient from the forest and farm. After I mentioned about anoa being extinct in Minahasa, and threatened here, the classic response regarding reduced abundance was offered "*sekarang lebih jauh*" ("have just gone further away"). This is the typical response with little divergence in all cases throughout my research, recognising population reductions, yet assuming the animals are still there, just further away due to disturbance. This infers a sense of naïve ignorance, unable to comprehend effects of exceeding sustainable offtake limits and accept responsibility for diminishing wildlife populations.

"Monkeys are often kept as pets, until they get bigger. There are people who keep snakes also, hunted because they enter gardens to eat chickens. Snakes are baited using bamboo and rats inside bamboo. People are already afraid of cutting the trees for timber, but for killing animals, there is no sanction yet."

Mama Brayden, Imandi. 19th April 2018

In parallel to diminished hunting successes now than in the past, several participants remarked that people are simply not hunting any more, the explanation offered was that this is due to a combination of the convenience of purchasing other food and aspiration for more modern livelihood incomes. Some

people still hunt with dogs, though only for forest pigs and less frequently than in the past. Hunter Theo from Taratara represents a prominent example:

Ethnographic account 6.13

“Theo is known in the village as the chief hunter. However, while we were cautious to accept his own word directly, his cessation of hunting, especially protected species was verified by several other members of the community. Theo expressed how he had become afraid of other people's thoughts surrounding hunting, thus being subject to a classic injunctive social norm. Similarly, he told us how at a carnival earlier this year, people were also apparently afraid to use the hornbill birds' heads, which adorn traditional Minahasan Kebasaran costumes.”

Taratara, 6th February 2018

EA6.13 represents further direct evidence for shifting social norms, in this case previously accepted and encouraged hunting and consumption injunctive norms, now prohibiting the practice based on social acceptance and perceived behavioural control. The dialogue and experiences with Theo continues:

Ethnographic account 6.14

“Theo shares about the spiritual side to hunting, with several participants describing the spiritual connection and messages related to their hunting practice. Theo claims to have a "feeling" when a trap goes off, and is usually right, predicting when animals are caught in the trap. It can be a dream, or sensation in his heart. He explains with pride how he has inherited the gift of insight. Common superstitions also exist around hunting, such as if someone steals the animal found in the trap, they get a curse and subsequently would have to return the snare of the trap and animal parts to reverse the curse.

We set off on a hunt with an air rifle in hand, with Johnny and Theo, targeting forest pigs, rats, or bats. I was buzzing to embark on the first hunt, and while this was unsuccessful, there was a unique atmosphere about the experience. The awe at the attention paid to the natural surrounds, to the senses and their connection with the elements of nature, tuning into the sounds of the forest, this ephemeral and connective practice leaves little wonder why so many hunters expressed how they found wellbeing while hunting. There was also a tangible sense of camaraderie, and the spirits were higher than normal. We spent the night in hammocks in the forest farm area about an hour's walk through the plantations. The social time spent in the beautiful surrounds was appealing and refreshing, the air cooler and fresher than in the village and I too felt rejuvenated.”

Taratara, 6th February 2018

During the hunting experience the hunters repeatedly remarked their gratitude for the land and for the ability to spend time there. This builds further upon this thematic trend which informs the current and previous sections; the complex dualism of nature appreciation and utility, a tension created between the plurality of both relational and instrumental value orientations. I continue to carry this dualistic notion with a values lens through the rest of the chapter, and revisit it to bring together these values considerations in the discussion [\(212\)](#).

6.6. Cognitive dissonance: Affective struggle between compassion and utility

In the previous chapter I provided real-world examples [\(152\)](#) that build upon the notions of cognitive dissonance outlined in my review of the scientific literature [\(55\)](#). I revisit this as an important area of scientific discourse related to this research, emergent as a result of inconsistencies between apparent attitudes, values, or beliefs and subsequent action. The enablers and barriers between the observed advocacy profiles and enactment of practices are important to consider in understanding inconsistencies between environmental concern and behaviour in this ethnography.

The following quote comes from the first day arriving in my first study village, and an intriguing starting point to begin my observations:

“He loves animals and so wants to trap them all”
Lucky, Imandi. 4th April 2017

This exclamation was made by Lucky describing his 3-year-old son Alo who loves birds; enough to want to kill them. He was pining to go hunting, becoming grumpy when his father did not concede. There was clearly an inconsistency occurring, a lack of harmony between his values and attitudes, and his actions, whereby Lucky believes that killing animals is not incongruent to loving them. This lack of ethical consistency is likely to have been nurtured within him through behavioural norms enforced by his parents, peers and social influences in a society which does not condemn the torture and killing of other beings. Despite the enabling

conditions, the dissonance will still likely cause Lucky discomfort, and he expressed confusion when asked if one could both love and kill animals at the same time.

Another example of cognitive dissonance was a moment I recall clearly on one of the final mornings in Hulu Tonom:

Ethnographic account 6.15

“Attempts were made to place a rope through a young cow's nose in order to tether it. One of the farmhands commented that the cow will cry, real tears, if the piercing is done wrong, through the tough cartilage higher up which is painful. He grimaced at the thought of this, indicating a sense of empathic, affective reaction to this cow being in pain, recognising its capacity for emotional complexity and expression. Although it is commodified in an instrumental sense, the cow is not completely devoid of being assigned sentience and thus an ability to experience the emotional embodiment of humans, including pain and suffering. Though as one expects, they inevitably continue to proceed with the normalised poor treatment and eventual slaughter of these creatures.”

Hulu Tonom Farmlands, Imandi, 8th August 2017

Building on this clear affective empathic response, further evidence for dissonance was found in Taratara:

Ethnographic account 6.16

“Our hosts keep pigs, an increasingly common practice as it can be highly profitable if well managed, supplying a huge demand for pork in the Tomohon area. They have as many as a few dozen at one time, though there is a very swift turnover, the pigs reaching sufficient weight for sale for slaughter within 4-6 months, whereas the sows live up to 3 years and boars 2 years unless used as a stud. I deeply enjoyed chatting with the host, Ibu Eci, about all aspects of our research, and she was keenly interested as was her husband Okni. With Eci our conversations often turned to the pigs, which they had been keeping for over a decade. Talking about their price, the value of their lives, I note how the language used is sterile and instrumental, utilitarian, commodifying these beings as objects. I cannot help in those moments but feel ashamed by how we have numbed ourselves to the empathy we all naturally hold, how we succumb to the illusion of utility. This sentiment is deepened as I saw scores of pig trucks in Tomohon during a visit into the town centre, and later screaming pigs getting violently manhandled off a truck, dragged by their ears into their place of slaughter, the despair palpable in the others awaiting their fate.”

Taratara, 14th December 2017

Reflecting on this, in Taratara particularly the welfare and treatment of farm animals played a major role in my time during my research, shaping my perceptions of the tensions of empathy and disconnect. The way pigs are treated, and the struggles people have with the emotions associated with this dissonance is a startling, saddening yet fascinating area of psychological investigation.

Ethnographic account 6.17

"I notice as time goes by, that with Eci in particular, there was a clear dissonance with caring for animals and eating them. She struggled with personal tensions with the pigs, telling me candidly though ashamedly, how she wanted to give them names, but worried it would make her care. She had looked after them for years, and delivered hundreds of piglets, even nursing the sick or weaker individuals. She also vividly shared a story of a neighbour whose long-time companion dog he killed, weeping while telling her she had to die for his food for a family gathering. I joined Eci in being deeply touched by this classic tale of dissonance, each of us seeming to question why this paradox is so entrenched and accepted."

Taratara, 15th December 2017

Eci, and her neighbour's barriers to empathy and compassion represent a startling example of human's ability to dehumanise other non-human animals. As reviewed by Kasperbauer (2018), animals are typically regarded as outgroup members, those who we do not identify with and thus not ascribed the same moral or ethical treatment as we would fellow humans. This reinforces the observations of Rudy in Pandu and further as we saw with Lucky in Imandi with dissonance causing discomfort; an aversive affective state which arises when someone attempts to simultaneously hold inconsistent expectations or beliefs. The discomfort was clearly visible in Eci's body language and facial features. As previously noted (55), it is important to try to disentangle the complicated domain of moral psychology, adopting an interdisciplinary approach to address key questions regarding the foundations of our moral attitudes to animals in order to understand the routes to the disconnect and subsequent discomfort arising from what is an unnatural severance of our innate empathic sensibilities. Transcending the notions examined in this section from a micro level with human-animal relations, it is also important to adopt a macro view, further unpacking perceptions of nature as a resource, which I explore in this next section.

6.7. Utilisation of natural resources in a changing environment

My empirical evidence provides insight into changing land usage in Indonesia, as well as future prospects of agricultural capacity within the province studied. I experienced the lives of the miners in Imandi and saw the risks they took for their livelihoods, driven by the prospect of gold. There was something alluring and addictive about the mining as a practice, the systematic and hands-on methods of separating the rock, but importantly the psychology of the prospect of extracting precious metals; this preoccupation both self-evident from my observations and experiences but also directly reported by the miners. Despite this obsession with gold, I was surprised that there was a practical and reasonably well-preserved tradition of using natural materials like bamboo in ceremony and other usages.

"You are not allowed to do anything in this forest, because it is legally protected."

Rudy, Pandu. 21st March 2018

Another quote here from Rudy, stating that they were aware of limits in protected forest. Despite the pro-environmental sentiment this is a fairly superficial statement in that compliance to protection is low. As observed directly, protected status is mostly ineffective, with fairly liberal usage of the resources without a sense of limitations or enforcement sufficient to deter in all instances. Despite some acknowledgement of prohibitions, illegal logging was reported to still be prevalent. I witnessed a few occasions of farmers using large cattle to drag logs through the forest, clearly from within PA boundaries. This lack of enforcement is a serious shortfall of environmental regulations both in Indonesia and globally, with the issues of paper parks allowing ongoing encroachment. This disincentive deficit plays a major role in the perspectives of local communities, particularly if they are coupled with lands right issues or tenuous relationships with natural resource managers and local communities.

"Protected Forest in this area has become production forest, to improve the economy"

Ardi, Sub-district office staff. Poopo, 20th March 2018

Ardi and his colleague also remarked how despite government protection on paper, this often does not relate to active protection on the ground, and thus little dissuasion of locals to use natural resources, retaining a focus on utilisation over stewardship. He also exclaimed how resources, including wildlife are threatened. For example, bats are rare now, whereas they were previously abundant (as per tales of clouds of flying foxes (fruit bats) from previous times). From an ecological perspective, it is logical to put the demise of bats down to hunting and deforestation. The intensive consumption of flying foxes in the area has raised hunting pressure and extirpation is expected to spread into other regions (Sheherazade & Tsang, 2015). Overall, most people are confident that despite evidence of vanishing species like the flying foxes and others the forests will always be there, though most recognise that there is a pressing need for commitment to protect them.

One critical and consistent observation in all villages though most marked in Taratara, was shifting livelihood preferences. People were looking more to the urban environment for employment, and one might consider that as Taratara has the closest proximity to a major city, this may partly explain why the land-based livelihoods are declining, possibly even threatened. Particularly among the younger generation, my ethnographic evidence shows a normative trend to avoid farming, consistent across the study locations. In Taratara, many expressed their concern about the rapidly expanding amount of "*lahan tidor*" (sleeping land) referring to rice padis or pasture which were no longer being managed. Rudy explained he wants a better future for his children, and does not expect his son to continue farming, more to focus on schooling. This is concerning, raising serious questions for agricultural productivity, and also the relationship with nature, as most connect to nature through farming. A pertinent question to the second research objective regarding nature connectedness is whether the new generation will have the skills and knowledge to farm, or the motivation to protect nature. This represents a salient question to explore, especially in the context of change.

Farmers have a specific social status and as such are able to obtain capital loans specialised for agricultural development from banks, but many have not returned the loans. This refers to the phenomenon of *gengsi*, translated directly as

“prestige”. Gengsi has adopted a colloquialised extension of its meaning symbolising the borrowing and spending beyond one’s capacity to earn, often referring to a lack of responsibility or organisational skills for managing personal finances. The structural properties surrounding these individualistic aspects of agency are good indicators of social norms (shared understandings of acceptable or frequent behaviours), and perceived behavioural control (perception of capacity or ability to perform certain behaviour). For example, I had interesting conversations with the gold miners at Hulu Tonom about the gold being both a blessing and a curse. Many people struggle with managing the routine of getting paid cash at inconsistent intervals and are unable to save from the gold mining. However, upon inquiry into the primary reasons for this, people often stated it was beyond their control, or God’s intention. By extension, considering this ubiquitous and seemingly increasing social phenomenon, we may also infer that people found in my study sample may also struggle with environmental responsibility, and often seem to regard this as beyond their control.

I recorded many discussions about the loss of natural resources, the increasingly unsustainable human population, and results of their activities, such as in Pandu:

Ethnographic account 6.18

“Rudy, while reflecting back to older times, seemed to indicate that life in the past was more abundant, particularly with farming. Rice was cheaper, there was more land available and more animals to hunt. The forests around Pandu were plentiful with deer, they even used to come down to the beach. There are still some deer in the forests now, but “far away”.”

Pandu, 22nd March 2017

Again, further remarks of the stereotype of Indonesian's short-term perspectives, prioritising quantity and speed over quality or the regeneration of the natural resources such as soils, the fertility of which was repeatedly regarded as being much higher in the past. In Imandi, similar to other locations, I concurred with this stereotype that people appeared to live in a reasonably short timeframe and mindset. They lacked energy or attention for the future, certainly regarding preservation of natural resources which sustain them. Characterised by years of conflict with neighbouring villages like Tambun, Imandi has fairly strict local rules and regulations, thus limiting certain behavioural freedoms. Heavy fines were

made on the spot largely as a result from the presence of the proactive *tokoh adat* (tribal leader). A classic statement which appeared several times in several forms was “*The rules have been in place for ages, but if you have money, you can get around the law.*”. Referring primarily to PA regulations, this indicates the typical Indonesian issue that there are plenty of laws and regulations but little enforcement. There were also rules written onto the wood in the inside wall of the communal mining cabin, restricting specific behaviours through social pressure, including natural resource usage. Some deterrents however do work, for example areas where officers range (though typically patrols are patchy and irregular) apparently deter certain logging operations. The government is also lacking decisiveness when dealing with the National Park, and people no longer respect the relevant offices. The government may announce a lot of good programs and a lot of good intentions, but people know they will not be carried out, and that rulebreakers will not be apprehended.

Rivers around Imandi are protected by “*Peraturan Desa*” (village regulations or local bylaws). People are not allowed to fish using poison anymore. This came about because villagers were concerned that livestock drank from poisoned water. However, some still managed to get around this regulation by using a mix of gasoline and detergent to disorient and catch fish. This converges with environmental citizenship notions of the local policy empowerment in Taratara regarding the spring protection (152). Despite this localised regulatory action, villagers were increasingly concerned about resource availability, including the impacts of climatic unpredictability:

“With Poopo's position in the valley, and the disappearance of the forest, the weather has become hot. If the forest is gone, Poopo could become a lake with frequent landslides if it rains, all due to human activity”

Ardi, Sub-district office staff. Poopo, 18th April 2018

Major floods affected the area of farmland around Imandi just before the National Independence Day celebrations, rendering the trucks (the central mode of transport) unable to make it to the farms. This highlights the vulnerability of people

such as farmers, with working the land, as natural disasters such as floods and earthquakes can devastate livelihoods.

Ethnographic account 6.19

“During our visit to the sub-district office in Poopo, the office staff said that the weather was getting hotter and drier and seasons more unpredictable. In the 1970s the rice fields apparently didn’t need fertilising, whereas now rice won’t grow effectively without being fertilized and seems to be reducing in fertility according to several farmers. They remarked that if there were many trees, it would be cooler and they would see less floods, already experiencing major floods in 2000 and 2015.”

Poopo, 20th March 2018

This reflection on the changing conditions was also found in Taratara by Tangkumna, neighbours who were meeting as they were knowledgeable about the traditional Mah’zani song described earlier [\(123\)](#):

"The air quality is very different now compared to how it used to be, now the air is very polluted. The wet season has moved to January until March, and June is already getting very hot. Now it seems to rain whenever and get hot whenever!"
Tangkumna, Taratara. 9th December 2017

This was also mirrored in other locations, a general sense of changing climatic conditions in line with diminishing wildlife, though not much behavioural response to this in general. Rudy in Pandu described how there was a general anxiety about the water source and the spring there, and potential floods and natural disasters as development projects continue. He expressed concerns of over-population, citing issues of impacts from housing developments, aware about environmental issues within his local context. As with the natural resources for materials and utilities, animals are also utilised in a similar way and seen as commodities to be used whenever necessary. This is a typical association in many rural areas, but perhaps a relationship which is shifting with more urbanisation and education.

This review of the utilisation of natural resources concludes this section, having illuminated the paradigms emergent from my empirical evidence. One of the key drivers of habits surrounding resource and also food consumption practices are

social norms, propagated and maintained by various forms of identity throughout communities (Helliwell, 2014; Hinds & Sparks, 2008). For the final section of this chapter, I bring attention to the importance of identity in considering connectedness to nature and its relationship with utilisation of natural resources and wildlife.

6.8. The role of identity in shaping and maintaining nature relationships

Having explored two crucial dimensions of connectedness to nature, I turn to the notion of identity, for which a surprising level of empirical evidence emerged, particularly related to the sense of EI. A reminder that the notion of interdependence with nature typically composites an EI, furthering Wilson's genetic based affiliation with nature, biophilia (Wilson, 1984) covered earlier [\(42\)](#). As noted, it may logically be predicted that having a relatively pronounced sense of EI may increase propensity for pro-environmental advocacy profiles, potentially behaving in more environmentally sustainable ways (Clayton, 2003). This typifies allo-inclusive identities, for which I was attentive to detect during my ethnographic encounters. In this section I explore the multiple identity types I recorded, and how positioning these notions might provide insight into ecocentrism aligned with my research objectives.

Many participants I engaged with vehemently withheld what they believed as a defining characteristic of the Minahasan identity: the consumption of bushmeat and cultural customs associated with this as a practice. However, especially among the younger generations, these self-constructs were often challenged and cast out, seen as outdated or no longer deserving of a place in the modern developing society of Indonesia's national cultural identity. Lucky is a strong example of an individual associated with an EI, which I reflect upon in EA6.20:

Ethnographic account 6.20

“Lucky is known throughout Imandi as the “nature guy”, and his ability to beckon and capture animals afforded him a strong association with wildlife. There were definite social implications in his nature connection, with status attached to an affinity with animals, people respectful of his skills. Lucky wore these badges, the identity as animal-lover, with pride. He jovially described his animal encounters, a way of gaining social prowess, potentially through the dehumanisation of animals and domination of normally fear-laden creatures. He clearly enjoys this talk and the way it endorses his identity.

Lucky loves snakes and kept a large highly venomous king cobra as a pet for several months, tending to it with fatherly attention and ownership. On our first visit Lucky introduced the almighty serpent, as children played around casually, aware that only Lucky was bold enough to handle such a dangerous animal. He boasted about its weekly soap baths, kissing, and petting the snake. Unfortunately, on our third visit we were told it had escaped and was subsequently killed. Lucky seemed to experience remorse at this and was clearly hurt by the loss; though a struggle socially was evident; his status and EI overridden by the fear of the villagers who took it upon themselves to protect the community.”

Imandi, 4th August 2017

I have visited this notion of dissonance several times now, embodied again in this dualistic identity. One noteworthy phenomenon which we found with Lucky was his eagerness to become more consistent with an identity of animal carer, which being the hunter and general social aggressor in his prominent political position appears slightly disingenuous. On departing after four months with Lucky as our primary participant, he explained he would not hunt the macaques anymore, adding he would release birds trapped in cages in the village and that he would be available to join us for community outreach. This appeared as an authentic act not simply to please us as conservation practitioners. He has kept in close contact with us since the research was completed, and even volunteered to be part of a new initiative to engage other hunters with the aim to prevent hunting of protected species as part of a roadshow throughout the province. This transformation and alignment of identity is particularly prominent, supporting the notion of correlation between EI and concern.

In North Sulawesi identities related to symbology from nature are common. There were several encounters related to EIs in Taratara, one of which is the common

membership of local community groups, such as motorbike or car communities, religious groups or the nature-loving groups described earlier common to universities, each faculty having at least one representative group called *Mapala*, a shortened form of "*Mahasiswa pencita alam*" (nature loving students). In Taratara, Luki is part of KPA (*Komunitas Pencinta Alam*: nature loving community) called "*Marabunta*" which means giant ant, and these KPAs are always named after scientific flora or fauna.

Similarly, returning to the MaWolay tradition, Bill was proud of his role in the preservation of the cultural identity of his village. He expressed emotively how the association of MaWolay brings him a sense of belonging and meaning. He will always carry it with him and says he hopes to share it with the world. As I describe in more detail in the next chapter, my NGO has also engaged with MaWolay in our conservation outreach. We invited them to the National Conservation Day organised by the Ministry of Environment and Forestry and met with the local city mayor and other officials. We highlighted to them the newfound identity and shift in relationship between local communities and endemic wildlife, which MaWolay illustrates perfectly. There was also a parade organised in Manado, where Tommy's son Yandri said people were asking about the meaning of the monkeys. He answered proudly: "*it's our culture!*". The sentiment embedded within this statement is highly salient to a transitioning association of humans and wildlife, and the subsequent identity which is borne from this new relationship. The members of MaWolay, the dancers, now all have an EI, and they carry this with confidence and pride.

6.9. Cultural erosion and the loss of Traditional Ecological Knowledge (TEK)

Culture and identity are embedded within the traditional characteristics imbued by society, rooted within the community bedrock along with the norms and shared collective values which shape individuals' attitudes and behavioural expressions of latent value orientations. My ethnographic research aims to comprehend these phenomena through the documentation of TEK. There were 72 coded references made fitting into the thematic node of TEK [\(283\)](#). I observed evidence of TEK in

multiple forms at each location, ranging from land use practices, skills with hunting techniques and wildlife tracking, utilisation of natural building materials and traditional medicine use:

Ethnographic account 6.21

“There were several fascinating examples of natural resource usage in Pandu, where I humbly learned from these knowledgeable locals. On just a single walk into the forest we identified dozens of natural materials, from bark to fibrous ropes and indeed plenty of traditional medicines. This was the most intriguing aspect, with many types of plant used by the community there.”

Poopo, 4th May 2017

This form of TEK is locally referred to as "*kearifan loka*" meaning local wisdom, normally surrounding the usage of materials found in nature, wisdom, and the associated stories, often spiritual. While the viability and scientific credibility for many of the traditional medicines remains to be supported empirically, a majority consensus in the viability of traditional medicines and a general first basis for medical attention was recorded across all communities. Many also held vivid stories of the efficacy of certain practices, such as with Muhrim from Imandi:

Ethnographic account 6.22

“Muhrim still uses plants that are taken from nature for alternative healing. He explains about the healing properties of aloe vera, which can also treat gastric issues and other afflictions. We talk at length, as with many of the villagers, about traditional medicines. A vibrant and compelling conversation continues with explanations of his wife’s malignant breast tumours. She had wounds which were already severe though was seeking local help before hospitalising her and was told that there were herbs that could cure her illness. A concoction of tree growths, red banana hearts, red sugar cane and white turmeric were boiled, and the mix was drunk 3 times a day. She was swiftly cured and was there serving us coffee with a beaming smile!”

Imandi, 4th August 2017

Similar TEK was shared by Lucky, the eagerness with which to impart the knowledge clearly amplifying his sense of EI and proud association with the forest and its biological inventory of uses:

Ethnographic account 6.23

“Lucky knows medicine for animals! He expresses this knowledge with a smile; pride in his TEK. He shared about the “bunga anting-anting” earring flowers, given to people for general ailments though also given to the parrot for its wounded wing. Yet another is “rumput eyo-eyo”, a natural ointment from a special grass which stops blood flowing from open wounds; similarly, “daun sosoro” large very itchy leaves (ones to avoid!) again, learned from the elders. Apparently, many know this type of TEK, especially those in the farms though is decreasingly spoken about with the youngsters. I was happy to reciprocate with stories of stinging nettles and their remedies in England (i.e., dock leaves) and I enjoy the back-and-forth exchange of our distant but in ways socially convergent value of TEK.”

Imandi, 24th March 2017

This wisdom is typically deemed sacred and valued highly. However, it is clearly in decline. As we observed the deterioration of interest in hunting and farming livelihoods, local wisdom is being lost in parallel. This cultural erosion may well be disassembling the EI of the Minahasan culture and thus challenging the traditional remnants of connectedness to nature of the people.

“It is feared that children and grandchildren will not know what to do if the land becomes barren, they will not be able to do anything in that situation. Natural resources must be maintained with community knowledge, which is a different wisdom. Forests need to be maintained by both government and local communities.”

Yandri, Poopo. 20th April 2018

Echoing Yandri’s concerns for the ability of future stewards of the land to cope with increasingly threatened resources along with diminishing TEK, Jun described the cultural erosion and loss of traditions. She explained that the youth no longer know the skills and gifts such as traditional medicines, spiritual insight, and practices. This cultural erosion is increasingly common globally, with continual loss of dozens of languages, inevitably along with identities and TEK. This is most notable in Indonesia which with over 400 distinct languages and dialects ranks second after Papua New Guinea in the number of languages

spoken (Brigitta, 2013). My ethnographic narrative presented within this section illustrates this trend, demonstrating how traditional cultures appear to be giving way to the effects of modernisation and the neo-liberal idealisation of materialistic cultural identities.

6.10. Tying it all together: Connection to nature scale

Following my analytical journey into human-nature connections, I take the opportunity here to present the supportive quantitative data, which aimed to provide a structured indication of connectedness to nature utilising a commonly used and reliable measure [\(99\)](#).

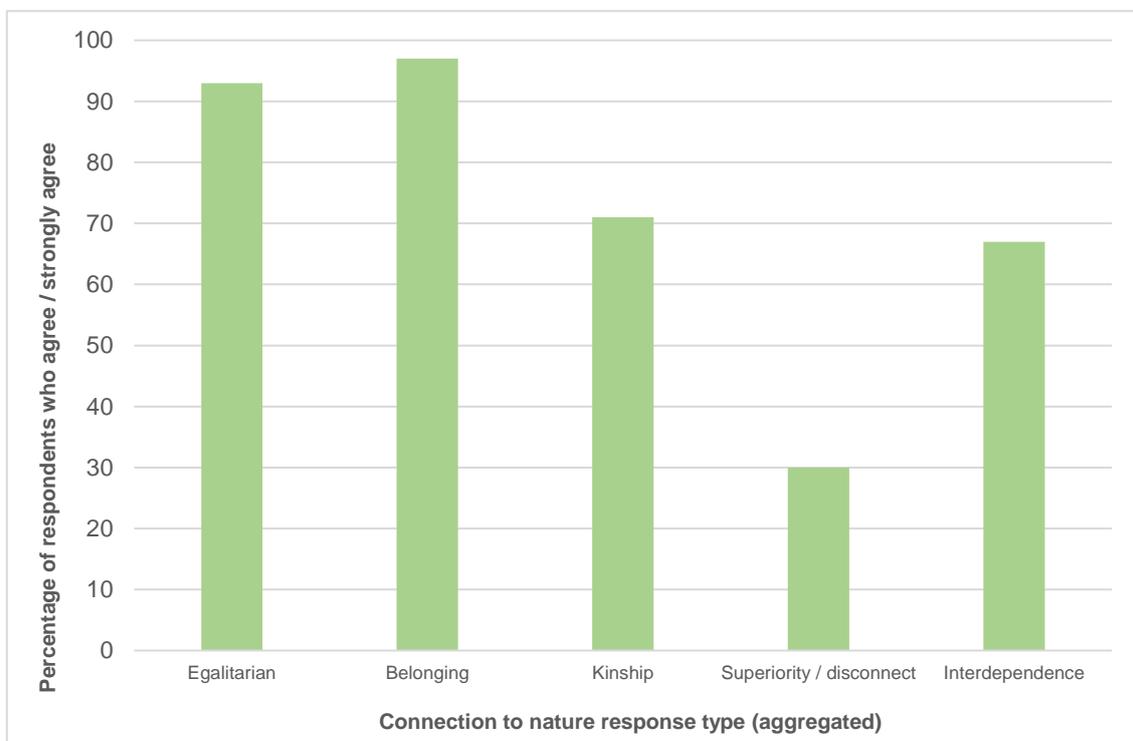


Figure 12. Selected results of the Connection to Nature Scale survey indicating categorically aggregated responses for all locations.

The findings from the CNS survey in Fig. 12 align with the qualitative insights presented in this chapter, that the samples from the study communities reported a strong sense of egalitarianism, belonging, kinship, and interdependence, with a relatively low number (30%) who felt that they were superior or disconnected to other members of the natural community. This supports the observations of some parts of the communities becoming increasingly alienated to nature [\(173\)](#) with

rising urbanisation, modernisation, and diversification of livelihood opportunities. The highest proportion of respondents (96%) agreed or strongly agreed with the statement implying a sense of belonging to the natural community. This would plausibly be expected from the strong sense of community (123) illuminated in the previous empirical chapter, resonating with the communal values and pro-social predispositions observed. Furthermore, the high percentage of respondents agreeing to statements purporting kinship with the natural world aligns with the direct affiliative bonds derived from animistic spiritual associations (123) documented in Chapter Five.

The results are convergent with other studies using the scale (Ernst & Theimer, 2011; Nisbet et al., 2009:512) and follow the author's proposition that the scale:

“provides evidence for the coherence of Leopold's vision that feeling a sense of community, kinship, egalitarianism, embeddedness, and belongingness to nature are all aspects of a broader sense of feeling connected to it. They support Leopold's contention that connectedness to nature leads to concern for nature, as the CNS has also been shown to relate to a biospheric value orientation, ecological behavior, anti-consumerism, perspective taking, and identity as an environmentalist. Lastly, they suggest that personal well-being is linked to a sense of feeling connected to nature.”

Similarly, Appendix Va. (290) and Vc. (292). indicate that the material from ethnographic interviews and observations was dominated by the second order nature-connection themes. Wildlife and utility represented the most common thematic references, with equal reference to themes of pro-environmentalism, hunting, farming, and a sense of connection (Appendices Vc+d, 292). Appendix Vf presents the relationships between key themes such as pro-environmental and pro-social coding events. Through a thematic cluster analysis based on clustering by coding similarity, this graph indicates six main clusters, suggesting similarities between the themes of each same colour (293).

The triangulation of these additional indicators of human-nature connections with the ethnographic accounts presented throughout the empirical chapters strengthen my exploration of the research objectives, the insights of which will be drawn together in the next chapter (204).

Summary of Chapter Six

Through this chapter I explored the multifaceted notion of connectedness to nature, experienced empirically through my ethnographic fieldwork, and contextualised within prior research on this subject area. As human-nature connection represents the fundamental basis of my research, this chapter is integral to the rest of my investigation. Elements of the review have taken us on a journey through several key dimensions of the complex human-nature relationships scrutinised. I was particularly interested in examining what, if any, relationships there may be between this sense of connectedness to nature, and the behaviours related to the utilisation of natural resources; particularly the practices of hunting, trading, and consumption of bushmeat, and the relationships with non-human animals more generally.

I began by revealing multiple examples through the fieldwork, supporting the notion that time in nature brings numerous physical and psychological benefits, pointing to longer lasting, eudaimonic wellbeing as crucial in terms of an expression of PEBs as a result of deepened connectedness to nature. Experiencing first-hand several occasions where the benefits of time outdoors and the engagement with natural beauty were apparent, I have seen that this is essential for increasing wildlife and place-based bonds and therefore environmental concern. This brought attention to the wider wellbeing benefits of time spent in nature being determined by the affective relationship that one has. Conversely, the decline in interactions with nature observed are revealing an increasingly prevalent cycle of disaffection toward nature. I foreground this in my summation, as it underscores the profound importance of reconnecting people with nature, as well as focusing research on improving awareness of the extinction of experience and addressing it through societal and public policy change. From an applied perspective, this would not only mandate advocating for more time spent outdoors, but also encourage deeper emotional connections to the natural elements through specific types of nature engagement, driven by transformations in our education systems, public access to natural spaces and campaigns to change behaviours working with existing value systems.

I went on to note a connection to alienation dualism of nature governance, exemplified then by examples of human-wildlife conflict, tolerance and both shifting local perceptions and environmental identities, in parallel with evidence documenting the erosion of TEK and customs. While a deeper examination of the nature connectedness construct and its application for strategy development will be made later, the notion of perceived behavioural control is highly relevant to keep in mind with regard to how people behave toward the environment. Through dialogue with rural farmers, I discovered how land stewardship, and the empathic extensions which embody a sense of ecocentrism, are mediated by both place and identity (Brown et al., 2019). This is a crucial observation, as observed in the emotional and spiritual attachments which my participants had to the land. By considering modern cultural revival movements such as Mawale, I looked back on the congenial ecological identity of the indigenous people of North Sulawesi, with a view to preserving and reviving the elements of nature connection. I underscored normative trends of farming decline, raising serious questions for agricultural productivity, and relationships with nature through time outdoors. I cogitate in this chapter whether the new generation will have the skills and knowledge to farm and even the motivation to protect nature if disconnected and with little impetus to work the lands.

While understandably unable to determine causality in the human-nature relationships from this ethnographic research, I have been able to observe common threads that have initiated questions and analytical dialogue worthy of more in-depth exploration and a call for further research. From an applied perspective, the findings have offered insight into the socio-cultural conditions and potential mechanisms for change in an area rich in biodiversity under pressure from resource extraction. In the next chapter I explore how deepened understanding of both behavioural motivations and propensity for social change, as in the first chapter, along with an improved perception of people's connection to nature, can aid in design of behaviour change strategies, particularly for biodiversity conservation. Progressing now organically from the previous two focal research spheres, I present a comprehensive review of the findings, before leading into applied behavioural change science in the milieu of biodiversity conservation to ask how effective various strategies might be in promoting advocacy and PEB.

Chapter Seven, Discussion: ecocentric pathways and potentialities

To systematically guide this discussion of the findings of my research, I foreground this chapter by returning to my three study objectives:

1. To **explore** pro-sociality and the factors that affect pro-environmentalism
2. To **examine** the role of connectedness to nature in human behaviour
3. To **assess** the potential for different strategies to promote conservation advocacy

The first two of these objectives are exploratory and are focused upon understanding. This is initially through a systematic and extensive review of existing literature and studies which have guided our knowledge regarding the foundations of human behaviour, social exchange, and the relationships with the natural world. This is then followed by interpretation of this body of knowledge with my own real-world experiences through ethnographic data collection depicted in the two empirical chapters five and six, while seeking to fill gaps in this knowledge largely surrounding the relationships between pro-sociality and pro-environmentalism.

The third of these objectives shifts to an applied perspective, building upon the empirical chapters discussed in this chapter to infuse the common trends and narratives which I have identified throughout. These findings aid in the development of a theory of change to reduce anthropogenic threats to biodiversity, which will be addressed in Chapter Eight [\(262\)](#).

An extensive review of the literature guided the advancement of a diverse conceptual framework to understand human behavioural motivations and mechanisms. I maintained a pragmatist [\(80\)](#) (Newing, 2010), transdisciplinary [\(84\)](#) (Tress et al., 2005) approach to interpret my research objectives. The qualitative data obtained from participant observations created a vivid story of communities' lives both past and present, focusing on both the individualistic and socio-structural components affecting their relationships and the associated attitudes, values, and beliefs about nature.

7.1. North Sulawesi, pro-social communities with latent care for nature

I begin this discussion by systematically drawing together the key insights from the empirical chapters addressing research objective one:

To explore pro-sociality and the factors that affect pro-environmentalism

Ethnographic interviews revealed consistent concern expressed related to the environment. From a values perspective, this concern traversed from egoistic to altruistic, and biospheric, intrinsic and relational value orientations. People typically expressed reasons more positioned toward behavioural control than deficits in the core foundations of environmental attitudes to explain the continued loss of forest and native wildlife. These explanations were typically amplified in group settings (286), plausibly an effect of social pressures and self-efficacy (Newing, 2010), particularly in those who were less familiar and comfortable with the research, who might hold a more liberal and congenial set of opinions. My data report expressions of concern for elements of the environment on every fieldwork expedition. These included affective and cognitive empathic exclamations towards animals (139), and trepidation for the future of the natural environment, up to issues of climate change and both social and environmental justice.

Participants of my ethnographic interviews, observations and focus group sessions were unquestionably aware of the degradation of the natural world. This baseline of environmental awareness was presented as a clear frame when we arrived and conducted the initial focus groups. Focus group discussions about what the forest condition was like 10 years ago, and what it may be like in 10 years' time revealed indications of awareness and possible self-efficacy barriers alongside diffusion of responsibility for environmental depletion (286). Most participants confidently remarked that there are changes occurring to the planet, and that they were aware of the loss of forest and subsequent consequences for both them and the biosphere as a whole. The focus group form of collective group activity including deep inquiry and scenario generating may not be common to them in their daily lives however, so it is important to recognise that awareness

of the logic and connection with sustainability may be partially prompted by us creating potential for reflexivity and cognitive biases.

Overall, as outlined and summarised in both empirical chapters, the communities of both Bolaang Mongondow (Imandi) and Minahasa (Taratara, Pandu and Poopo) regencies, provide evidence to suggest the characterisation as highly pro-social communities, with indications of innate empathic tendencies and care-giving communal values, demonstrating latent potential for connections to PEBs.

In the following sections I systematically address each of the socio-cultural and individualistic variables and other key areas of intellectual attention related to fulfilling my research objectives. To distil the observations documented throughout my empirical chapters into meaningful insight, I take a systematic approach and turn once more to the three central components of advocacy profiles of the individual subjects. Ensuring conceptual consistency, I maintain consideration of the structural components of perceived behavioural control and social norms, though interspersed within the three domains of attitudes, values, and beliefs.

According to the Theory of Planned Behaviour (TPB) which heads the conceptual framework for this study, there are several distinct proximal predictors of behaviour, which include the behavioural intention, attitudes towards the behaviour and the perceptions of norms or conventions towards such behaviour, which are mediated by perceived behaviour control (Ajzen, 1991). I highlighted in Chapter Two (16) how the central assumption of the theory is that intention is a direct psychological determinant of behaviour. A positive evaluation of the likely outcome would lead to the exercising of a specific or desired behaviour, thus developing the attitude to perform such behaviour with the expectation of gaining a positive outcome (Han et al., 2010). The openness of the model to include additional variables is useful considering the diversity of socio-cultural variables encountered in my research. Following this theoretical logic, the central importance of attitudes emerges to help understand behavioural intention. Attitudes are perpetuated by normative situational conditions, incidentally amplified in highly pro-social communities with frequent and close contact. This further elucidates the salience of this theory in understanding the behaviours

observed and reported, particularly those related to interactions with the environment.

To further contextualise the TPB in another similar biodiversity conservation situation, I refer to a community outreach programme guided by socio-psychological principles and designed to reduce poaching in a reserve in Thailand (Steinmetz et al., 2014). The weight of evidence in the study pointed to outreach as the main driver of a biologically significant decline in poaching. Although highlighted as a rare example of the direct application and measurement of the TPB, as noted by Freya St John (St John et al., 2014), this study was limited by its social survey efforts with no baseline data collected from those subject to the outreach activities. Furthermore, no published study examines the interplay of those variables within the TPB and related practices. Therefore, the findings of my research offer a rare, detailed contribution to the gap in knowledge of the application of this theory, specifically providing a critical examination of each component, beginning now with attitude.

7.1.1. Fostering pro-environmental attitudes

Attitudes are formed by an individual's view of a few salient aspects of an object and the relevance of such an object to several salient values. Awareness of adverse consequences for particular valued objects activates personal norms, which in turn induce PEBs (Stern & Dietz, 1994). From this viewpoint, an activated altruistic moral norm produces the desired environmental concern and subsequent behavioural outcomes, which can be related to a broader set of values (e.g., Schultz & Zelezny, 1998). Issues of logging and hunting behaviour being driven by short-term, egoistic goals and guided by egocentric concerns, can be addressed with the underpinnings of social identity theory (Postmes & Jetten, 2006; Thomas et al., 2009), helping us to understand the collective, associative in-group impacts of biodiversity loss. This brings with it the cooperative principles of EC (50) which can aid in understanding the necessity of greater stewardship, responsibility, and collaborative governance of natural resources. On review of the ethnographic accounts presented in the empirical chapters, one may deduce a strong sense of this type of citizenship. EC embraces systems thinking mechanisms and principles of collaborative power,

recognising each of our collective and integral places within the ecosystem (Dobson, 2010; Harris, 2013). Through shared attitudes and mutual advocacy for more sustainable lifestyles, nurturing this notion of the commons can help to encourage the co-creation of sustainability policy and the active participation of citizens to behave more sustainably. Social identity constructs with regard to environmental concern are explored in greater detail [\(239\)](#) shortly.

My research revealed that active engagement with participants in discourse regarding the environment suggested that it became more salient to them, evidenced by the responsiveness and independent encouragement to engage in these discussions, and increased attention and appreciation of environmental and educational discourses as we shared our knowledge of environmental issues with the communities over time [\(286\)](#). In both Poopo and Taratara, during focus group sessions discussions of culture, family and other traditionalism type values triggered other universalism values type indications, noted by expressing urgency and importance of preserving cultural elements, and group consensus on the importance of nature protection.

Care should be taken, however, with cognitive-affective mismatch effects (self-reported attitude will differ as a function of what is salient; Millar & Tesser, 1990), as thought about one's attitudes has inconsistent effects on the attitude-behavior relationship. However, knowledge and active engagement in subjects of discourse does play a significant role in shaping attitudes (Bradley et al., 1999; Sigit et al., 2019). Recent studies have demonstrated the association between environmental knowledge and pro-environmental attitudes. For example, students' environmental attitudes and ecological behaviours were improved through connection to nature and active engagement in scientific argumentation (Faize & Akhtar, 2020).

Understanding attitudes is not only important for understanding the motivations for PEBs and salience of pro-social values as per my first research objective, but also in their predictive power for PEB. Research by Florian Kaiser (1999) demonstrated the relationship between pro-environmental attitudes and behaviours using a structural equation model. The model demonstrated that environmental knowledge and values explained 40 percent of the variance of

PEB intension which, in turn, predicted 75 percent of the variance of general PEB. This finding may be harnessed into applied form in this study, by reasoning that the prevalence of attitudes toward the environment may also predict subsequent behaviours.

My research also signalled toward psychological consistency, the notion that people have a desire to be consistent in their cognitions, attitudes, and actions (Stone & Focella, 2011). This also relates to self-efficacy and self-validation ideals, heightened by the communities' close and intimate living spaces, seeking egoistic validation for the congruence with both individual and communal norms. When I spoke with villagers about their levels of environmental concern, they often attempted to demonstrate compliance and authenticity with the self-reported attitudinal states. Examples direct from my ethnographic fieldnotes include (P152, EA5.32), with demonstrated recycling behaviour following expressions of related attitudes (P175), environmental activism and leadership from Benny (EA5.35.) and acts of compassion toward animals from Rudy in Pandu (EA5.20, EA5.30). Andriela Biswas (2020) recently developed a modelling framework based on four intrinsic aspects: literacy, sustainability, lifestyle, and health. Biswas demonstrated that they represent primary hindrances (such as educational systems) in the path of expression and propagation of environmental attitudes. The dynamics within this nexus of environmental variables may help to explain some of the attitudes toward various social phenomena, such as the commonality of feasting (EA5.23, EA5.24), superstitions (EA5.1, EA5.3, EA6.13.) and misinformation regarding health benefits or taboos. I concur that misinformation, commonly observed or purported attitudes and social phenomena are exchanged between different societal levels through cultural transmission and misinformed communication. As these are not challenged, they are perpetuated and adopted by subsequent generations. This interestingly resonates with the multiple accounts and observations suggesting that previous generations were more harmonious and better stewards of the land (P126; EA5.1). A sense of shame arose from the apparently less conscientious attitudes of the new generation and the disregard of the balance between humans and nature, in addition to cultural erosion. This appears to point toward a form of identity-consistency basis of environmental responsibility. Geoffrey Miller

(2013:22) reflects on the notion of multiple selves to offer a relevant explanation toward the notion of consistency:

“Consistency of principles and values—and hence consumer preferences—is a personal achievement driven by metacognition, critical self-reflection, a vivid autobiographical memory, and a misguided existential yearning for unity of personhood across time and context.”

Building on this, the ethnographic accounts and attitudinal/ behavioural trends from Chapter Five combined to highlight how the level of receptiveness to act upon environmental-attitudinal foundations is largely dependent on the scale of vested interests in resources, the prevalence of structural and normative barriers and their perceived behavioural control or empowerment to behave in a pro-environmental way (Allen & Ferrand, 1999; Kalamas et al., 2014). This leads logically into the next section where I explore the connection between social norms and environmental attitudes.

7.1.2. Normative influence on environmental concern

One salient observation was the powerful influence of social norms in the close and familiar societies. In Poopo, injunctive social norms were recorded with Tommy and several others in discussion about how people perceive social pressures to conform to the attitudes and behaviours of others. The consensus was that public pressure and behavioural conformity are valued highly. It was remarked that if the majority of people were ashamed to bring bushmeat to the village, then hunting bushmeat would likely stop. Interestingly, they remarked on reflection that there were already indications of this normative conditioning. They shared stories where the children were more aware than parents, and had asked them not to kill animals, aligning with children’s more innate resistance to killing or harming other sentient beings (286). A further example was in Taratara, where it was reported (I believe with authentic disclosure from the participants), that people there were no longer prepared to bring monkeys back from a hunt, with widespread awareness about the species’ protected status (EA6.13). The comments from numerous participants were unequivocal: two normative influences in the village included firstly an awareness campaign with a billboard

on the way out from the centre of Tomohon city toward the village. Secondly, cited within my fieldnotes and ethnographic interviews (286), was the rare but important incident of active law enforcement. I found this to suggest that the social spread of consequences of enforcement may be a powerful deterrent of environmentally threatening behaviours.

An individual's conviction that acting in a certain way is right or wrong represents their personal norms, through a process of internalisation. Returning to Schwartz's (1977) Norm Activation Model (NAM) may help explain the motivation of social behaviours observed in this research, particularly those related to the environmental practices of concern. Participants were highly influenced by norms regulating the focal practices, which demonstrated moderate indication that they were aware of the consequences of environmental degradation and attributed responsibility on their generation for the impact of exploitative behaviours and the need to become more sustainable (286). I recognise that further detail into the mediation roles and direction of associations in this model would require more in-depth investigation. By focusing on personal norms, awareness of consequences and responsibility, the NAM helps to acknowledge that one's moral obligation to act influences the causality of altruism or ecocentrism.

I found public pressure and accountability at first a relatively trivial concern, though on further deliberation it appeared to reflect the profound social trappings of living in such close quarters. This exemplifies the intimacy of communities and the salience of public perceptions and social pressures. I reflected that social life is governed by perceived behavioural control and a mosaic of self-efficacy barriers. This represents an important theme: that social norms could certainly change there, and it was even remarked of the changes occurring currently, notably with children resisting the conformity to kill animals. Change is possible, is already happening, and probably will not face too much resistance, depending on the salience of behavioural control. This serves as a reminder of the characteristics of the Bolmong and Minahasan people as fairly liberal, sensitive to social norms and EIs (65).

The related subject of tolerance emerged in association with human-wildlife conflict, which impacts the formation of perceptions, attitudes toward animals and

their co-existence with people. The attitudes to non-human primates has strong influence on whether pest species are tolerated or removed, while there exist issues of the differences between perception and reality in relation to primates considered as pests (Lee & Priston, 2005). While monkeys were caught as a result of raiding of agricultural crops ([EA5.21](#)), little evidence was observed or reported of animosity toward animals, suggesting mostly tolerance as the widespread perception toward wildlife. These types of interactions are of paramount importance in the quest for increased harmony, understanding the dynamics and needs of both humans and wildlife, and the complexities of the processes involved in catalysing potential shifts towards more favourable perceptions. By envisioning human and non-human primates as members of a dynamic ecosystem, we may be able to unravel the multifaceted way that we interconnect (Dore et al., 2017).

Illustrating this notion, in Poopo we find one of the most fascinating aspects of social constructs and shifting perceptions, with the cultural preservation of the MaWolay dance ([194](#)). An intriguing narrative emerges from the shifting perspectives, forging a unique story of the paradigmatic shifts in the relationship between native wildlife once revered as pests, to become an emblematic symbol of pride in contemporary society. The popularisation of MaWolay has seen the transformation of local perspectives from a relationship of antagonism to pride. This holds potential conservation significance, to shift previous and prevailing attitudes, values, and perceptions of nature to become more pro-environmental. The key will be to normalise this perception through campaigning and inter-personal communications promoting the positive perceptions. This model could potentially be utilised in other areas and socio-cultural settings, to avoid negative perceptions and avoid persecution of animals such as the monkeys being threatened through either passive (traps, poison) or active (targeted pursuit on the ground) hunting.

The participants studied in this research exhibited environmental concern and a strong sense of connectedness to nature, plausibly chiefly as a by-product to the egoistic or altruistic benefits appropriated from the natural world. These notions speak to the second domain within the advocacy profiles, that of the consideration

of human values. I now position the findings within our conceptual understanding of values in relation to the environment, often referred to as biospheric values.

7.1.3. The plasticity & embeddedness of pro-social & ecocentric values

Values represent an important construct to address the research objectives within this study, as they affect how people evaluate different choices, and the individual and collective costs of the outcomes. I build upon the common delineation of values (25), recognising Schwartz's proverbial intrinsic (self-transcending) and extrinsic (self-enhancing) value domains (Schwartz, 1992; Schwartz & Bilsky, 1990; Fig. 13). While it should be acknowledged that there was no experimental design to explicitly measure values utilising a specific tool or metric, the ethnographic fieldwork indicated value types following these definitions.

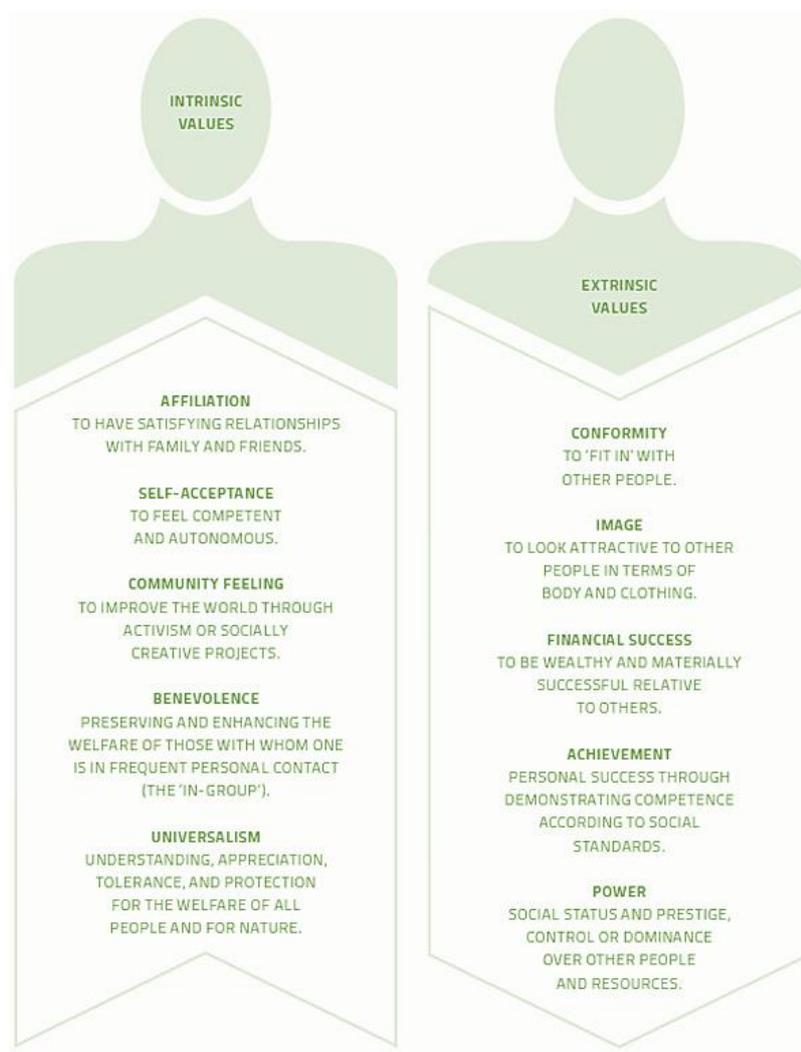


Figure 13. Contrasting intrinsic and extrinsic value domains, with the core value orientations (Holmes et al., 2011).

Humanistic and biospheric (universalism: intrinsic) values are related to both pro-sociality and pro-environmentalism and thus represent the predominant value orientations noted in these relationships, typifying the study communities in terms of their highly pro-social, empathic, and care-giving predispositions. However, I also documented expressions of extrinsic value orientations (e.g., priests transparently called to extrinsic, self-oriented values, [EA5.6](#)), and I am conscious to avoid depreciating the complexity of values systems which may exist in unity as individuals and as communities (Maio & Olson, 1995). A key commentary by Kai Chan ([2016:465](#)) on relational values encourages the need to “*transcend the unhelpful dichotomy of sustaining either human wellbeing or nature for its own sake*”. Chan advocates for positioning oneself beyond the short-term, quantitative quick-fix conservation interventions, and instead investing in understanding human-nature relationships. This underscores the premise of my research, situating my observations of relational values and their meaning for my research objectives. Particularly, understanding and pursuing relational, universalism-type values resonates with notions of connectedness to nature, and the aim to nurture ecocentrism. Relevant to this is the differentiation between the self-concept, and fundamental moral orientations of the community relating to others, as a form of ‘values homophily’ (Maio, 2016). Individuals are more likely to interact with those similar to themselves. As documented in this research ([EC, 6: 194,196](#)) one may have a strong sense of belonging to the community, but may not agree with the way they express certain values or be inconsistent with social identities including EIs ([239](#)). This may partially explain why participants in this research expressed ecocentric orientations yet also behaved in ways counter to such value orientations (examples in [189](#) and [243](#)).

The cultural customs I experienced may represent expressions of the community’s values, such as the normative acceptance of hunting of endangered species or the commensality of feasting. The predominant relational values observed surrounded the spiritual-mystic engagement of the natural world. This sense of interconnectedness appeared as remnants from an animistic past, which has emerged as a poignant finding in this research’s focal sphere of pro-sociality; explored in more detail in [113, 123](#) and [239](#). Empirical evidence collated here demonstrates an interplay of both instrumental, dominion paradigms

perpetuated by modern religion, and culturally embedded ancient wisdom and spiritual ideals. Nature is perceived as a balancer, an intermediary between humans, the spirits, and God. Cultivating interconnection in place of the ideological sense of anthropocentric separation mandates a deeper respect, sacred protectionism, and traditionalist values to encourage environmental concern ([EA5.16, 239](#)).

Noteworthy within this study is the values spill-over effect, where appeals to certain value types may provoke the expression and subsequent advocacy for other value types in that domain (Crompton et al., 2014). Priming benevolence values for example can make participants more helpful and supportive to one another, whereas priming achievement values can make participants more focused on success and aspiration, and generally more competitive. This is logical considering that Schwartz's circular model indicates that achievement and benevolence serve opposing motivations (Schwartz, 1992). This has implications for contextualising current prevailing values within a target community and the subsequent approaches to targeting certain values through selective communications and campaign messaging. An important question is whether it is a plausible goal to actively shift certain existing values, from for example hedonic pleasure-seeking values, to universalism, or biospheric values ([25](#)). I have learned of values to be truisms, typically stable across generations (Everard et al., 2016), indicating it may be most effective to target children and adolescents when value systems are still developing. Also, that repeated engagement increases salience of values, so they can be thought of like "muscles" which need to grow and develop with regular engagement. Following this logic, speaking to values such as traditionalist values in the participants, may invoke certain expressions of nature connection (universalism) type values. Further research would necessitate trials to examine the efficacy of this possibility, proposed as a part of a strategic theory of change ([262](#)).

Other values research showed that smaller ecological footprints were recommended when reminded of intrinsic values of self-expression, family, and generosity (Sheldon et al., 2011). Through immersion in nature, intrinsic aspirations reflected pro-social and other-focused value orientations, whilst extrinsic aspirations predicted self-focused value orientations (Weinstein et al.,

2009). Supporting these findings, (173), in this current study participants immersed in natural environments reported higher valuing of intrinsic aspirations and lower valuing of extrinsic aspirations, whereas those immersed in non-natural environments reported increased valuing of extrinsic aspirations and no change of intrinsic aspirations. A plethora of other studies represent example cases of individuals acting on values through the process of priming socially embedded or pre-existing value types (Brewer & Gross, 2005; Maio et al., 2009; Wade-Benzoni et al., 2008), suggesting a values-priming approach to be a potentially powerful tool at motivating lasting change for biodiversity conservation.

A recent Climate Outreach report on communicating climate change during the Covid-19 crisis of 2020 cogently frames this process of engaging with people on the sensitive issue of the climate emergency, reiterating my call within this research to speak to altruistic community values:

“People tend to respond powerfully to information that fits with their values and worldview and reject information that doesn’t. People’s values do not change easily, but their relationship with the external world, and the values they express at different times, do. ‘Self-transcendent’ or ‘communal’ values — like compassion, interdependence, or equality — are concerned with the welfare of other people. Around the world, holding communal values is a strong predictor of PEB.” (Webster et al., 2020:12).

Based upon experiences documented here and knowledge of values dynamics my positionality on the value change debate is that there are key considerations of scale which ought to be foregrounded in this discourse. The systems view of values as embedded, cultural components is well supported and resonates with my findings (for example the structural and normative encouragement of communal value types). However, this allows limited room for incremental change in an individual’s values through the expression of values disparate to the prevailing, embedded system at the time. Worthy of consideration is whether certain visions of values plasticity (Manfredo et al., 2017) might be excessively reductionist, and that certain individuals’ values can still be primed, while in the cultural background other more embedded values endure. This does not suggest they are static entities, but that that they retain plasticity and dynamism. Engagement and societal expression of such values would depend on what types

of change are being sought and the spatial consideration of where values are located. Combining this view of spatiality with the socio-ecological systems perspective may also usher in the notion of values as the structural binding of social practices. Following this more sociological, geographic perspective, support for environmental protection also stems from emergence of postmaterialistic values. As countries gain postmaterialistic values, support for environmental issues increases (Dunlap & York, 2008). The idea that values adapt humans to their surroundings provides reminiscence of the qualities of [56](#), with people representing practitioners, recruited into, and acting upon various practices. This echoes the call for values research to adopt a grounding in sociology in place of constraining to individualistic socio-psychological research traditions. Looking back to Fig. 6 it is important to remember that practices are not always visible as openly demonstrated behaviours, analogous to values not always manifested in individuals' attitudes or actions. The social underpinning of behaviour, practice as an entity, should be the target of sustainability policy (Spurling et al., 2013).

While beyond the scope of this thesis, my findings signpost toward how values research could focus on several pertinent areas including furthering our understanding of the efficacy of appealing to certain value types, temporal variation in values expression and exploring how value priming is significant for conservation. I have become interested in the transmission routes of values. To be able to effectively explore the issue of scale and plasticity of human values, it is of importance to understand the myriad routes they are transmitted.

“Values are transmitted through many different mediums, through families, through traditions, by cultures in so many ways... The stories from which values emerge are instrumental – that is to say effective in making or changing behaviour.” (Palmer & Wagner, 2013:12).

This has many implications for biodiversity conservation, which resonate with my third research objective considering the impact-oriented perspective of values. Adopting a multi-level perspective to understand value locality and plasticity may be useful for natural resource managers. Viewing the issue of hunting, trading, and consumption of bushmeat for example through a combined values and social

practice lens may help to delineate the unit of focus, approaching individuals, practices, or systems with campaigns. See how a SPT approach [251](#) may offer innovative interpretations of environmental challenges in this context.

Emerging from this restructuring of culturally embedded values is a mixed-belief paradigm to comfortably allow for liberal interpretations of faith. The attitudinal components, blending with a flexible compound of value constructs, now brings this discussion to the individual and social considerations of belief. Evidenced by the substantial empirical contribution to this thesis, belief plays a major role in addressing the research objectives as a powerful social conciliator.

7.1.4. Belief: a conduit for relaying environmental values

While belief has many interpretations, I examine it in this research predominantly through a religious lens. The ethnographic accounts and symbology from nature illustrated in the rich stories presented in Chapter Five [\(107\)](#) illuminate the connections between the social, mystic and the natural and paint a picture of social living with powerful cohesion between these forces. This has major implications for the assumptions of perceived behaviour control, suggesting social exchange may largely be led and governed by structures of faith, superstition, and the fear-control dynamic of the supernatural, while preserving sentimentalism and respect for the traditional ceremonial aspects of communal living.

The key finding that religion in all villages forms the social adhesive, the support mechanisms for community relations and exchange, even determining the normative conditions for compassion, strongly influences the relationships with nature and potentiality for more ecocentric lifestyles. Modern religions dictate social exchange, evidenced with the passionate and dogmatic sermons and use of guilt and shaming [\(EA5.6, EA5.7\)](#) and perpetuation of social norms [\(286\)](#). While seemingly consistent in the villages visited in Bolmong, this effect varied in magnitude with the different church denominations, with the Protestants most devoted in their dogmatism and observance to associated religious practice, while the Catholics less so. I noted a possible emergent dualism [107](#) in the motivations and social pressures for adherence, with the disagreement or

rebellion against formal religion and its doctrines and normative structures, with decreasing religious fidelity, especially in younger generations. This is a critical point to foreground reflections on beliefs, as it lights the routes toward change [249](#). While the Minahasan and Bolmong ethnicities are characterised by their openness to change, that may not always be the case. Socially, traditions and norms may be so entrenched, that people never consciously question these practices and thus flow with the norms, exemplified by the tales of compassionate connection to animals yet expectation of having to eat them [\(EA6.17, EA6.18\)](#). Conversely, certain traditions die off or shift over time, and unfortunately the old cultural customs and spiritual aspects are quashed by modern religion, a powerful force at both expediting and oppressing change.

Among the numerous traits associated with the predisposition to empathise with others, the only one consistently linked to environmentally conscious behavior and most related to belief (aligned to the current theories brought into this analysis) is personal control (Allen & Ferrand, 1999), and key subsets of perceived behaviour control (Kalamas et al., 2014). The dynamics of *gengsi* (the uncontrolled acquisition of material possession beyond one's means [\(286\)](#) are closely dependent upon socio-cultural context, in particular highly associated with the level of perceived behavioural control, thus having significant influence on behavioural motivation. During focus groups, people collectively agreed that many live beyond their means and that debt is becoming a problem. They highlighted the need to look out and care for one another to avoid this, pointing to their mutual aid systems like *mapalus*, supporting pro-social characteristics. To contextualise this into this research, understanding people's allocation of environmental responsibility to external forces (i.e., those perceived to be beyond their direct control) is key when exploring the associations between wealth and resource acquisition and protection of the natural world (Kalamas et al., 2014). Cleveland et al., (2012) helped develop the novel construct of internal environmental locus of control (INELOC), which captures multifaceted attitudes pertaining to personal responsibility towards and ability to affect environmental outcomes. Further to this, external ELOC can be divided into *powerful others* and *change* or *fate* -mediators. Multiple references were made from participants to the controlling forces of businesses, government, religious institutions (*powerful others*) and those which are more attributed to fate and chance factors, mostly

the command of God (chance/fate), and as such assign less individual responsibility for their actions. External ELOC—*powerful others* may indicate people feel a sense that any environmentally-beneficial actions on their part (e.g., reducing hunting or consumption of bushmeat) may be mitigated or diluted by the impact of these corporations and powerful actors (159). Conversely, doctrinal religious convictions often form nihilistic perspectives of the ecological landscape, and thus ascribe negative consequences to God's will (EA5.16). Understanding these varied levels of loci of control helps to explain the internal and external barriers to environmental stewardship, and it has been suggested they could be utilised as empowerment tools for campaigning for environmental concern, potentially capable of influencing PEBs (Cleveland et al., 2012). This deep understanding of control meditation is highly relevant to the second objective investigating how the level of connectedness to nature may affect the utilisation of natural resources.

Related to the transitioning values in the societies, I also observed the cultural erosion of certain traditional facets of social living and the disillusionment of some participants toward the belief systems; not only the remnant animistic elements but even the modern Christian doctrines (EA5.7). Much of my ethnographic discussion was either directly focused upon, or was eventually drawn into, the subject of TEK, the embodiment of culture and identity and people's traditional relationships with the natural world. The loss of TEK has major implications for the stewardship of lands and natural resources (Gómez-Baggethun et al., 2013), in parallel dismantling the long-held and resilient spiritual identities attributed to the land and the communities' ethnicities. The attempts to remedy this with cultural preservationism 74, was interwoven in the exchanges with my participants. Drawing from, and thus preserving TEK and indigenous wisdom sources, is important in natural resource management. Maria Tengö et al., (2014:589) advocates for connecting diverse knowledge systems, and introduce The Multiple Evidence Base (MEB) approach. An MEB approach:

“emphasizes the value of diversity and recognizes a multitude of ways to address the challenges of cross-fertilization that are firmly rooted in some key principles that are agreed upon by all parties.”

When conversations turned to the modern approaches of the church to engage the youth, or the potential for the future, there was an almost desperate sense of foreboding, a seemingly imminent lack of continuity of the culture and customs of the local ethnicities and parallel loss of the core values and dogmatic commitment to Christian virtues and prayer (EA5.7). The priests that I encountered, particularly from the Protestant denomination, repeated common themes of disobedience of the word of God by the youth and my dialogue with the youth indicated aspirations largely beyond localised livelihoods, particularly within the villages closer to larger cities. This is supported by reports which demonstrate increasing frequency of transfer of younger working-class individuals to urban locales (UN, 2009).

In Chapter Three (65) I explored the historical account of religion in North Sulawesi, recalling the importance of indigenous and cultural identity (Li, 2000). I noted that prior to the introduction of modern religions over the past millennium, the predominant belief system was animism. This was central to the cultural identity, and as my research has revealed, remains a crucial part of people's identities. Religion is a powerful and controversial force in the contemporary world, with the majority of societies seeking to cultivate belief systems as sources of social stability and engines of social progress (Aldridge, 2007).

One key finding related to beliefs emergent from this ethnography, was empirical evidence to support the notions of the emergence of a pluralised interpretation of belief. Kosel (2010) suggests that increasingly, people who see themselves first and foremost as Muslims or Christians accept the plurality of faith and the traditional practices due to lack of claims to exclusiveness and dogma, blurring the boundaries between sacred religion and secular tradition. This complex consideration of belief heterogeneity is illuminated by Kelli Swazey's (2008) exploration into Minahasan culture and identity. Swazey found the Christian ontology behind the Minahasan people's interpretation of ethnic identity to be in tension with the Indonesian national construction of the relationship between ethnicity, national identity, and religious affiliation. The new diverse religious ideology which has developed holds importance for social living and nature-based relationships. The spiritual healer To'Naas Friko (EA5.16) called for what he describes as a "nature religion". I infer that he was suggesting a new modern

interpretation of Christianity, based on nature worship as was integral to the previous animism; an emergence of a mixed-belief paradigm incorporating a more liberal and multi-dimensional interpretation of faith. Chapter Five grounded this coalescence of the old and new belief systems in evidence from my ethnographic encounters, with powerful examples of cultural customs, superstitions, myths, and stories blending throughout religious and cultural identities. The emergent narratives point to the infusion of traditional practices and customs with the modern Christian and Islamic ideals. While naturally some social tensions have arisen, a new diverse religious ideology has developed which strongly influences social living and thus human-nature relationships, which may allow for reverence and sacred protection of nature while balanced into modern religious doctrines.

The heterogenisation of the belief system in North Sulawesi has major implications for the control and acceptance of behaviours (social norm theory: Kinzig et al., 2013; Stern et al., 1999) and thus how likely individuals are to partake in the practices threatening the fragile ecosystems which the people and biodiversity rely. Previous studies remark how a movement's ideology contains specific beliefs about consequences and responsibilities that, in conjunction with its chosen values, activate personal norms that obligate individuals to support the movement's goals (Stern et al., 1999).

My ethnographic observations and experiences with the communities indicated a mystic power-authority exchange, with the spirits apparent controllers and authorities of the lands, embedded within nature itself. Nature is seen as a balancer to these communities, an intermediary between humans, the spirits, and God. Metaphors of nature as a giving maternal authority figure are important observations for notions of stewardship. The spirits took two main forms, either as benevolent guardians, providers, sources of wisdom, or malevolent judges and mischiefs, with both forms requiring appeasement (P123). This further suggests that behaviours may be strongly influenced by beliefs, subsequently shaped by attitudes toward the preservation of the old social and spiritual past. It may be inferred based on our understanding of values (Crompton, 2011; Maio, 2016; Schwartz & Bilsky, 1990) that deeper respect, sacred protectionism, and

traditionalist values ([EA5.16](#)) associated with the natural world may be likely to encourage PEBs in these communities.

Graham Harvey (2019:83) calls for a 'new animism' as a potential ideological solution to the current ecological and climatic emergencies, which clearly require alternative thinking and action in adjusting human engagement with the larger-than-human community:

“The animist relationships of many Indigenous traditions not only offer vital exemplars of ways to make, maintain and/or restore inter-species respect, but also embody powerful critiques of the ideologies and practices that have got us into this mess.”

The animist conception of the world is about relations. It views all beings as a community of individual persons, with humans just one type of persons among many, as relations of other beings, and members of multi-species communities in which the rights and responsibilities of all beings require consideration (Harvey, 2019). Another significant implication of animism is understanding the practices of concern as forms of relationship with ethical, ontological, and cosmological dimensions. This aligns with the nascent discourse from this current study and positions itself as a system's thinking worldview offering a potent and radical challenge to modern society's dualism of 'nature' and 'culture'. Given the preservationism and appreciation of the animistic values and customs reported in my research, this may plausibly hold the power to reignite a more interconnected and ecocentric society, emergent from the pluralistic faith system. Building upon this critical notion, I carry through to Chapter Eight how this understanding might influence strategies for societal change.

Ives and Kidwell (2019) support the observation of this research of religion as an institution of substantial social, political, and environmental relevance. The authors contextualised social values for sustainability with religion, arguing that religion should be viewed as an institutional phenomenon that is complex, multi-scalar, and multi-dimensional. Many religions are broadly associated with intrinsic values. However, the degree to which they are translated into pro-environmental attitudes and behaviour varies according to context (Ives & Kidwell, 2019). The

authors further support the socio-ecological systems [212](#) understanding of values as not freestanding but connected to social practices and institutions (Fig. 14).

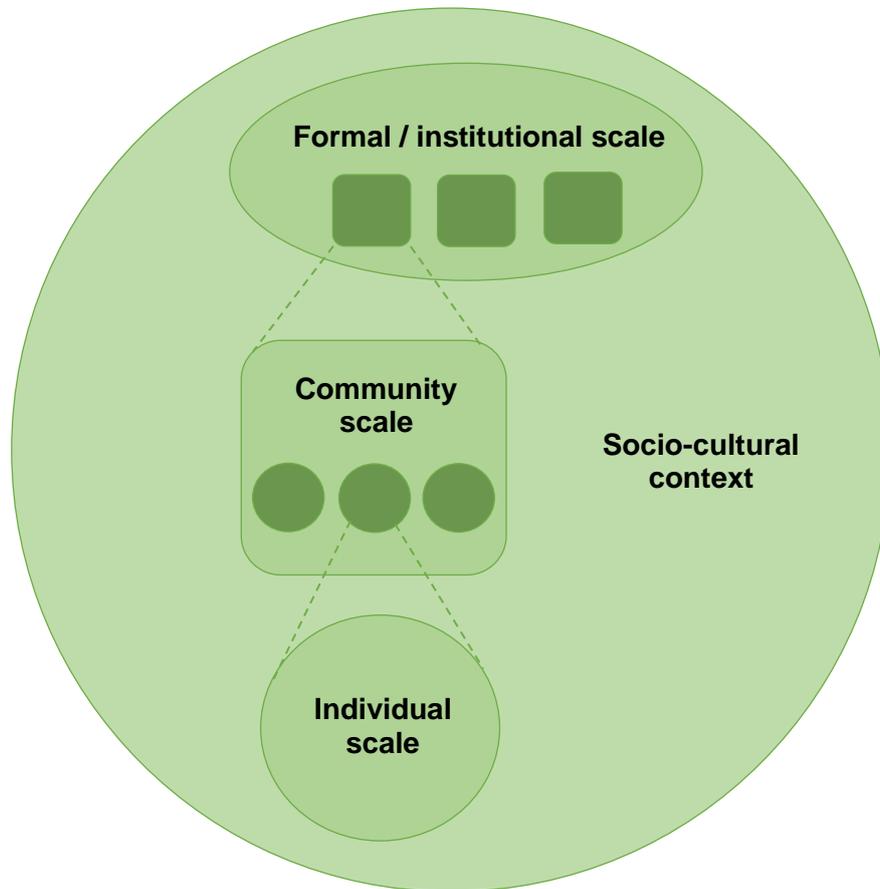


Figure 14. Schematic diagram of the scales at which religious values for sustainability can be held and expressed (adapted from Ives & Kidwell, 2019).

Ives and Kidwell (2019) also direct us toward the growing evidence that ecocentric values are increasingly being fused into nature-based, ecocentric spiritualities. With such spiritualities, even people who are entirely naturalistic in their worldviews often speak of the Earth and its ecosystems as sacred, and thus worthy of reverent care and defence. Despite the prominence of this predisposition within the communities' [\(286\)](#) freedom to express PEBs was likely inhibited as a result of the perceived behavioural control and normative barriers discussed above.

Through a critical assessment of the role of religion in environmental protection, Bron Taylor (2020a:36) finds that:

“deeply-rooted beliefs, anthropocentric values, countervailing economic ideas and political ideologies, material interests and understandings that to be effective they must maintain credibility with their co-religionists, and, thus, fidelity to the tradition’s tenets.”

As such, they pose substantive barriers to the efforts of some trying to nudge their traditions towards more pro-environmentalism. Furthermore, ecocentricity is not expressed or promoted by most individuals and groups affiliated with world religions, and as such acts of environmental virtue are prioritised; those focused more on local-level impacts. Taylor (2020) goes on to remark how elements of the traditional religion and local practices initially related to Islam but incompatible with the official understanding of Islam in Indonesia do still exist but are compartmentalised into a markedly derationalised sphere to avoid direct competition and confrontation with dominant interpretations of religion. This aspect of derationalisation allows customs and ritual to be classified as ‘mere tradition’ for matters of public discourse while still catering to the needs of many people’s personal piety. Nevertheless, I found that locally specific religious beliefs and practices are still a widespread component of personal piety and spirituality in Bolaang Mongondow.

Considering this, one might perceive efforts to engage with religious actors in the study area to be potentially ineffective. However, based upon personal experience so far, these insights may be simply hindrances rather than absolute barriers, and that the environmental virtues may be sufficient to enact meaningful change for local level conservation issues, such as shifting prevailing norms surrounding hunting, trading and consumption of bushmeat of protected species. Taylor highlights how religions are malleable, and that themes within them may be re-constructed in environmentally friendly ways. Furthermore, that it is in more pluralistic cultural contexts, like the one in this ethnography, that people freely hybridize ideas and insights from different knowledge systems. This, coupled with the Minahasan identity and cultural history being characterised as typically open to change, may lay the groundwork for a more environmentally concerned, ecocentric future. The empirical evidence collated here demonstrates an interplay of both instrumental, dominion paradigms often perpetuated by modern religion, and culturally embedded ancient wisdom and spiritual ideals, cultivating interconnection in place of the myth of separation (Eisenstein, 2013:01):

“Each experience of love nudges us toward the Story of Interbeing, because it only fits into that story and defies the logic of Separation.”

I bring this dualistic connection-separation notion through into the next section, where I present specific insights into the relations between pro-sociality and pro-environmentalism gained from my time living with the communities of North Sulawesi.

7.1.5. Lessons from living among highly pro-social communities

A significant part of Chapter Two (31) was devoted to exploring the principles of pro-sociality, which shaped the eventual focus and trajectory of this research project. The intellectual engagement focused on the diverse subjects of behavioural motivations, sources of pro-social behaviours and empathy. My empirical investigation traversed these subjects discretely, recording multiple instances of engagement with each of these key areas. Overall, the ethnographic evidence amassed in this research and presented in the empirical chapters indicated a strong presence of communal, pro-social value types, from socio-cultural customs, attitudes, self-efficacy barriers and normative influences. I cross-reference the key lesson (25) that environmental concern is related to egoistic, social-altruistic and biospheric value orientations, in addition to beliefs in consequences in valued objects. Therefore, aligning with my findings of social structure with these three orientations will help to understand the construction of such a highly pro-social society, and waypoint us toward the potentiality for nurturing ecocentrism, and thus more PEB.

Earlier I described the convergence of the themes of pro-sociality and pro-environmentalism and their relevance to my research objectives (164). While the definition of pro-social behaviour may seem straightforward, recent research has highlighted its multifaceted nature, with a broad range of questions being explored about the function and nature of helping and its functions. These range across a multitude of intellectual landscapes, from social and developmental psychology, to behavioural genetics, neuroscience and evolutionary psychology (Padilla-Walker & Carlo, 2014). Due to its breadth, studies on pro-social

behaviour have the potential to facilitate the development of interdisciplinary collaborations and perspectives for both theory and application. In order to manage this multiplicity of phenomena, it may be useful to take a multilevel perspective (Penner et al., 2005). With this approach, pro-social analyses are divided into those at the meso level (behaviour of helper-recipient dyads within the context of a given situation), micro level (origins of pro-social tendencies in humans) and macro level (pro-social actions of groups and large organisations). Penner (1995) asserts that a broader range of questions are able to be synthesised using this multi-level approach, creating the platform for greater cohesion and interdisciplinary integration. Penner focused factor analyses on pro-social personality traits, suggesting two dimensions to the pro-social personality. These dimensions are agreeableness, or other-oriented empathy, and helpfulness, all traits commonly indicated in my ethnographic fieldwork.

Reflecting on the findings and their interpretations so far, it may be fair to suggest that being pro-social comes naturally to us. Biologically, helping one another makes adaptive sense (Darwin, 1987; Dunlap & York, 2008). John Helliwell (2014:81) captures the innate qualities of pro-sociality, with altruistic helping behaviours as its foundation:

“Even starting in infancy, children choose altruistic acts irrespective of rewards, are happier when they give rather than receive and prefer those who help rather than hinder others. Despite a wealth of findings that people who do things for others gain a bigger happiness boost than do the recipients of generosity, people still tend to underestimate the happiness gains from unselfish acts (Dunn et al., 2008).”

Helliwell links to point to a lack of acknowledgement of altruism, with the final citation (Dunn et al., 2008) from a study which demonstrates how spending more of one's income on others predicted greater happiness both cross-sectionally (in a nationally representative survey study) and longitudinally (in a field study of windfall spending). This suggests that the reported communal values and pro-social characteristics of the communities I studied may even be under-reported. In other words, the happiness gains from unselfish acts [134](#) of gotong royong, mapalus, memejaan, serikat, and all other cultural customs related to community living may be passive or subconscious. These collective mutual aid systems are

testament to how the Minahasan and Bolmong people can support and propagate norms and trust, to develop and adopt new systems which may eventually enable the normalised protection of nature.

Variation can exist between the generation, onset, and expression of pro-social behaviour (Aknin et al., 2013). This may account for the generational variation in interest in mutual aid systems, but also the diminishing engagement in hunting or farming. My results support research into how culture plays a significant role in shaping the emergence of pro-sociality (House et al., 2013). This may also help explain the more ecocentric sensibilities of the historically longer and more culturally imbedded animistic Malesung religion before modern religions reached North Sulawesi. Participants reported on the wellbeing benefits of cooperation and the importance of preservation of the social systems in place. By this logic, and a broadening empathic reach to include the biosphere, it may be inferred that level of pro-sociality may also be a predictor of environmental concern.

As a final reflection, evidence from Imandi showed historical conflict over mining rights and feuding, and a powerful example of the domination and power interplay with regards to control of natural resources, alongside the accompanying notions of wealth and social pressures (286). As noted earlier however, the adherence to a creed of worshipping spirits from a previous belief system also appeared to bring with it a sense of agency and elements of stewardship. The collective post-structuralist notions of environmental citizenship return to mind once more to explain this. I draw attention again to Dobson's rationalization that this type of community responsibility is driven by a belief in fairness of the distribution of environmental goods, in participation and in the co-creation of sustainability policies (Dobson, 2010). This ties into the normative power of superstition to maintain a secular form of behavioural governance. Religious group association and a shared social and environmental responsibility resulted in stewardship of natural areas, as evidenced with the protection of the spring in Taratara (164). This demonstrates the communal-religious influence and pro-social values predominant in these communities, exemplified with the local agreement to protect the local spring. This holds surprisingly powerful regulatory control if agreed at the village level with the buy-in from sufficient community members. Beyond its instrumental functionality and clear benefits for the community, the

spring is assigned spiritual reverence and sacred importance. Convergent to this was evidence of confidence in the combined social and spiritual governance. For example, in [EA6.1](#) I remarked how Riadi would like to introduce a type of law to respect the cultural traditions, which would entail a combination of Islamic and old animistic beliefs, a combination I have come to understand as an influential and arguably overlooked force in influencing both social exchange and natural resource management. This is a fascinating and possibly powerful phenomenon where local social norms and community pressure may be more effective than legally binding regulations, of potential value with regards to aiding the enforcement of measures to prevent wildlife trade or other threatening resource extractive practices. This reiterates the robust combination of spiritual authority of old and new, and also the impact of local regulatory measures. Moving from the pro-social focus yet maintaining this lens of nature connection, I use the latter part of this discussion chapter to address the second of the research objectives.

7.2. Biophilia personified: Connecting with, and being, nature

To address my second research objective, I draw primarily from the findings presented in Chapter Six ([167](#)). This chapter demonstrated a large number of instances indicating high-level nature connectedness in the communities studied. The sphere of intellectual and empirical investigation of this objective aims:

To *examine* the role of connectedness to nature in human behaviour

Through participant observations, qualitative interviews, and focus group discussions, I presented a contextual investigation of this objective. I focused attention upon the spiritual, social, and behavioural perceptions of oneness to the natural world, and the drivers of natural resource extraction. I explored the nature of people's relationship to the forest and the economic, political, and social context that has shaped their behaviour, and subsequent connection to nature.

Noteworthy is the consistency within my ethnographic notes of how rich, poetic and engaged the dialogue was when discussing natural areas and wildlife. I noted an increase in attentiveness and expressions of pride in the unique wildlife nearby

(e.g., focus group session [a\) Imandi village](#)). One key indicator of an appreciation and conscientious affinity for nature is to regard it with awe and wonder (Shiota et al., 2007). To analyse this one might infer nascent connection and appreciation, with societal barriers to expressions of behaviours congruent to this, with incentives for exploitation such as hunting still significant, albeit diminishing. By exploring farmers' management of native vegetation on their properties, Elizabeth Gosling (Gosling & Williams, 2010) explored the relationship between PEBs, attachment to place, and connectedness to nature; both forms of emotional association. Similar to this study, she was interested in an understudied area of nature connection, highlighting how privately owned land with vegetation was important to protecting biodiversity. Gosling's study demonstrated that greater connection partly accounted for farmers' attitudes and subsequent behaviours involved in the management of their lands. The research also supports the importance of the role of intrinsic values and attitudes, and strategies engaging with the affective associations with nature. Place attachment arises when settings (e.g., local parks) are imbued with meanings that create or enhance one's emotional tie to a natural resource (Cuba & Hummon, 1993). Gosling demonstrated that this led to an expanded sense of self (biospheric values) and greater valuing of non-human species, a finding which may be useful in explaining attitudes and values of participants in this study toward their land.

Previous research suggests that any activity that reduces an individual's perceived separation between self and nature will lead to an increase in that individual's biospheric concern (Dunlap & Van Liere, 2008; Ives et al., 2017; Whitburn et al., 2019). While I have not undertaken empirical experimental design to assess the causality of this proposition, my research has uncovered useful insights in this regard. My fieldnotes and observations indicated that many villagers did not regularly visit areas considered as "nature", but maintained an affinity to the natural elements close to their homes. Preferences for rural over urban, and forests or farms over villages were consistently expressed [169](#). I found that time spent in nature was valued and benefits broadly recognised, indicating a relatively strong sense of connectedness to nature in my study communities. Nature is seen as a place of utility, particularly linked to agriculture and extraction of natural resources such as hunting. But also, for spiritual reverence and mystic sources of meaning, imbued with the remnant symbology, stories and ritualistic

elements from the animistic past. Even for recreation and wellbeing, nature is acknowledged for its provision of awe and wonder, fresh air and peace and a space for respite from village or city life even on a small, localised scale. The implications of these findings support the notion of biophilia (42), and a universal recognition of the importance of preservation of natural spaces.

I encountered the co-existence of seemingly contradictory phenomena, both the connection and disconnection from nature (173). Recent research exploring biophilia and its antithesis, *biophobia* also suggests the incorporation of biophobia given its adaptive functional role, as an important adaptive factor in connectedness to nature and thus an essential part of the construct (Olivos-Jara et al., 2020). The combination of phobic and philic responses was evident in my study and may contribute to the attribution and maintenance of advocacy profiles, suggesting a need for further research into their salience and the dynamics of their relation to PEBs. Acknowledging this nature connection-alienation dualism, I now explore the latter variable, with the intention to understand the roots of disconnection, before considering its antidotes.

7.2.1. Disconnection from nature: impacts of nature-based alienation

Resultant from the loss of contact with the natural world is a growing sense of alienation and increasingly negative disposition towards the environment, resulting in diminished concern for its protection (Soga & Gaston, 2016). The term “*Extinction of experience*” was coined by Robert Pyle (1993) to describe a cycle of disconnection, apathy and progressive environmental depletion. Extinction of experience can lead to a feedback loop in which the consequences accelerate further loss of interactions with nature (Fig. 15). This cycle of disaffection toward nature is complex but highly valuable to understand the relationships between both the causes and consequences of alienation, as well as the pathways among them.

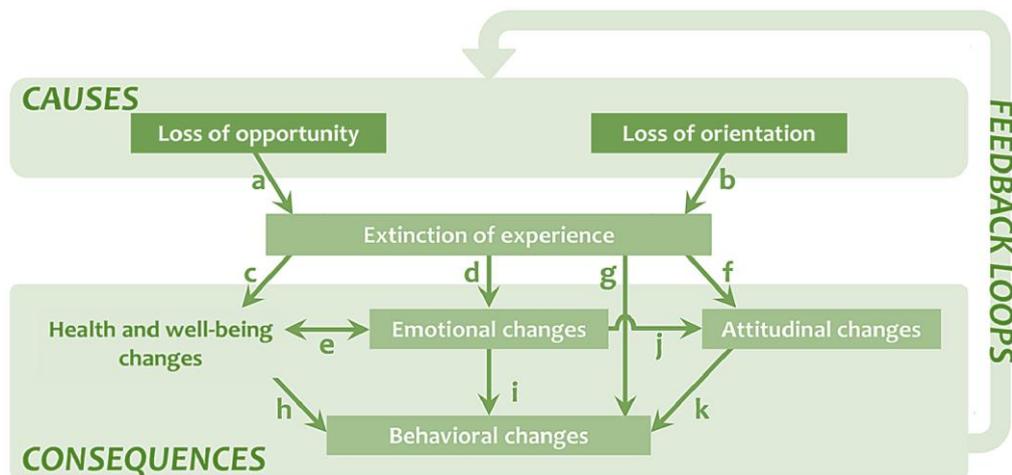


Figure 15. The causes (loss of opportunity and orientation) and consequences (changes in health and well-being, and emotions, attitudes, and behavior toward nature) of extinction of experience, and potential pathways. Soga & Gaston, (2016).

Soga and Gaston (2016) explain the feedback loops involved in this phenomenon. They describe how the decline of opportunities (a) and reduced emotional affinity, or orientation (b) result in the extinction of experience; this causes several consequences such as diminished health and wellbeing (c) which can cause emotional changes (d) and attitudinal changes (f). The resultant health, wellbeing, emotional and attitudinal changes can subsequently cause a decrease in the likelihood of PEBs (h, i, k). Finally the interplay between these consequences can have a domino effect, exacerbating the outcome of other changes as described in (e,g,j). The cultural erosion (196) I observed is also synonymous with an indicator of extinction of experience in nature by the increasing tendency for villagers to spend more time in the village or city. This was normally motivated by occupational and entertainment purposes, though also likely due to reduced incentive to work farmland (loss of cause and opportunity). This is demographically skewed toward younger generations (EA5.7), as older participants tended to prefer natural space. This ironically occurs despite the preference reported by most in this study for being outdoors and close to nature (farm or forest), and the reported health benefits of being close to nature (123). Following the logic of Fig. 15, both the wellbeing and advocacy profiles of those experiencing less time in nature are likely to be affected by decreasing time spent outdoors, fuelling the cycle of disaffection and thus diminished potential for ecocentrism.

Reconnection to the natural world, the antidote to this escalating disconnect, is not only paramount to the protection of our planet but also fundamental to human health, wellbeing and ultimately our survival. In order to begin to explore ways to reconnect, one must understand the types of relationships people have with the natural world and identify ways in which these could potentially be enhanced. To summarise, my field research has revealed a broad and varied array of levels of nature connection and also the impermanence of this connection, indicating shifts in attitudes and ambitions which will likely shape the future of people's time spent in nature and motivation for its protection.

7.2.2. Reconnection and wellbeing

Building on the concepts uncovered in the previous section, I look now toward remedies to separation, and the benefits which reconnection to nature may provide. The observed emphasis on stress in urban environments was prominent in my participants. Participants typically indicated that their place was amongst the trees and that urban living was somehow a punishment or virtue of the advancements of society. This may be analogous to the prominent debate of sentimentalism and resistance for neo-liberal capitalistic ideals spread throughout the east (Steur & Das, 2009). Adopting a social-ecological systems perspective, Ives et al., (2018) respond to the observation that the global call of "reconnecting to nature" is increasing, yet remains poorly defined in its meaning. The authors explore examples of actions to reconnect people with nature, drawing upon the emerging concept of 'leverage points', places in complex systems to intervene to nurture transformation (249) (Meadows, 1999). Their framework identifies five types of connections to nature including material, experiential, cognitive, emotional, and philosophical. This aids in categorising the drivers of human-nature relationships observed in this study. An example of the value of this interpretation might be in deepening environmental concern by targeting and harnessing emotional connections to nature (Shiota et al., 2007).

I was particularly interested in how meaningful the interactions with nature were, and whether they were largely appealing to the hedonic or eudemonic wellbeing of the people with whom I engaged. Hedonic happiness is largely a pursuit of pleasure and the avoidance of pain while eudemonic happiness is more virtuous,

focused on a lasting sense of a good life (Huta & Ryan, 2010). Research suggests that engaging in PEB may have negative consequences for hedonic well-being, but mainly positive consequences for eudaimonic well-being (Venhoeven et al., 2013). The natural environment is known to be able to evoke emotional, spiritual or self-transcendent experiences (Williams & Harvey, 2001). This can include eudemonic states such as contemplation and awe, but also a deep sense of peace which may also verge on the spiritual (Fredrickson & Anderson, 1999). More recent explorations into nature's association with wellbeing, provide insight into how nature can contribute towards eudemonic life development through relational, reflexive and emotional mechanisms (Jordan & Hinds, 2016). Joe Hinds' work includes the emotional and psychological well-being benefits that may be obtained through direct exposure to the natural environment and how these experiences may shape environmental attitudes and behaviours. Hinds describes the importance of understanding the differences in types of well-being, and the potential for cultivating a long-lasting sense of well-being:

“Thus, therapy outdoors may be considered a relatively unique therapeutic intervention with the potential to elicit profound insight and change and to awaken a gestalt of human functioning and being in order to live eudemonically. It is therefore proposed that an embodied emotional immersion within a (sometimes physically as well as psychologically challenging) environment may elicit contemplative and transformative ‘moments’ that, although not resulting in the immediate uptake of a virtuous life (whatever that entails) and initiate a process of self-realisation that fosters a better appreciation of one’s place in the world.” (Jordan & Hinds, 2016:45)

This I believe is imperative to understanding the motivations for villagers in my study to spend such a long time outdoors. Also, this holds potential to advocate the need to normalise outdoor time and make it more accessible for people. An example from my ethnographic accounts ([EA5.33](#)) contextualises this, where Viani proposed the development of local, accessible green space within the village for people to gain the benefits of nature more easily. This idea stuck with me, as it not only aligned with previous concepts I had considered, but I found it to be a genuinely prospective approach to remedying the disconnection described above.

Supporting this proposition as a positive management strategy, Miles Richardson highlights how engagement with natural beauty (EWNB) is key to the well-being benefits of nature connectedness (Richardson & McEwan, 2018). Focusing on the theoretical aspects of beauty and affect regulation, he presents research that assessed the 30 Days Wild Campaign from the UK Wildlife Trusts, the first intervention to increase EWNB (Diessner & Steiner, 2017). The research, which is based on the third year of the campaign (since 2015), revealed sustained and significant increases for scores in nature connection, health, happiness, and conservation behaviours. Significant increase in EWNB mediated the relationship between the increases in nature connectedness and happiness. They bring attention to the wider wellbeing benefits of time spent in nature being determined by the affective relationship that one has. From an applied perspective, this would mandate not only increased time spent outdoors, but also a more emotional connection to the natural elements. Acknowledging that humans feel most connected to nature in times of personal and global crises and that connection with nature helps us adapt physically and cognitively, this should help to inform regulatory and education approaches that support these wellbeing benefits during these times. A recent report by Natural England (2020) recognised this, publishing results from a study that indicated positive relationships between nature contact, nature connectedness, wellbeing, and PEBs. The findings of this survey and others imply that optimising pro-environmental and wellbeing outcomes is likely to rely on increasing both connection and also direct contact with nature. The participants in my ethnographic research were aware of the wellbeing benefits of time in nature, though unlikely to be fully cognizant of the barriers to them receiving the benefits, or the negative implications of increasing disconnection from nature. This suggests that campaigns to both bring awareness to this and remove barriers to nature connection and contact would be of value at multiple scales. Furthermore, supporting the structural systems (such as outdoor learning in schools, empowering people to recycle) and encouraging social norms that allow for the benefits reported to be accessed would be beneficial.

This leads to the work on “*Vitamin N*” as described by Richard Louv (2012), who calls to reform the health care system, towards a “Natural Health care System”, noting plans already underway to build this into the UK’s National Health Service

(NHS). This includes plans to plant 1.3 million trees, one for each NHS employee with the aim of reducing stress, providing shade and increased activity. Louv calls on the benefits of time in nature, using the term “Vitamin N” as the nature prescription. This is evident in the Lansia community gardening groups for the elderly (123). Gardening has been shown to bring a host of both physical and mental benefits, reported by multiple participants, and supported by previous studies. Donna Wang (2013:153) undertook a systematic review of the scientific studies exploring the benefits of gardening, reporting that: “*gardening can be an activity that promotes overall health and quality of life, physical strength, fitness and flexibility, cognitive ability, and socialization.*” Overall, I found this group and their interaction with nature through the social practice of gardening to be a noteworthy example of the ecotherapy principles, embodying the notion of nature connectedness and pro-social benefits, plausibly contributing to deeper environmental concern. Indeed, of the few Lansia members I spoke to, many referred to the importance of preserving the forests and local wildlife, expressed concern at the disconnect of the younger generations and were generally highly supportive of conservation activities in the area and eager to help.

“Nature can enhance social connection. Incidental exposure to the natural environment can increase attention to others, facilitate collective engagement, and enhance pro-sociality—tendencies to care for, help, and assist others.” (Goldy & Piff, 2020:27)

Goldy illuminates the bidirectional relationship of pro-sociality and pro-environmentalism. Therefore, I have kept in mind this dynamic as both an ethnographic observer, and also as an applied scientist, with the latent intent that greater exposure and connection to nature may bring benefits for personal and interpersonal wellbeing. From a psychological perspective, empathy is a key variable in the process of connection to nature and extending values to the biosphere, which I discuss in the next section.

7.2.3. Empathising with nature

My literature review revealed how inducing empathy can improve attitudes and behaviour toward the subjects and objects (Schultz, 2000; Bennett et al., 2005; Vining, 2003). While cautious with limited experimental evidence, the

experiences related to empathic encounters were prevalent (e.g. EA5.33, EA6.17, EA6.15). By reasoning that inducing empathy can improve attitudes and behaviour towards subjects, I have been able to apply these constructs to an environmental framework (Berenguer, 2007). As the closeness of relationships between individuals increases, empathy and willingness to help increases (Cialdini et al., 1997), a phenomenon which may extend to human–nature relationships. A close bond with nature may therefore foster empathy for the natural world, which in turn may motivate caring and altruistic behavior (Schultz, 2000). The construct of dispositional empathy with nature (DEN: Tam, 2013) explains the reported tendency to share the emotional experience of the natural world (EA5.26), and also the barriers to empathy of other creatures (EA5.27).

To understand empathy within my study, I step back from the communities to contextualise the pro-social tendencies, altruistic, care-giving predispositions observed during my fieldwork from a socio-evolutionary perspective. Pro-sociality, manifested as empathic sensibilities, has matured as societies have developed and enabled a greater capacity to connect with more diverse people in increasingly more expansive and varied social networks, having far reaching effects on the mechanisms behind our propensity to care for others. The evolution of empathy and the evolution of democracy have gone hand in hand throughout history: the more empathic the culture, the more democratic its values and governing institutions; the less empathic the culture, the more totalitarian its values and governing institutions. Similarly, postmaterialistic societies tend to show greater environmental concern, as value-belief norms are altered due to prosperity in material values (Katz-Gerro, 2011). Notions of collaboration and participation working across new distributed models fit in with the modern public's value of connectivity and a broader level empathic consciousness. This research supports this process of nurturing ecocentrism, the broadest form of biospheric consciousness. Convergent with global connectivity is the collective urge to think outside of the personal, beyond the inter-personal and extend our contemplation as far as the biospheric level, helping us to see global environmental changes as interconnected. These processes are interlinked with deepening understanding of what it means to empathise. Recent approaches to climate change and sustainability paradigms encourage this recognition of our place on the planet, to encapsulate all global biodiversity and ecosystems (Thomashow, 2003).

Building upon this from a view of emancipation and education, Jeremy Rifkin (2009) describes the importance of a paradigm shift from top-down, hierarchical ways of learning, connecting and developing our energy and economic systems. This aligns with a modern pedagogy which has at its core lessons of interconnectivity and systems-thinking (Deltorn & Louchet, 2008). Contemporary education methods provide a collaborative and distributed learning environment, with participatory, not singular goals creating a shared experience and heightened receptivity to advocating, particularly in a social context (Jickling, 2003; Wright, 2010). Enhancing pro-social processes within our learning approaches, such as activities which include empathising with one another, can have significant impacts on group level productivity, more focused attention in the classrooms, a greater desire to learn, and improvements in critical thinking skills. This supports Brown's (2012:41) call for pro-social education and is clearly complemented by my ethnographic insights into the importance of pro-sociality for pro-environmentalism. Empathy workshops and curriculums have been shown to reduce violence, aggression, and other anti-social behaviour and foster cooperation among students thus promoting more pro-social behaviour (De Martelaer & Struyven, 2012). Examining empathic expression in social network systems (Lee & Kweon, 2013), further emphasises the pedagogical revolution brought by our empathic development and epitomises how old models are being replaced by distributed and collaborative learning models in the classroom. Rifkin (2009) sets a convincing case for the emergence of the "Empathic Civilisation", proposing that we have entered a new era of consciousness, extending our empathic embrace to humanity as a whole, and additionally the world around us. He presents a critical question to this line of thought, whether we can reach biospheric consciousness and global empathy in time to avert irreversible planetary collapse. I carried this question with me throughout my research and experiences as a practitioner, fuelled by optimism in our interventions and in the connections and revelations I experienced with local communities. These insights indicate the possibility for nurturing empathy in order to usher in a more ecocentric society.

A recent review by Brown et al., (2019) illustrates how the relationship between empathy and sustainability is mediated by place and identity (Fig. 16). They

describe the process by which a sense of place and identity constrain and shape the role empathy has in PEBs. This was prominently demonstrated within my research. With regards to a sense of place and a land ethic, all of the key participants expressed sentimentalism and patriotism to their roots, asserting a varied degree of devotion to the land and community to which they belonged ([EA6.2](#)). They attributed anthropogenic characteristics to the land and its suffering further suggesting DEN may help to encourage environmental concern.

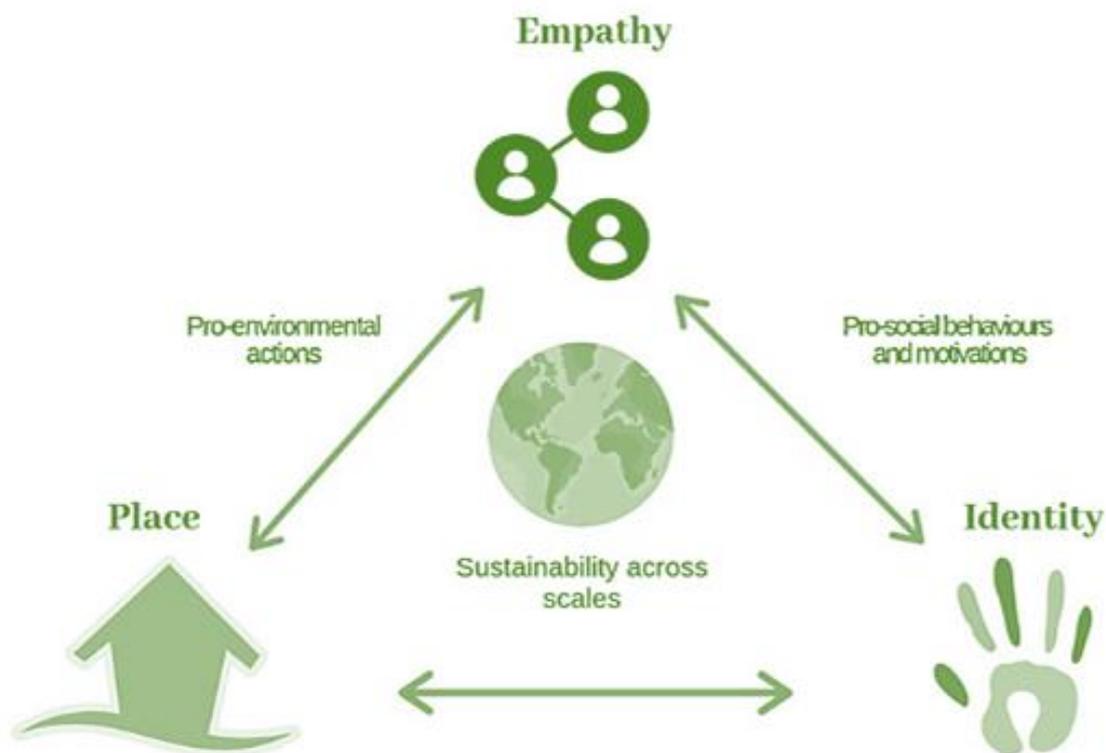


Figure 16. Conceptual model linking empathy place and identity to sustainability. Brown et al., (2019).

Brown highlights how empathy has largely been disregarded in sustainability research, and argues the importance of its attention, additionally recognising it as holding potential to overcome the human-nature dualism (Paterson, 2006), fortifying ethics for wildlife conservation. Presenting an alternative collectivist approach, Barbara Paterson (2006:141) also considers this dualism within the ethics of nature conservation, arguing that:

“both anthropocentric and biocentric approaches create a false dichotomy between humans and nature and are not helpful to

modern wildlife conservation, which aims to balance the needs of people with the conservation of nature.”

Through united intellectual and experimental scrutiny, I have learned that the transition from an individual level perspective, shining light on out-group interactions and tackling pro-social behaviour from a multi-level perspective, will aid in managing a broadening, multi-disciplinary field of research. By rethinking empathy from a simplistic mechanism of self-other interactions and judgements, to a global driver of developmental trends, encouraging systems-level and collaborative thinking through our pedagogies, we are on the path to usher in a new, more pro-social and environmentally concerned civilisation. At the core of capacity to empathise is the self-construct, which is addressed in the next section considering environmental identities.

7.2.4. Toward an ecological self: reviving remnant self-constructs and new emergent identities

Earlier I reflected on notions of self, drawing on the cumulative research, environmental philosophy, and social movement of deep ecology and biophilia. I finalise the analysis of my empirical exploration of identity by looking toward emergent identities and indications of prospects for the future identities of communities involved in this study.

Thematic patterns within my qualitative datasets highlighted the coalescence of the old and new belief systems (animism, Christian and Islam) in North Sulawesi. This trend re-emerges here with relevance to identity. The supernatural indigenous cosmologies remain, often in areas now predominated by modern religions of Islam and Christianity (Aragon, 2003). Powerful examples of cultural customs, TEK, superstitions, myths, and traditional animistic stories have been documented in the empirical chapters of this thesis. The emergence of the new diverse religious ideology speaks to the foundation of identity within these communities, bringing important considerations for social living and nature-based relationships.

As a response to the cultural erosion (196) documented, preservationism was evident in each community. This came with a consistent expression of the wish to avert the loss of the old cultural roots and identities, and the knowledge which builds the connections to the natural world. The ethnographic narratives (123) illuminated a form of resistance, a sense of holding on to what was there before; a sentimentality and nostalgic self-promotion of conservation type values for the old ways, romanticised as more harmonious and respectful to the spiritual essence of the natural world. It is evident therefore, that the transition from the animistic traditional belief system which was more inherently bonded and symbolic with meaning to the now dominant Christian and Islamic paradigms ushered in a loss of nature connection and once ubiquitous ecological identity. This notion of a deeper, remnant ecological self is integral to the principles of EI. A key question is whether reviving an ecological self may galvanize success with biodiversity conservation objectives. The empowerment and ecological enlivenment of several participants seems to suggest that a possible promotion of EI could be a way to encourage more ecocentric values. Lucky's dualism of identities of animal-carer and hunter (approaching dissonance) and wish to release the caged birds (195); Siron's deep connection to place and dependency on hunting for his living, but eagerness to support conservation (EA5.36); Rudy's compassionate sensibilities embodied by his authentic expressions of empathic connection to animals (EA5.30); Yandri representing the youth voice, joining Bill pushing for the national identity as members of the MaWolay cultural emergence of protecting the macaques (EA6.10).

"Protect nature...for we are nature!"

Rudy, Pandu. 22nd March 2018

This simple yet powerful quote from Rudy demonstrates a form of EI and an embodied notion of self, clearly recognising humans as a part of nature and interdependent. These are just a few examples of the typical identities represented and reported in my fieldwork; however, one must caution possible cognitive biases at these portrayals and comprehend the other more destructive identities typically embedded within cultures, and also observed in this study. This includes the normalised low standard of animal welfare and the general dehumanisation of animals which perpetuates these systems. I found these often

became sources of conflicting values and dissonance as well as indifference or resistance to PA management.

Some of these findings can be approached by revisiting “allo-inclusive identity” (AI) [44](#) the aspect of identity that goes beyond one's individual, relational, and collective identities. One can interpret the Minahasan and Bolmong identities in multiple ways. Firstly, convergent with the notions of ecocentrism, the relational values that were consistently observed and reported suggest space for reaching out and embracing nascent biospheric values. Secondly, however, this is not to say that those individuals' value expressions were universal to the social group or community, or that they necessarily were openly adopting or consciously acknowledging the embodied notion of identity.

Advancing this, self-constructs were embodied by the frequent talk of language as a proud cultural identity. There are nine sub-ethnicities in Minahasa, each with its own colloquialised language, still used in some rural villages. Noteworthy is that the majority of Minahasan citizens now either speak the common *Bahasa Manado* or *Bahasa Indonesian*. Tombulu language and other local languages are in decline and the Indonesian Department of Education have not yet provided structural programmes to support its preservation. On the contrary, it is responsible for the removal of the *Muatan Lokal* (local education content) from the daily curriculum of all grade schools across the nation in the past few years. *Muatan Lokal*, if available, is a national curricular class which most provinces in Indonesia use to teach locally appropriate vocational skills or traditional arts and languages (Lamb & Coleman, 2008). At the beginning of 2013, an Indonesian-Tombulu dictionary was first released. However, today this is no longer taught at local school level. This represents further evidence for the cultural erosion, with the disappearance of various cultural identifiers and customs. Furthermore, aligning the pro-social pride in identity with language and cultural preservation, this *Muatan Lokal* has also been heralded as a useful way to teach oneness with nature to promote environmental concern. This localised and relatable material has derived an important role in the development of a provincial curriculum still in progress by my NGO, and has influenced these findings connecting pro-sociality to PEB.

Vaske and Kobrin (2001) draw attention to psychological attachment with a setting which develops over time, forging a type of place identity. This may go some way to explain the level of attachment and related identity that many of the participants exhibited in my field research, from all levels of background and immersion in the natural world, farmers, hunters, or shop sellers. Traditionalist Minahasans are intensely proud of their lands and cultural histories (Aritonang & Steenbrink, 2008a). Their historical presence, sense of agency and ownership of the lands and shared extended community associations with the area are likely to perpetuate this sense of belonging and self-identity (Tuan, 1980). Michael Jacobsen (2002:55) theorizes that the term “*Minahasa*” makes an uneasy basis for ethnic identity, as the problematic divisions between these sub-groups could reassemble into their constituent parts and homogenise the diversity if looking back to the history of the regency. Much of the identity of the Minahasan people revolves around the willingness to adapt to the Western ideals (Swazey, 2013), largely initiated from the early colonial period of Christianisation (Henley, 1993:96) and Islamisation. Interestingly new initiatives concerning a revival of precolonial culture in order to boost contemporary Minahasa identity are emergent in North Sulawesi (Jacobsen, 2012), with implications for the historical connectedness to nature. One such group is the Mawale movement (introduced in Chapter Three; 68), which seeks to refocus and rediscover Minahasan identity. Jacobsen and Larson (2015:28) note that Mawale embraces the identity of the open, receptive, and ever-changing nature of Minahasans, and their historical focus on nature’s symbolic meaning and dependence within their lives:

“The Minahasan traditional religion is heavily focused on nature and the signs and life it can create. Traditionally, nature was the way Minahasan people understood the world around them, taking signs from the weather, plants, and animals.”

From an applied perspective, understanding historic, current, and possible EI is crucial for shifting behaviours, considering the associated norms, values and structural variables which align with a sense of identity. The aim of addressing change from an identity lens will be to challenge threatening identities (e.g., consumer or exploiter of wildlife) with more positive identities (e.g., stewards of nature). Overall, I found an ever-evolving culture of conscientiousness. Despite physical and metaphorical disconnect to the natural world around them, those I

engaged with deeply during my time in the villages, especially the younger generations, were eager to shift from the predominant identity related to exploitation of wildlife; namely the hunting, trading and consumption of bushmeat, which I now discuss in the context of my findings.

7.2.5. On wildlife consumption and cognitive dissonance

The personal, embodied tensions I experienced through food-related commonalities and cultural exchange bore powerful lessons and insights into culture, compassion, and interconnection. Compassion, considered an element of empathy and other-oriented tendency, in this case towards other humans, is positively associated with pro-environmental tendencies (Pfattheicher et al., 2016). The sentiment expressed by my participants is that people were more caring for their working and companion animals than they are now, suggesting a cultural shift in human-animal relationships over time, plausibly adding to disconnect from nature and general attitudes toward animals as an out-group.

I discovered earlier that most people endorse biospheric values, yet many are inconsistent (55). This is typically known as the value-action gap, research into which largely involves exploring barriers to value-congruent actions (Kollmuss & Agyeman, 2002). This notion is supported by my findings, with reports of self-efficacy barriers to psychological and behavioural consistency. Eci in Taratara for example felt compelled to connect yet unable to do so due to the transience and commodification of the animals she kept EA6.17. Lucky felt angst at the killing of his beloved snake, yet was unable to stop the community out of their fear for their safety of this dangerous animal EA6.20. Hulu Tonom and Pandu provided several instances of empathising with animals' suffering, yet little action to diverge from the normative behaviours propagating the related actions. Several reasons account for these barriers, most explanations gravitating toward the perceived costliness of behaviour, alongside the three barriers of individuality, responsibility, and practicality which come between pro-environmental concern (attitudes, values, beliefs) and actual action (Kollmuss & Agyeman, 2002). A classic example in the environmental literature are lifestyle alterations for reducing one's personal impact, such as reducing the amount one travels by air or lowering one's consumption of meat, both individualistic practices which hold

barriers of apparently high hedonic and egoistic costs. Additionally, the barrier of conservation issues appearing distant, abstract and out of reach can be better understood through construal level theory (Fujita et al., 2006) with important considerations for the design of effective messages to reach higher construal levels in the hunters; the subjective interpretation of how conservation issues emerge from their behaviour in concrete local measures and temporal scales. The central tenet of this is the relatedness, or oneness with the natural world; the basis for ecocentrism, the pathways of which I sought to uncover in this research.

I reviewed earlier how Kasperbauer (2018) frequently uses the example of animal consumption to illustrate cases of animal ethics, while avoiding implicit bias for its moral justification, instead bringing rational logic and reasoning to the debate. Kasperbauer illustrates the fundamental basis of dehumanisation, denying animals ingroup status, but also the psychological outcomes associated with the process. He highlights that the plasticity of moral attitudes operates in ways beyond an assumed expanding moral circle, portrayed well as a historical account of moral progress and reiterating that divergent moral foundations are a cross-cultural phenomenon. Dehumanization research offers a compensatory rationale for some of the exploitative behaviours towards animals, grounded in the notion of our consistent comparison as being superior to them; pervasive in the current study. Kasperbauer explains how thinking about animals associates with thoughts of death, and thus through mortality salience and threat aversion such as disgust and fear, terror management theory (TMT) explains much of the physiological threats posed by animals. Describing our divergent treatments of animals, he reiterates the common trend permeating each relationship, where consistently:

“...we take actions to emphasize their inferior status. This is one of the main consequences of the psychology of infrahumanization, which is at the heart of our relationship with animals.” P84.

This principal focus on disgust as the emotion exemplar in its role in moral judgements (largely as a response to purity violations imparted by the presence of animals) helps us to better understand our moral development and subsequent predominantly negative relationships with animals. Going beyond purely the subjective appreciation of the suffering and arguably unnecessary consumption

of animals by humans, this also has major overlap with the normative motivation to hunt, and congruent to pro-sociality and pro-environmental metrics in this study. It is also salient to the notion of cognitive dissonance, an aversive affective state which arises when an individual attempts to simultaneously hold inconsistent expectations or beliefs. Cognitive dissonance is tactfully placed here in the illustration of recognising animals' mental or phenomenal states including capability to feel pain and suffering, while subsequently associating them as food sources. This is apparent in [EA6.17](#). I am curious if dissonance is something which could be harnessed as a tool, to challenge authenticity and consistency, following the well-known logic that humans are predisposed to want to feel consistent in their behaviours and attitudes (Whitmarsh & O'Neill, 2010). To contextualise this and the value-action gap with an example, one way to overcome this prospective gap and the notion of cognitive dissonance once hunters have established pro-environmental concern, is the use of messages framing hypocrisy, which despite certain emotive trade-offs is widely supported at motivating behavioural change (Stone & Fernandez, 2008; Stone & Focella, 2011). *Publicly* advocating the importance of biodiversity conservation and preventing hunting and the specific course of action for alternatives, then *privately* reminding them of their own recent personal failures to perform or avoid the target behaviour (hunting), have been shown as effective routes to shifting such behaviours (Stone & Fernandez, 2008). This would depend on the socio-cultural context, trust and overcoming barriers to change, the possible approaches of which will be visited in the next chapter. By using the central findings of this combined literature and empirical evidence review as a foundation, I now lead into the implications of the findings for behaviour change science.

Chapter Eight. Sense-making and solution-seeking: Practical application of ethnographic insights

As a conservation practitioner and environmental educator, my aim was to create a robust understanding of the pathways to behavioural change illustrated by my empirical findings. In this chapter I build upon the detailed discussion in Chapter Seven emergent from linking the theoretical framework to the analyses of the two empirical chapters. I present a set of recommendations specifically developed for the conservation context of rural communities in North Sulawesi. These will also be applicable to the conservation issues [1.1](#)) addressed in the area alongside environmental education in general. A final reminder of my third research objective:

To **assess** the potential for different strategies to promote conservation advocacy

I have referred to this objective throughout the chapters of this thesis and foregrounded the impact-oriented value of this study. I adopt a systematic approach to this objective, while recognising both the diversity and complexity of issues addressed. While non-exhaustive in its theoretical scope Table 2 indicates the key findings from this research project.

Table 2. Key thematic findings, trends and patterns and their associated implications related to my research objectives.

Variable	Key findings	Implication / consideration
Attitudes	Demonstrated shift in perceptions and attitudes toward wildlife (e.g., 6.8 custom) and emergent environmental identities.	Increased likelihood of nature protection of more aware and conscientious new generation. Care with cognitive-affective mismatch (self-reported attitude will differ as a function of what is salient). Promote allo-inclusive identity that goes beyond individual, relational and collective identities
Values	Highly pro-social and communal value orientations observed in all communities (embedded); both traditionalist (animistic	Inference that engaging with intrinsic values might encourage other intrinsic / relational values (call for further values-priming research); encouraging and

	preservation) and openness to change (Minahasan identity) values; strong affinity for nature in all participants.	normalising universalism through connectedness to nature likely to enhance PEBs.
Beliefs	Heterogenization of the old and new belief systems; belief as a mediation variable to environmental attitudes, values, and norms.	Sense of control and acceptance of behaviours (self-efficacy; social norm theory) influences how likely individuals are to partake in exploitative practices
Pro-sociality	Highly pro-social communities with socially embedded care-giving communal values and mutual aid systems; loss of traditional ecological knowledge (TEK).	Latent potential for connections to PEBs; importance of preservation of cultural customs and TEK.
Empathy	Predisposition of empathy toward others and animals; cognitive dissonance and biases plus value-action gap represent barriers to empathic engagement.	Addressing barriers, nurturing empathy, and extending to biosphere will open pathway to ecocentrism.
Social norms	Powerful injunctive norms with acceptance or disapproval of hunting or consumption of bushmeat.	Important to harness these norms to strengthen environmental concern and acceptance of environmental identities.
Perceived behaviour control	Modern religions are a powerful governing force and dictate social exchange; normative pressures of communal living and livelihood restrictions also affect control perception.	Religious role models and institutions key to promoting sense of empowerment and ability to change behaviour; social norms to be targeted for behaviour change interventions.

I now apply these findings and implications as a biodiversity conservation practitioner. I look toward understandings of applied behavioural change science and ask how effective various strategies might be in promoting pro-environmental advocacy and behaviour. The coalescence of these aspects brings final focus toward how one might be consistent with their advocacy profiles, overcoming the value-action gap and other motivational barriers whilst embracing enabling mechanisms.

This final objective above ties into the title of my study, which embodies the overarching aim to nurture ecocentrism. I use the term “nurture” as it has connotations of an existing state or condition, which may be provided with the right conditions for which to grow or develop. I have referred to the worldview of ecocentrism (Curry, 2020) throughout, as the most expansive encapsulation of what I believe is the necessary trajectory in consciousness humanity requires to take to ensure the future of our species and the other beings we share the planet with. The term transcends other definitions such as biocentrism, and actively challenges the problematic anthropocentric paradigms which have led us to the current ecological and climate emergencies. Furthermore, it aligns with my findings as it is compatible with the old animistic belief systems, which while they were more constrictive in their spatio-temporal parameters in comparison with the globalised interconnected modern society, were arguably more ecocentric. Congruent to the aims of this research, I reiterate Harvey’s (2019) call seeking ecological harmony between people and place, to re-engage within the larger than human community and resituate humans in ecological terms and the nonhuman in ethical terms (Plumwood, 2002).

I acknowledge that this research in itself has not directly (*intentionally*) “nurtured ecocentrism” *per se*, and that there were significant impacts of my researcher presence [9.3](#)). I consciously chose to foreground the study with this for several reasons. Ultimately, I believe that beyond emancipatory or limited case-focused interventions, biodiversity conservation researchers and practitioners must be ambitious and help to support global efforts to create a more conscientious society. Drawing from the findings of this research should shed light on viable pathways to such changes.

I first adopt a pragmatic ontological stance on the challenge (i.e., nurturing ecocentrism) and point toward relevant stepwise processes for behavioural change. I then explore the issue through a social practice lens, as I examine the agency-structural debate played across the social-psychology and sociological fields. This is illuminated by social practice theory, offering a bold re-conceptualisation of the foundations for behaviour change and poignant considerations for the rationalisation of this research. I next explore the practices observed based on the empirical findings and seek to gain insights from the

socio-cultural conditions and potentiality for shifts toward pro-environmentalism. Next, I look at the evidence for practical interventions which may fit the challenge from a collective viewpoint, building upon the findings of pro-sociality and the practical ways in which these values may be nurtured. Finally, a micro-level approach assesses appropriate strategies for change leading to bespoke in-situ strategic recommendations.

8.1. Ecocentric pathways: Strategies for promoting conservation advocacy and behavioural change

Based on the critical evaluation of the research findings and summary from an applied perspective, I now share suggested interventions and approaches which may resonate with the themes identified in this study. I attempt to bring forth the following common narratives which provide the foundations of these strategies:

1. Highly pro-social communities.

Innate empathic tendencies and care-giving communal values, demonstrating latent potential for connections to PEBs. Environmental citizenship nurtures individuals' care and active stewardship of the environment through participation in resource management initiatives, generating ownership and empathy towards wildlife and natural areas.

2. The heterogenization of the old and new belief systems

With major implications for the control and acceptance of behaviours and thus how likely individuals are to partake in practices threatening ecosystems, or aid in its protection.

3. Strong affinity for nature in all participants

Demonstrated by a preference for natural settings, awe and wonder of the natural world, human-animal relations including expression of cognitive and affective empathy and compassionate predispositions.

4. Cultural and customary erosion

I noted a growing loss of traditional ecological knowledge, customs and traditional language and the disassociation of assemblages of certain practices. **The call for or act of preservationism was evident in each community**, with a consistent expression of the wish to avert the

inevitable loss of the ancient cultural roots and identities, and the knowledge which builds connections to the natural world.

5. **Shifting dualistic identities**

A recent generational transition toward pride over exploitation of native wildlife. **Bolmong and Minahasan ethnicities' adaptability and openness to change**, suggest potential routes to promoting ecocentrism and thus more sustainable lifestyles via these emergent identities.

I build upon these key observations to formulate a bespoke strategy [8.5](#)) that speaks to a plurality of values and behavioural motivations, in particular the affective ties to nature when promoting protection and restoration of wild places. In my study, participants reported on the benefits of cooperation and kinship, and the importance of preservation of the socio-cultural systems and customs in place. By this logic, and the broadening empathic reach to include the biosphere, I infer that level of pro-sociality may also be a reasonable predictor for environmental concern. Despite prevalent prejudices of short-term worldviews in Indonesia, the systems examined in this research are testament to how the Minahasan and Bolmong people can support and propagate norms and trust, and thus also the openness to change. This may help develop new relationships between the human and more than human world that may eventually enable the normalised protection of nature.

Following the systematic process to [4848](#)) explored earlier, practitioners should follow the three systematic steps to address hunting of endangered species (Schwinghammer, 2013). First, ensuring recognition of the problem (helping those involved to be aware of the impacts and also urgency of change). Next, motivating action, harnessing insights in behavioural control (self-efficacy) from this research and providing motivational cues. Finally, regulating and executing the action, moving from simply motivating to enabling action and encouraging responsibility for outcomes. These steps will be supported by building on knowledge of "leverage points" to pinpoint how and where to target action. These are:

“places within a complex system (a corporation, an economy, a living body, a city, an ecosystem) where a small shift in one thing can produce big changes in everything.” (Meadows, 1999:1).

To exemplify this, the main leverage points I have identified in this conservation context therefore are the religious institutions, and the linkages between the practices of focus, such as transportation of carcasses and the physical and social conditions in bushmeat markets, alongside the acceptance of endangered species consumption within villages.

The approaches in the next sections, by no means exhaustive, are presented as suggested management interventions developed from the intellectual and empirical findings of this research.

8.2. Biodiversity conservation through a social practice lens

As a foundation for approaching the application of this research, I turn to the sociological insights of SPT [56](#)) introduced in Chapter Two to gain a more structurally dynamic viewpoint with which to view the conservation challenge.

Practices are useful metrics for understanding how key behaviours are positioned within society and the mechanisms of change in these behaviours, essential to fostering sustainable human-nature relations. Taking a sociological position also addresses the issue of scale and plasticity of values [212](#)) by acknowledging values beyond the individual. Practices are defined broadly as *“embodied, materially mediated arrays of human activity centrally organized around shared practical understanding.”* (Schatzki, 1996:45). The enactment of practices is the routinised way in which people move, objects are handled, subjects are treated, things are described, and the world is understood. Individual behaviours are primarily performances of social practices.

Substantial evidence supports the effectiveness of viewing conservation challenges through a social practice lens. Adopting this perspective, my focus is no longer solely on participants’ attitudes, behaviours, and choices but instead also how the practices, such as hunting and logging, are formed, reproduced,

maintained, and then ultimately how they may be challenged and killed-off. Earlier I pointed toward Shove and Pantzar's (2005) assimilation of the three components of practices. Applying this form can contextualise the conservation issues observed as most central within this research from a practice perspective:

1. Images: meanings and symbols

> the mystic symbology of hunting; father-son normative inheritance; cultural significance [EA6.14](#)

2. Skills: forms of competence, procedures

> hunting techniques; knowledge (including TEK) and wisdom [EA6.12](#)

3. Stuff: materials and technologies

> availability of guns and traps; places to trade [\(145\)](#)

Both images and skills are represented within non-material culture, whereas the "stuff" takes the form of material culture (though overlap exists). Making hunting as a practice more sustainable involves making or breaking links between these assemblages. Recognising the target individuals as practitioners, who indirectly, through the performance of various practices, draw on resources, interventions may be more systemically and structurally oriented (Table 3). The traditional policy approaches to sustainability problems usually include first innovating technology, shifting consumer choices, and trying to change behaviours (Table 3a). A practice approach reframes the problem by looking at the interchange and cohesiveness between practices (Table 3b.). It is important to note that adoption of these approaches does not necessitate a total revamp of a strategy; many of the practices may already be approached within these various frames, but a greater awareness by conservation practitioners can help to conceptualise the problem at multiple scales, crucially understanding problems and solutions from both sociological and socio-psychological lenses. Practice theory approaches simply redefine and help to clarify and organize strategies more effectively.

Table 3. Problem framing related to hunting and logging viewed through two convergent approaches to change:**a) Traditional policy and individualistic approach**

Problem Framing	Innovating technology	Shifting consumer choices	Changing behaviours
Intervention target	Improvements in law enforcement skills, technology, equipment (e.g., camera traps, drones)	Reduce demand, injunctive social norms, demonstrate negative personal and environmental impacts	Promote intrinsic values, positive attitudes towards nature, descriptive social norms against illegal logging and hunting

b) Social practice theory approach

Problem Framing	Re-crafting practices	Substituting practices	Changing how practices interlock
Intervention target	Discourage illegal logging by introducing other legal forestry practice; generate pride in sustainable hunting and shame for hunting of endangered species; change cultural significance of hunting (e.g., father>son tradition)	Providing alternative livelihoods (e.g., productive agricultural systems; ecotourism; local craftsmanship); promoting other non-animal food sources and disincentivising hunting as a practice	Approach the channels of communication and logistics between illicit economies such as timber networks, between hunters and traders and their transport links

The specific conservation problem in this study may be primarily approached at the spatial scale of micro-scale analyses, encompassing habitat preservation and endangered species recovery programmes through community-engagement (Sodhi et al., 2011). Systemic and institutional operations entail meso-scale conservation, which includes trans-national cooperation among neighbouring

countries, such as drafting agreements on legislative measures for avoiding declines of ecosystems or endangered species, as well as law enforcement measures such as development of policy instruments to avoid poaching and habitat destruction. At macro-scales, global efforts to limit unsustainable business practices include public pressure on multinational corporations which can result in their abandoning of environmentally damaging practices or suppliers, affecting demand-side issues of wildlife trade. Practices are partly constituted by the socio-technical systems of which they are a part. Those socio-technical systems are sustained by the continued performance of the practices which comprise them (Watson, 2012).

From the outset, I have sought to reconcile the positivist and alternative socio-constructivist approaches to human behaviour. The objectives of this study therefore centred around a pragmatic grounding in both individualistic (socio-psychological, positivist) and structural (sociological, constructivist) considerations, embracing attitudinal, value-laden and interpretivist elements of living. I argue that both structural and agency considerations are essential to understanding and addressing the conservation practices. This may be achieved by understanding individuals and the dynamics of their advocacy profiles while equally targeting the composite elements of the practices that practitioners are recruited into and how they are maintained or challenged. In reflection of some polarisation of the social practice and individualistic approaches, a balance between these two loci of perspective has received limited attention. Several studies demonstrate intervention design altered to focus on the collective, mutualistic activities of the group, rather than centring solely on the individual's attitudes, values, or beliefs (e.g., Hargreaves, 2011). However, examples such as these reiterate the need to avoid a homogenous approach that does away with considerations of the composition and behavioural aspects of the individuals that constitute the agents, the performers of the practices. It is key to understand how multiple practices exist and interact in everyday life, diffuse innovation, and coalesce to affect the performers they recruit. This would be highly relevant for sustainable livelihood approaches as an intervention measure. However, there remains limitations in the scope and transformative power of practices as the units of inquiry. This maintains space for criticism and calls for clarification of

social dynamics at the practice level, especially as a unified understanding or conceptual framework of SPT is yet to exist (Spurling et al., 2013).

It is timely to redefine central questions to avoid simply inquiring which psychological characteristics of the individual need to be addressed to result in more PEB. Likewise, not only to consider how practices can be transformed to enhance sustainability; but also to attempt cross-fertilisation of these perspectives. I advocate to consider how common sets of activities affect the environment and in what ways the individual attitudes, values, and beliefs of the agents that they recruit (the carriers of change) govern how these practices are reproduced, re-crafted and inter-connected.

8.3. Hunting, trade, and consumption of bushmeat as destructive yet diminishing practices

Having positioned the practice lens, I embody these notions further by approaching the central conservation challenges in this study. While predominantly advocating for the reduction of exploitative practices which dominate human-nature relationships, I recognise that wildlife consumption and natural resource extraction may be culturally rooted and economically significant for indigenous peoples and local communities. Therefore, respectful positions understanding the cultural foundations and dependencies should be adopted (Matias et al., 2020).

My research supports previous findings that the majority of hunting in the province is not for subsistence, while poaching supplements food intake or income. The prices for bushmeat in the area indicate two things: 1. Meat is a relatively expensive commodity; 2. Hunters have a moderate incentive to hunt with reasonable profit and relatively low effort required. However, this may be offset by education resulting in shifting normative and control influences, alongside disincentives such as law enforcement, despite overall proving relatively inefficient in reducing bushmeat demand (Lee et al., 2005). Recurring, strategic and site-specific awareness campaigns have been demonstrated to reduce consumption of wild animals in rural communities (Kouassi et al., 2019).

Relevant to this discourse was a fascinating, but unexpected result of my research; the emergence of transformative practices as a result of our presence in the field. As described in the methods section (92), when I entered the field it was strictly as an overt, open researcher without a clear emancipatory or specific impact agenda. Reactivity is crucial in terms of affecting the natural flow of events that the ethnographer is setting out to capture, and thus I aimed to minimise these reactions as much as possible to maintain naturalistic conditions. Truthful, transparent discussions were ensured, with focus on the research rather than conservation activities outside the project. Despite this, I discovered that our prolonged presence, and the ethnographic methodology including symbolic interactionism (following the cultural meaning alongside the daily activities) allowed for our immersion and acceptance into the community and therefore some level of influence, which should be accounted for in this discourse. Ethnography has been widely utilised throughout conservation research, particularly for its benefits of reflexivity and nuanced understandings of socio-cultural exchange (Brosius et al., 2010; Premauer & Berkes, 2015). I found that while minimising reactivity as much as possible, I organically became influential for the hunters, even propagating certain norms surrounding the acceptance of hunting protected species, particularly the monkeys. As a result, for each of the study locations the main hunter of the village demonstrated a transition from opportunistic hunter to self-reported selective and more conscientious hunter. This is a significant result and fascinating social transformation, the power of which may be leveraged for social diffusion and thus innovative conservation approaches and has been integrated into the wildlife trade mitigation strategy as part of a “role-model roadshow” – a series of visits by ex-wild animal hunters to influence other current hunters.

Local research recommends that any utilisation of threatened and vulnerable wildlife needs to be carefully regulated to maintain sustainability. Rejeki’s (2019) research in Sulawesi highlights the need for adopting the precautionary principle for wildlife utilization (Cooney & Dickson, 2012). This principle considers the net loss or impact of conservation intervention and is a considerable compromise while prioritising biodiversity conservation. It takes the stance that a lack of

certainty regarding threat of environmental harm should not be used as an excuse for inaction in averting that threat. Rejeki (2019:122) contextualises this locally:

“Through understanding the dependences of people to forest products, and knowing these contributions to the hunters’ household economics, this can be useful in informing effective management strategies and priority actions for wildlife management strategies in Sulawesi.”

This echoes the call for the different conceptual spheres of the current research related to the conservation practices. Exploring the complex dynamics of pro-sociality and pro-environmentalism aids in understanding what motivates or prevents people to engage and replicate those practices. This is supported by understanding their historical and current connection to the natural world, providing insight into the potential for ecocentrism. Finally, building on these conceptual bases to develop strategic approaches, practices can be challenged through integrative education campaigns and PA management.

In order to alter these practices, it is imperative to understand livelihoods. Farming represented the primary occupation in all villages studied, though some supplemented their income or food sources with hunting, logging, or mining. Understanding social transitions of innovative sustainable livelihoods will be key in future development projects in the area. As hunting represents a primary threat to many endangered species and also an unnecessary protein source with many alternatives available, it would be highly recommended to promote other non-animal food sources and disincentivise hunting through both structural, normative, and individual changes. Researchers are increasingly urging a decrease in meat consumption to address biodiversity loss (Machovina et al., 2015; Ripple et al., 2016; Coimbra et al., 2020), as people make the connection between individual dietary habits, the social conditions supporting these behaviours and overall impacts on the environment. A recent Global Sensitivity Analysis (GSA) proved that animal agriculture is the leading cause of climate change, responsible for at least 87% of greenhouse gas emissions annually (Rao, 2019). This also suggests that government policies and local campaigns to empower local communities away from both hunting and animal agriculture would represent a key step in reducing environmental degradation more broadly, the

impacts of which were witnessed on an increasingly scale in this ethnographic research.

A recent study found that a poverty-alleviation program in Indonesia was just as successful as dedicated conservation programmes in reducing deforestation (Ferraro & Simorangkir, 2020). Ferraro states that while fighting poverty and protecting the environment are often seen as conflicting priorities, this study indicates that this does not have to be the case. With almost 10% of the Indonesian population living below the poverty line, livelihoods play a significant role in the foundations of successful holistic conservation approaches, and rural communities to long-term access to resource development opportunities should be factored (Fordham et al., 2018). However, any livelihood intervention should be approached with caution to consider potential shortfalls and appropriately understand local contexts, barriers, and social and innovation transmission pathways (Roe et al., 2015). One highly influential and relevant theory is Maslow's (1943) hierarchy of needs which suggests that people are unlikely to achieve their full potential ("self-actualisation") without first meeting their basic physiological and psychological needs. This is imperative to be attentive to in developing conservation initiatives; to consider first an assessment of current livelihoods and needs, to ensure that projects are designed to fit the context of potential participants.

Behaviour change strategies and social marketing campaigns have been successful in improving global conservation outcomes and reducing activities such as illegal hunting (Green et al., 2019). My fieldwork revealed how these practices, in addition to others such as farming, are diminishing [179](#)). Despite the decline in recruitment of agents into these practices, it is clear that illegal trade in wildlife still represents a major problem that requires a systematic and multi-pronged approach. By working with poachers, traders, and consumers of wild animal meat, to collectively create and disseminate new social norms, it is hoped that illegal wildlife trade in markets in North Sulawesi can be greatly reduced. Stakeholders involved in curbing these issues must work together to ensure that actions are strengthened and progress towards goals is monitored, evaluated, and communicated. To this end, I led Selamatkan Yaki to establish a Wildlife Trade Mitigation Strategy together with the North Sulawesi Department of

Environment and Forestry. A multi-stakeholder workshop January 2020 established a joint Framework for Action as a vehicle for sharing and synergizing collaborative efforts. The strategy utilises understandings of the predominant advocacy profiles and leads into a Theory of Change [262](#) drawing guidance from both social practice theory (Shove, 2010) and other individualistic principles such as fostering intrinsic motivation (Steg, 2016) and community-based social marketing (CBSM: McKenzie-Mohr, 2011).

Having positioned myself in advocating for a blended positivist / sociological approach, I believe practitioners may benefit from a practice theory as a broad management lens, additionally addressing embedded social values while recognising how the adaptable dynamics of advocacy profiles contribute to the propagation of these systems and remain crucial metrics of analyses. Progressing from this, CBSM approaches focus on using marketing techniques and messages to encourage PEBs (McKenzie-Mohr, 2011). In terms of the bushmeat trade, using innovative methods to decrease demand for bushmeat could be critical in conserving the regional biodiversity of protected and overharvested species (Robinson et al., 2019; Veríssimo, 2019).

CBSM approaches can be effective at designing information campaigns to heighten awareness and generate the necessary sense of urgency required for action, whilst generating motivation through making the issues tangible and interpersonal with emotional connections. The systematic and pragmatic five step methodology [52](#) holds relevance to tackling the issues of illegal, unsustainable hunting (McKenzie-Mohr, 2011). By first selecting the appropriate sub-behaviours required for shifts away from illicit forest activities; then identifying both the barriers to change and potential benefits from reducing or cessation of hunting; developing a strategy using tools such as prompts, commitments, social norms, social diffusion and framed messages and block leaders (role models) for effective communication; then piloting the strategy on a sub-group of the hunting community and control group and finally evaluating the trial and upscaling the implementation to ensure sufficient effect on reduction of these detrimental behaviours. Those involved in the hunting (or related) practices may be provided with information and facts about the severity of the issues related to conservation. The next step would be to provide concrete and tangible illustrations of how they

might be personally impacted from biodiversity loss using emotion-laden examples and enhancing their sense of personal control regarding the issues of sustainable living. Finally, they might then be receptive to clear communication about the value of their personal input to change, which would necessitate providing tangible alternatives to the current activities.

Complementary to this strategic approach is speaking to existing individualistic and socially embedded values which promote ecocentrism, which I review next.

8.4. Introducing value-priming into strategic environmental management

I explored earlier the notion of value priming (212), particularly understanding and pursuing relational, universalism-type which values resonates with notions of connectedness to nature, and the aim to nurture ecocentrism. This could be framed regarding the importance of family, traditions, and the shared communal identities of the ethnicities, as well as the cultural customs of the old belief system as denoted in my empirical insights. Another example might be reinforcing positive frames held by those hunting, recognising the interdependence between people, environment, and other animals. By stimulating this through community dialogue and strategic campaigns, it is plausible that the likelihood of PEBs may be increased. This is key for natural resource managers seeking to dissuade unsustainable hunting practices.

Values are embedded in all aspects of experience within a message including the setting, the frames, and the level of participation it offers. The type and depth of engagement provided by the messenger is also critical. Therefore, co-creative, participatory learning styles are more likely to promote self-direction (intrinsic value type) and thus subsequently stimulate other values related to environmental concern. This has similarly been supported by other studies demonstrating the value of participatory learning, co-creation, and increased action (Füller et al., 2009; Ramaswamy & Gouillart, 2010).

As remarked earlier support is growing for the notion that lasting societal change in favour of protection of nature will most likely be achieved by appealing to

intrinsic value types (Crompton, 2010, 2011). This was consistently supported by my ethnographic interactions with participants. Following this, the associations between concepts (the meanings and metaphors associated with nature for instance) by those partaking in hunting may represent their dominant frames. By direct and active communication with key members of these target groups, positive frames may be reinforced with strong and emotive metaphors and repeated exposure to pre-planned frames of why nature is important. This way, the frames may act as vehicles for strengthening values we wish to nurture, the route to which is suggested as five prominent guiding principles (Holmes et al., 2011):

1. Firstly, explore the values and frames present in the target groups and values dynamics.
2. Next nurture intrinsic values already in existence and those wishing to be heightened. This might include discussing benevolence or other universalism type values, through direct dialogue or information provision that touches upon aspects of social justice or loyalty and care for family, whilst exposing them to the conservation issues in parallel.
3. Challenge current extrinsic values related to hunting, such as daring and social power.
4. Influences what we perceive to be possible, desirable, and normal via “policy feedback” with institutions or policies; this will subsequently boost the capacity for unity with nature and environmental protection via the sea-saw and bleed over dynamics of the value domains.
5. Extend focus importance then on creating wider systemic change, so helping to influence the institutions and societal norms that play a role in fostering intrinsic values regarding biodiversity conservation and finally working closely together, recognising the collaborative power in cooperation. By engaging with related stakeholders to be consistent with the positive nature protection frames and intrinsic values practitioners may instigate a shift in behavioural trends away from exploitative deforestation and hunting of endangered species.

8.5. Toward a holistic and integrated theory of change

Drawing these strategic approaches together, I propose a multi-faceted strategy, building upon evidence-based approaches successfully utilised by Selamatkan Yaki, bolstered by insights from this research and targeting key individual agents at specific societal leverage points (249) (Meadows, 1999). Utilising the flagship species concept (Walpole & Leader-Williams, 2002), the NGO Rare develops species pride campaigns empowering local partners (Karanov, 2008). Rare engages target audiences, identifies barriers to sustainable behaviour and establishes site-specific action plans at each community site utilising social marketing through a theory of change (ToC). ToC's help to evaluate what impact interventions have and how the action leads to the achievement of desired outcomes and impacts (Vogel, 2012). They are often developed especially for curbing illegal wildlife trade (Biggs et al., 2017). To normalise a grounding of social science in biodiversity conservation, Rare, together with the Behavioural Insights Team (BIT) developed a comprehensive toolkit which outlines a socially oriented and structurally relevant ToC (Rare & BIT, 2019). The toolkit provides techniques to support efforts to preserve natural resources, based upon three clear categories of strategies reflecting the three profound drivers of human behavior, as outlined in Fig 17.



Figure 17. Rare and the Behavioural Insights Team (BIT) stepwise process of changing behaviour (Rare & BIT, 2019).

Following these three systematic stages of the process toward change, I propose a bespoke strategy to address the key issues of conservation management related to the aforementioned practices. This ToC draws together all elements of the conceptual framework (60) and progresses from the key narratives and insights outlined within this research:

Step One: Motivate the change

1. Develop campaign messages to focus on intrinsic, pro-social framing and the positive, affective relationships with nature, grounded in promoting self-efficacy and empathic connections to wildlife and place; normalise pro-social education.
2. Nurture the caring and compassionate dispositions of the communities, by directly and publicly reminding them and others of these distinguishing characteristics; tailor messages to be personally relevant and locally construed; build upon indigenous wisdom and preserve and teach TEK.
3. Campaign to communities framing messages of communal, universal value types and promote identities of pride in the unique wildlife (particularly in younger generations); make the issues of species loss and habitat depletion relevant and socially important.
4. Address barriers to change, particularly cognitive biases and the value-action gap by tactical messaging and local empowerment; focus on cognitive and normative biases consumption related to in developing campaigns to shift away from hunting and environmentally destructive animal agriculture.
5. Work together with communities to provide normative and life-affirming incentives to act more pro-environmentally and inhibit environmentally destructive practices, particularly through religious association; promote preservationism of old cultural customs and normalise religious plurality to support sacred reverence; increase access to outdoor space and promote health and wellbeing benefits.

Step Two: Socialize the change

6. Promote norms related to the infrequency (descriptive norm) and disapproval (injunctive norm) of hunting, trading, and consumption of

- protected species; remind of openness to change and normative shift toward more conscientious human-nature relationship.
7. Support the continued traditions of mutual aid systems and the preservation of communal values and traditional social customs and systems, likely to encourage pro-environmentalism.
 8. Make campaigns publicly visible and accessible for all; launch local and national media campaign to validate and strengthen norms and EIs.
 9. Encourage environmental citizenship and localised enforcement regulations by increasing local participation in PA management (strong determinant of conservation attitude); harness positive cultural traditions and shared social and environmental responsibility.
 10. Use influential local role models to encourage social diffusion of PEBs via social media-led campaigns promoting values, norms, and EIs.

Step 3: Ease the change

11. Empower community members through sustainable livelihood approaches with integrated campaigns, particularly around alternatives to hunting and animal agriculture; work together with local law government and influential stakeholders to influence policy and ease change.
12. Address the value-action gap, cognitive biases, and dissonance by removing barriers and enhancing accountability; encourage co-creation of approaches and generate collective demand for change; enable direct involvement in PA management.
13. Simplify messages, make locally understandable and in basic local language, and speak to the cultural frames within the communities.
14. Alter choice architecture, by providing alternatives to unsustainable practices and the framing over engagement with these practices; strengthen empowerment and perceived behavioural control through religious acceptance and pluralism and working with religious leaders and institutions.
15. Harness lessons of CBSM to remind people of desired behaviours and norms, including prompts and reminders at bushmeat markets to dissuade selling and purchasing of protected species.

While non-exhaustive, non-specific to one stakeholder and adaptable, this strategy will be monitored by the Selamatkan Yaki team and utilised to inform an ongoing, living programme-wide framework for action which guides the strategic direction of the holistic conservation activities to reduce the threats to the *M. nigra* species and its habitat.

In reflection of the growing consensus for the benefits of multi-disciplinary and holistic approaches, the conservation sector urgently requires natural resources managers to frame conservation problems such as hunting and logging from a more diverse and pragmatic perspective; to better understand the needs, motivations and values of the target individuals and societies. The science which supports the sustainability remit and conservation planning is experiencing a resurgence, with contemporary advances in the socioecological context of land and biodiversity stewardship, enabling refined conceptualisation of environmental problems (Moon & Blackman, 2014). It is anticipated that through greater uptake and refinement of integrative multidisciplinary approaches, global sustainability issues including biodiversity conservation problems shall be more effectively addressed. Following the suggested strategy presented here, in the next chapter I conclude by summarising the common threads of the findings from the theoretical underpinnings, conceptual framework, engagement with the empirical evidence then the eventual analysis and contextualisation presented in this chapter.

Chapter Nine: Conclusion

9.1. Key findings, insights, limitations and application

In this final chapter I draw together all of the elements of this doctoral research. Through an immersive, exploratory ethnography, I have broadly addressed all three of my research objectives. Importantly, my findings represent a robust contribution toward the gap in our current understanding of PEBs, particularly in relation to connectedness to nature and pro-sociality.

The first of my empirical chapters, Chapter Five [107](#)) revealed insights into the pro-social societies in North Sulawesi, influenced by highly revered faith systems governing social exchange and value structures within the communities. Maintaining the common thread and focus of my ethnographic inquiry, the second empirical offering, Chapter Six [167](#)) documented discoveries of connectedness to nature with both interconnected and increasingly alienated citizens, yet emergent identities of preservationism.

The findings have highlighted the need to speak to a plurality of values and behavioural motivations, in particular the affective ties to nature when promoting protection and restoration of wild places. I found numerous reports of the linkages between place attachment to a local natural resource and pro-environmental behavior, thus highlighting one such avenue for developing a more responsible citizenry. My investigation builds upon these previous studies by focusing on the observed dynamics of self-identity, community meaning, symbolism and place attachment, while illuminating the salience for developing strategies to promote greater land stewardship and environmental concern.

To avert the burgeoning planetary catastrophes of biodiversity loss and the climate crisis, a deeper recognition of empathy at both local and societal scales is needed, due to its centrality with regards to human nature and its prime position to create global biospheric consciousness. The marriage between the understanding of our pro-social tendencies, empathic mechanisms and environmental concern is of profound importance to sustainability, particularly as increasing numbers of people become disconnected both socially and from the

natural world. Light was shone on the empathic relationships with nature through symbolic interactionism, documenting the nuances and idiosyncrasies borne from the descriptions, metaphors and social norms collectively engendered by the society in North Sulawesi.

Equally as important to the ethnographic method as the interpretation and analysis, was the reflexive process (98) and writing up of the findings. Through rich and persuasive description and a strong narrative throughout, the aim of this study was to create an accessible and believable portrayal of reality within the society and culture I was immersed in, whilst securing validity through the cross-reference and triangulation of data at all possible waypoints in the write up. I endeavoured to collate, report, and interpret the ethnographic data in both a systematic and artful manner, and through the narrative create what Madden (2010) refers to as the “storied reality” to illuminate the findings.

I sought to reconcile the positivist and socio-constructivist approaches to human behaviour and argued that both structural and agency considerations are essential to addressing conservation practices. Understanding individuals’ advocacy profiles while targeting the composite elements of the practices that they are recruited into, and how those practices are maintained or challenged by sociological and normative forces may be achieved through mixed methods research with an ethnographic foundation. As an experienced practitioner I argue that blended pragmatism is critical to address complex research objectives, the findings of which I conclude below.

9.2. Addressing research objectives

A final revisit of the research objectives for which this study is based will allow conclusions to be drawn directly:

1. To **explore** pro-sociality and the factors that affect pro-environmentalism
2. To **examine** the role of connectedness to nature in human behaviour
3. To **assess** the potential of different strategies to promote conservation advocacy

9.2.1. Objective 1: To explore pro-sociality and the factors that affect pro-environmentalism

I began to address this triad of exploratory research spheres by ensuring a comprehensive grounding in what is a diverse and expansive corpus of literature. I compartmentalised the thematic areas exploring the key individualistic and structuralist elements into the advocacy profiles (89) described in the methodology. This resulted in deep engagement with attitudes, values, and beliefs, along with social norms and perceived behaviour control. These variables are key to explaining pro-environmental intention and expression and therefore became focal for the ethnographic data collection.

Furthering this, the foundations of pro-sociality (31) were identified, which emerged as a significant determinant for PEB, the relationships of which are rarely considered together. I presented previous research which indicates how a foundation in communal values (25) forms the basis for social exchange and dictates the conditions for the extension of positive values, attitudes, and behavioural interactions with the biosphere. I progressed from this to explore how helping one another, (134), whether manifested through empathy, altruism, and a dynamic combination of motivational mechanisms, represents the core of our societies and the developmental processes within them.

Through the applied thematic analysis (101) of my results and identification of thematic patterns, I demonstrated how the communities within which I was immersed in this ethnographic journey offered evidence to suggest their characterisation as highly pro-social communities. With indications of innate empathic tendencies and care-giving communal values they demonstrated latent potential for connections to PEBs. I discovered a rich array of pro-social aspects to living in all villages, especially gotong-royong and the preservation of traditional mutual aid systems. This opened space for consideration of these resilient social structures to potentially act as a conduit for fostering biospheric concern.

The emergent narratives from the coalescence of the old and new belief systems point to the infusion of traditional practices and customs with the modern Christian

and Islam ideals. While naturally social tensions have arisen, a new diverse religious ideology has developed with important implications for social living and nature-based relationships. I witnessed community cohesion through faith-based plurality (123) and traditionalism, expressions of loss at the deteriorating transmission of TEK and cultural customs. This coupled with a yearning for preservation of the cultural identities which have served these communities, and which continue to struggle in the presence of the indoctrination and internal loci of control exerted by modern religion.

Empathy emerged as a useful metric for care; as a social phenomenon, and with it a sense of perspective taking and compassionate reach (152) towards other non-human beings. The narratives emergent from my analyses spoke to the paradox of deep empathic sensibilities and a common habit for consuming wildlife. The Minahasan ethnic group in particular, but also the Bolmong people have adopted an identity as “*bushmeat consumer*”, a characterisation which was clearly supported by the experiences documented in my research. I gained powerful personal lessons and insights into societal compassion and interconnection by immersing myself in the personal discomfort of food-related commonalities and cultural exchange. I uncovered surprising levels of compassion and pro-environmental tendencies in all communities I stayed with, and presented numerous instances of affective empathic engagement, indicating how perspective-taking may help to create connection. This finding suggests that campaigners and practitioners might utilise the imagery and message framing of human suffering to elicit compassion, which research suggests may in turn also mobilize people to protect nature. These insights indicate the possibility for nurturing empathy in order to usher in a more ecocentric society.

Building upon this proposition I uncovered evidence which supports a notion of fundamental importance to conservation psychology, and our understanding of what it means to be pro-social; the sense of perceiving the world as a singular, connected entity, which incorporates all living systems on a biospheric level. Taken as a whole I conclude that ethnographic studies hold huge potential to uncover the embedded social values and levels of pro-sociality, and the pathways toward nurturing more biospheric values through these foundations.

9.2.2. Objective 2: To examine the role of connectedness to nature in human behaviour

Building on this succinct summary of pro-sociality and pro-environmentality, to address the second objective I again ensured a robust grounding in past and contemporary literature related to the notion of connectedness to nature. I endeavoured to position the findings here within a geographical framework, deepening our understanding of the geographies of social change, nestled within the environmental justice and human wellbeing domains. I maintain that a transformation towards an ecocentric worldview is a necessary path for the flourishing of life on Earth, including that of our own species.

As my research progressed, through an iterative qualitative ethnographic process I became particularly interested in examining what, if any, relationships there may be between this sense of connectedness to nature observed, and the behaviours related to the utilisation of natural resources; particularly the practices of hunting, trading, and consumption of bushmeat, relevant also to illegal logging and the relationships with non-human animals more generally.

By foregrounding ontologies of deep ecology aligning with the animistic roots and preservation discovered in the communities, I carried forward the notion of ecocentrism and the emergent culture of environmentally concerned citizens. I explored the historical and current cultural relationships to the forest and the economic, political, and social context that has shaped their behaviour, and subsequent sense of connection.

Human-wildlife conflict [\(177\)](#), tolerance and shifting local perceptions toward animals were recorded. These records illuminated the key practices of focus including hunting which my research findings characterised as an immersive nature-based activity, but also joining bushmeat consumption and even small-holder farming as a potentially dying practice. My empirical evidence progressed from my reading of socio-psychological paradigms of human-wildlife relationships, focused on cognitive dissonance [\(186\)](#), which I found to represent an affective struggle between compassion and utility.

The multitude of physical and psychological benefits of time spent in nature was embodied through various practices and perspectives described by participants who expressed a preference for environs as close to nature as possible, consistently describing the ailments of increasingly urbanised lifestyles. Interdependence of humans within ecosystems from the anthropocentric to the biospheric, through to the cosmological brought forward an acknowledgement of nature as place, signalled once more toward relational values. This insight points to longer lasting, eudaimonic wellbeing as crucial in terms of an expression of PEBs as a result of deepened connectedness to nature.

My exploration of connectedness to nature culminated in the progression of understanding of the role of identity (194) in shaping and maintaining nature relationships. Previous research portrays identity as a concept with broad meaning, involving beliefs about who we are and who we want to be, incorporating personal roles and attributes, social cohesion, and ecological oneness with the environment. Furthermore, culture and identity are embedded within the traditional characteristics imbued by a community or society. Through this lens I explored the instances of identities, such as the local social groups and expressions of pride in local wildlife from the younger generations suggesting the existence of dualistic identities. I examined these identities' social and environmental implications.

I complete this objective by reiterating the salience of nature for which the communities' held. Strong affinity for nature was present in all participants, demonstrated by a preference for natural settings, awe and wonder of the natural world, and human-animal relations including expression of cognitive and affective empathy. Consistently high levels of relatedness to nature were demonstrated, valuing time spent in nature, appreciating the benefits of time spent in nature and indicating that they were concerned at the depletion of the environment. While causality was not directly measured or inferred in this study, I conclude that connectedness to nature is likely to play a significant role in the probability for environmental concern and pro-environmental action. This flowed into a dualistic perspective of nature governance from connection to alienation, highlighting how the decline in interactions with nature observed are revealing an increasingly

prevalent cycle of disaffection toward nature. I foreground this here in my summation and in the strategy development as it underscores the profound importance of reconnecting people with nature. Interventions should focus on improving awareness of the extinction of experience and addressing it through societal and public policy change. From an applied perspective, this would not only mandate advocating for more time spent outdoors, but also encourage deeper emotional connections to the natural elements through specific types of nature engagement, driven by transformations in our education systems, public access to natural spaces and campaigns to change behaviours working with existing value systems. It is through this applied, impact-oriented lens that I summarise the final objective.

9.2.3. Objective 3: To assess the potential of different strategies to promote conservation advocacy

A pragmatic blend of social psychology and sociology can shed light on the most effective and bespoke mechanisms for facilitating change based on the socio-cultural conditions and desired behavioural outcomes. Uniting the theories and evidence explored in the other objectives, I turn to the implications of these mechanisms of advocacy, PEB, and connection to nature, and look towards the possible ways to foster change.

After a thorough review of what is a substantial body of literature proposing various stepwise processes for instigating behaviour change [46](#)), I introduced what I feel to be the most prominent and relevant to the conservation problem addressed in this study. These included a pragmatic blend of principles adopted from the Precaution Adoption Process Model, (three stages to instigating behavioural change) and the Integrated Framework for Encouraging Pro-Environmental Behaviour (IFEP).

I proceeded to introduce three broad approaches which I carried forward in the implementation of the field research and continued to progress in terms of strategy development. Using the central findings of the comprehensive literature and evidence review as a foundation, I point toward a set of recommendations specifically developed for the conditions in the research setting, but which will

also be more broadly applicable to the direct conservation issues which I am addressing, alongside fostering ecocentrism and environmental education more generally. These approaches involve the cooperative principles of environmental citizenship, which can aid in understanding the necessity of greater stewardship, responsibility, and collaborative governance of natural resources; community-based social marketing, implementing an accessible and broadly systematic approach integrating lessons from marketing distilled into tools for fostering change; and priming intrinsic values to promote social and environmental justice and develop lasting societal change.

As a foundation for approaching the strategy development application of this research, I turned to the insights of SPT (56) to support a more comprehensive and structurally relevant viewpoint with which to view our conservation challenge. Practices are useful metrics for understanding how key behaviours are positioned within society and the mechanisms of change in these behaviours, essential to fostering sustainable human-nature relations, thus also relevant to the issue of scale and plasticity of values as reviewed within this thesis. Practice theory approaches simply redefine and help to clarify and organize strategies more effectively. This management position has therefore fitted well with the objectives of this research because of the value in understanding the maintenance of the practices of hunting, trade, and consumption of bushmeat.

I set the scene in Chapter Two by acknowledging the barriers to behavioural change (55), including cognitive biases and the value-action gap. In seeking barrier removal to ensure that people express their apparent advocacy profiles, it is key to understand that people are prone to well-known cognitive biases and limitations which will prohibit the expression of certain values or predominant attitudes, as suggested by my ethnographic accounts. Therefore, any campaign should seek to address these barriers as a key stage in its development.

The considerations of critical thinking and pragmatism should play a mediatory role to balance the researchers' and practitioners' toolkits when devising strategies for sustainability and the governance of natural resources. Building on the finding related to EIs regarding new generational shift toward pride over exploitation of native wildlife, I also use this research to validate the

idiosyncrasies of the Bolmong and Minahasan ethnicities. Most relevant to this final objective is that this includes the exemplification of openness to change, suggesting that one may possibly encounter minimal friction for implementing behavioural changes. This illuminated potential pathways to promoting ecocentrism and thus more sustainable lifestyles via emergent identities.

This study has contributed to gaps in our knowledge of the mechanisms of behaviour change, particularly with regards to biodiversity conservation and the role of key constructs such as empathy, identity, and pro-sociality. While primarily applicable to the micro and meso level implications, there are several key insights which may be informative to macro level thinking in the biodiversity conservation spheres, and thus a substantial contribution to human geography. Reviewing the key thematic findings presented in Table 2, and the broader relevance of the recommended approaches presented within the Theory of Change, lessons spanning multiple disciplines have emerged. These traverse the impact-oriented direct application of conservation recommendations for awareness raising and community empowerment at the micro level, the meso level community implications or belief pluralism and promoting communal values, and broader macro level value priming insights and pro-social to PEB connections, in addition to the demonstrated benefits of adopting a social practice lens for higher level environmental management. Collectively, these insights hold great potential to the transdisciplinary knowledge bases, appreciating complexity and adopting pragmatic blend of approaches to contribute to the human geographies of social change.

Disconnects between intellectual and applied frameworks mean that few conservation practitioners are sufficiently versed in the social sciences required to effectively tackle complex socio-environmental challenges. My research insights have informed the strategic direction of a conservation programme, traversing academic and non-academic disciplines, delivering the transdisciplinarity [84](#)) approach. Several frameworks for action have already been developed using findings from this ethnographic research and will continue to provide nuanced, deeply contextualised insights to illuminate the pathways toward harmony between people and their surrounding nature.

9.3. Study limitations

My research was designed from the outset to be exploratory, following a deductive reasoning process utilising relevant concepts and theories from a range of social science research traditions. While uncovering insights in human-nature connection, the findings were limited methodologically, and I did not undertake empirical experimental design to assess causality of the relationships observed.

The definition of psychological constructs (i.e., attitudes, values, beliefs) followed leading common definitions. However, these were not measured implicitly with definite scales or quantifiable metrics but were classified based upon ethnographic observations and themes emergent from applied thematic analysis (101). These are open to subjective bias, and thus any interpretation should take such biases into consideration.

Careful attention has been paid to avoid illegitimate generalisation from the data within the study, so limitations regarding situational inferences are acknowledged. Two types of generalisation may be inferred from a qualitative study (Bryman, 2012). The first is analytic or theoretical generalisation, whereby data collected during the study may be used to broadly support the theoretical arguments built upon by the research. Secondly, case-to-case generalisation involves drawing inferences from instances similar to the study cases, an approach similar in nature to *moderatum* generalisation. The qualitative study represents by necessity a comparative, exploratory study and therefore causation cannot be assigned unambiguously, whilst greater context validity is drawn from the comparative case studies.

As described in Section 4.5 (79), it is recognised that while adequate to support the research questions with a broad indication of belief, the CNS is limited in its power to demonstrate emotional connection directly. Since the data were collected, there have been further reviews which indicate the limitations of CNS as a tool for measuring affective connection to nature and others, which would be considered in future studies (Meis-Harris et al., 2021). Similarly, when applied to examine levels of feeling emotionally connected to the natural world, the CNS

often correlates with related variables and/or responds to control variables. This approach involves factor analysis and significance tests to determine whether different segments of the population score differently on the CNS. As this research is exploratory and not explicitly focused on determining causal relationships between key variables, for example a sense of belonging or interdependence and level of hunting, these factor analyses were not conducted.

A review by Drury et al., (2011) contrasts questionnaire-based surveys with less structured approaches to collecting social data in conservation research (Czap et al., 2015; Lowe et al., 2009), particularly in non-western settings. The authors highlight the importance of validity, whereby external validity focuses on evaluating the contexts in which results can be applied, or how representative they are to the broader setting, of which quantitative data have a stronger application. Conversely, qualitative data are likely to provide a clearer picture of whether the study investigates what it claims to, and thus its *internal validity*. The mixed method, pluralistic triangulation of this research ensures that both external and internal validity are considered. Additionally, validity presumes reliability (Bryman, 2012). Further measures to assess the internal reliability of the measures will be sought in the application of the strategy.

Reactivity is a crucial consideration in terms of affecting the natural flow of events that the ethnographer is setting out to capture and creating biased responses and behaviours (Neuman, 2014). I aimed to minimise biased reactions as much as possible to maintain naturalistic conditions. In planning the fieldwork, consultations focused on two options: whether to disclose all information openly and directly about the NGO and its remit, and how far to go with expending energy on diverting conversation away from my role with the NGO. It was agreed for ethical reasons that openness, honesty, and transparency was to be maintained at all times, and thus the connection to the NGO was made clear and the right for receiving the honest truth was upheld throughout. However, the importance of clear communication about the research intention was maintained, as well as ensuring that consistent focus was on the study itself, and not the overarching, impact-oriented conservation goals. Based on personal and other researcher's experience, trust and honesty is given to students collecting data for their studies, resulting in our confidence in the authenticity of results.

I recognise that some of the responses and thus the subsequent interpretations as recorded in my ethnographic accounts presented in this thesis may have been biased due to reactivity. I ensured my activities were not associated with government and avoided the word “project” which may have connotations of community development and thus bring with it expectations. To expedite the trust-building process I developed rapport early on, built strong relationships with the key village leaders, and attended all community gatherings and local stop-bys at people’s residence, as well as all commensality opportunities. One knowledgeable and experienced member of our team remarked: *“If you are accepted by the village head then all in the village will trust and respect you.”*. Reassurance of openness and risk-free data collection was given by consulting experienced local individuals.

Jakobsen (2004) uses the analogy of ecological boundaries to describe the social and psychological boundaries that may act as filters of movement and information flows between individuals, groups, and organisations. The design of this research paid great attention to the potential limitations of inter-observer reliability, data integrity and sharing protocol through which divergent perspectives can act as barriers to such flows. Earlier I described the ontologies of bounded relativism to account for a perspective that accommodates the knowledge and understanding as defined under certain cultural conditions, as may be apparent with the target groups. It was important to maintain this point of view within the interpretation of the ethnographic field notes, to avoid assuming that the perceptions of the participants were at one with my own theoretical and intellectual predispositions. Accountability for socio-cultural subjectivity was maintained as a foreign researcher in a rural non-native research setting.

9.4. Recommendations

I bring this section, and the research to a close by making a series of recommendations for how to best utilise the findings of the study. As explained throughout the study, this research aims to maintain high applied impact value, and thus these recommendations are primarily positioned for practitioners, in

terms of implementation of the proposed strategy (262) and overall approach to biodiversity conservation based upon the current findings. This is followed by a list of suggested future research avenues which align with the findings as described above.

9.4.1. Recommendations for researchers, practitioners, and policymakers

The applied objective builds upon previous and current research to understand the potential to address global degradation and loss of species, habitats, and ecosystems. This has manifested itself in the formulation of a bespoke multi-level strategy drawing from best practice behaviour change theory. I distil these findings into several key recommendations targeted toward practitioners and policymakers, not limited to the specific conservation area or problem outlined in this research:

1. **Conduct ethnographic fieldwork** to develop a nuanced understanding of the socio-psychological and cultural conditions influencing people's relationship with the natural world. Ethnography will provide opportunities to gain trust, access, and network opportunities to facilitate the suggested changes required for threat reduction.
2. **Adopt principles of social practice theory** to support a holistic understanding of conservation needs and dynamics, and the ability for the pragmatic compartmentalisation of interventions and their targets. Consider which common sets of activities affect the environment and how, and in what ways the individual attitudes, values, and beliefs of the agents that they recruit (the carriers of change) govern how these practices are reproduced, re-crafted and inter-connected.
3. **Co-create a holistic and integrated theory of change** with input from all levels of stakeholders including local community members, seeking a balance between the needs of local people and the environment. This strategy should address faith-based governance structures and barriers to change, particularly cognitive biases and the value-action gap, utilising bespoke message framing and local empowerment.

4. **Strengthen law enforcement, knowledge of regulations and promote its effectiveness.** Where possible, adopt principles of environmental citizenship through local faith-based regulatory systems. Where unavoidable, carefully regulate any utilisation of wildlife to ensure sustainability and pragmatically adopt the precautionary principle for wildlife utilization. Conduct research on the potential for transforming livelihoods to become more sustainable and shift away from hunting and animal agriculture.
5. **Develop campaign messages which promote pro-sociality (toward pro-social education);** working within the governing structures of societal control particularly active belief systems; introduce value-priming into strategic environmental management by speaking to pre-existing, socially embedded communal values and social norms surrounding the acceptance of exploitative practices related to the natural world.

I finally reflect that by incorporating social psychological principles and deeper understandings of the ontological, epistemological, and philosophical orientations into conservation programmes, practitioners may broaden their interpretation, communication, and application of results. I am affirmative in my knowledge of the numerous benefits of adopting such an approach through an experiential, autobiographical account. I thus endeavour to continue to share the knowledge transfer to others formally qualified in the natural sciences.

9.4.2. Future research

There are several key directions which have emerged from this research which would lend themselves to future empirical exploration and review. While not exhaustive, I list these below:

1. **Plasticity of values for biodiversity conservation:** building on the broad discourses of values shifting; values homophily (Crompton et al., 2014; Manfredi et al., 2017; Ives and Fischer 2017).
2. **Fostering pathways between pro-social and PEBs:** exploring the call for environmentalists to speak to communal values and adopt “pro-social education” (Brown et al., 2012; Stern and Dietz, 1994).

3. **Empathy priming:** paucity of research into the effects of prompting empathy (e.g., DEN: Tam, 2013; Berenguer, 2007; Czap et al., 2015).
4. **Ecocentric pathways, compassionate conservation:** addressing gap in knowledge surrounding the connections between similar value orientations, particularly animal welfare and conservation (Bekoff, 2013; Vining, 2003).

Appendix I. Research design indicating sampling method, size, and analytic contribution for each method.

Method	Approach	Sampling type	Sampling method	Sample size	Contribution toward research objectives	Details
Participant observations	Qualitative	Non-probability	Snowball sampling, Chain referral	N = 3 per location Total = 9 key informants	Objective 1 and 2 Following daily activities, observing relationships with one another, wildlife, and natural areas (Newing, 2010).	Three individuals chosen per location as key informants with relevance to the project focus, referred to by local representatives and based upon criteria discussed with the lurah (village head: gatekeepers).
Focus groups	Qualitative	Non-probability	Targeted purposive sampling	N = 3 FGs per location 10 people per FG Total = 90 people	Objective 2 Meaning associated with nature gained through joint construction of notions and ideas (Morgan, 1996).	Ten individuals selected, with a combination of indicating power and gender equality, representing village leaders and prominent representative individuals; this applies to the ethnographic focus groups sessions.
Ethnographic interviews	Qualitative	Non-probability	Chain referral; convenience sampling	N = > 4 per location Total =>12 (based on theoretical saturation)	Objective 1 and 2 Enabled in-depth, free, unstructured inquiry into key thematic areas (Strauss and Corbin 1998).	Four qualitative interviews conducted per location, continued until no new or significantly relevant data or patterns emerged, or the category was well developed and validated.
Connection to Nature Scale	Quantitative	Non-probability	Respondent-driven chain referral	N = min 10 per location Total = 30	Objective 2 Comparative indication of connectedness to nature (Mayer & Frantz, 2004).	Combination of selecting all key informants for participant observations and requesting respondents to encourage others to take the short survey.

Appendix III: Coding structure utilised in NVivo, indicating number of files and coded references to theme from consolidated notes and transcripts.

Name	Files	Refs
1. First-order socio-demographic-cultural and structural themes	95	490
Age - youth, adults, or elders and particularly their interaction with nature	41	62
Changes in beh or attitude from past	21	36
Death, suffering, negative social	7	10
Gender -variation between or reference to either of sexes	5	5
Health and wellbeing - references to hedonic or eudemonic wellbeing	29	47
Material culture - traditional use of things	6	8
Non-material culture - traditional practices, customs	24	30
Norms - Injunctive or descriptive social norms	48	74
Origin, tribal history - mention of where people or things came from	14	24
Perceived behavioural control - indication of perception related to control of behavioural action	42	71
Social-economic status - reference to class, wealth, poverty, subsistence, need, hardship etc	22	40
Structure, laws & politics - related to the social practices, government, institutions, systems, or other sociological factors	40	83
2. Second-order nature-relationship themes	106	956
Alienation, disconnect, disregard for nature	11	13
Conflict and tolerance - related to crop raiding and perceptions	20	25
Connection - oneness or unity with nature	41	78
Consumption - trade, processing, or consumption of bushmeat	46	80
Dissonance - inconsistency with apparent attitudes, beliefs or values and action (relates to Objective 3 – consistency)	16	18
Enjoyment, gratitude, resources - any mention or interaction with natural resources other than utilitarian purposes	27	37

Farming - any agricultural reference or actions	62	160
Hunting - active or passive occurrences or mention of all related hunting activities or products;	49	101
Identity - related to way of organizing information about the self	14	15
Proenvironmental - care, compassion for animals, aim to harm the environment as little as possible, or even bring benefit to the environment	34	64
Sustainability - sense of looking to future, recognition of limits to use of natural resources	35	66
Utility, resources, exploitation - utilisation of natural resources for personal or social requirement	34	66
Wildlife, animals - general mention of animals, plants or trees	79	233
3. Third-order empathy-oriented themes	78	176
Affective empathy -shared emotional response, mirrored response	14	18
Cognitive empathy - perspective taking, stepping into another's world, understanding other's world view or opinion	25	45
Cruelty, suffering - instances of animals or people suffering and experiencing cruelty	15	18
Prosociality - caring, benevolence, compassion, agreeableness, helping	47	75
Violence, aggression - instances of antisocial behaviour or attitudes	17	19
4. Fourth-order value and frame-oriented themes	36	77
Extrinsic, self-enhancing - self-direction, stimulation, hedonism, achievement, power	7	8
Frames - stories, tales, and bundles of associated knowledge; links to values with language	3	4
Instrumental value - value for humans only	16	23
Intrinsic, self-transcendent - tradition, universalism, benevolence, conformity, security	16	24
Plasticity - indication of change of value types	4	4
Relational values - connection to, and relationship with something	10	14
5. Fifth-order knowledge and awareness theme	52	112
Knowledge of protected status	23	40
Traditional Ecological Knowledge	39	72

6. Sixth-order beliefs theme	71	240
Fear, superstition	35	76
Modern Christianity or Islam and worship	29	54
Self-efficacy belief	5	5
Traditional beliefs - including traditional medicines and spirituality	50	105
7. Seventh-order attitudinal theme	49	101
Affective attitudinal	8	11
Negative environmental attitudes	12	13
Positive environmental attitudes - trying to protect the env.	43	77
8. Eighth-order auto-ethnographical/ methodological²	26	58
Feelings and emotions	22	36
Methods used	11	22

² Eighth-order themes were used for reflective and methodological purposes and not included in thematic analyses.

Appendix IV. Key thematic findings and analytical contributions of each method per location.

a) Imandi, b) Taratara, c) Poopo, d) Pandu.

a) Imandi village

Method	Analytical contribution	Main corresponding objective	Key thematic findings
Participant observations and ethnographic interviews	Multiple indicators of pro-social predispositions. Antisocial behaviour: aggression and social conflict.	Objective 1. Pro-sociality and pro-environmental behaviour	Familiarity, security, traditions, and social norms deeply entrenched. Richness of spirituality, superstition, myths, old belief systems and respect for elders' wisdom, alongside cultural erosion of animism and cultural customs. Example of the domination and power interplay with regards to control of natural resources, alongside the accompanying notions of wealth and social pressures.
	Relational values. Sacred reverence and animistic roots. Demographic variation in advocacy profiles.	Objective 2. Connectedness to nature	Consumption, instrumentalism, and modern-day reliance on natural resources ubiquitous. Rich Traditional Ecological Knowledge, e.g., traditional medicine use. Mythological stories of mystical, powerful spiritual heritage to the contemporary beliefs. Demographic variation in attitudes and values between the elders and the younger members of the community.
	Environmental identities (EI).	Objective 3. Strategies for change	Eagerness of key informant to become more consistent with an identity of animal carer, and support conservation efforts.
Focus groups	Social disconnection. Environmental citizenship. Perceived behavioural control.	Objective 1. Pro-sociality and pro-environmental behaviour	Disconnect between community and government. Collective sense of agency, recognition of responsibility to preserve forests and wildlife. Feel a lack of behavioural control (structural concerns, laws, lack of gov support etc). Appears that most social problems can be blamed conflict with neighbouring village.
	Fear of changes in climate. Relational values. Pride in local wildlife	Objective 2. Connectedness to nature	Scenario discussion of 10 years ago, and what it may be like in 10 years' time revealed indications of awareness and possible self-efficacy barriers alongside diffusion of responsibility for environmental depletion. Understand their role in increasing frequencies of natural disasters. Sense of pride they say is increasing.
Connection to Nature Scale³	Interdependence.	Objective 2. Connectedness to nature	Whilst expressing a deep connection to nature and preference for natural surrounds, they associated more with farmland as "nature", rather than the nearby forest itself and seemingly rarely bothered to enter the forest.

³ While the majority of the CNS refers to the direct quantitative results (see 6.3; Appendix II), some key thematic findings presented here were elaborated by participants and captured in accompanied consolidated ethnographic notes.

b) Taratara village

Method	Analytical contribution	Main corresponding objective	Key thematic findings
Participant observations and ethnographic interviews	Powerful religious indoctrination. Prosocial tendencies. Modernisation – shifting agricultural/ livelihood practices and cultural erosion.	Objective 1. Pro-sociality and pro-environmental behaviour	Frequent reference to Minahasan identity; especially openness to change, evident throughout research period, with attitudinal shifts and enhanced advocacy fostered. Community cohesion through faith-based plurality and traditionalism. Preservation of traditional mutual aid systems as a potential conduit for fostering biospheric concern.
	Cognitive dissonance. Treatment and compassion toward domesticated animals. Normative influence of communal values. Perceived behavioural control. Environmental identities.	Objective 2. Connectedness to nature	Cognitive dissonance with caring for animals and eating them. Culture of pet keeping, causing cognitive dissonance and social discomfort with the consumption of dogs and cats. Rare impact of law enforcement as a powerful deterrent of environmentally threatening behaviours. Lansia EI: societal model building social cohesion, providing exercise and mental stimulation, and ultimately embodying benefits accrued by time in natural surroundings.
Focus groups	Instrumentalism. Environmental citizenship. Minahasan identity. Values spill-over.	Objective 1. Pro-sociality and pro-environmental behaviour	Supposed, irrational dependency on animals as resources, dominant instrumentalism values. Shared social and environmental responsibility resulted in stewardship of natural areas. Clarified Minahasan identity as open, adaptable, and ever-changing. Discussions of culture, family and other traditionalism type values triggered other universalism values type indications, noted by expressing urgency and importance of preserving cultural elements, and nature protection.
	Attention to needs of wildlife. Human-wildlife conflict.	Objective 2. Connectedness to nature	Agreed sense of sustainability of some wildlife populations. Issue of crop-raiding, animosity arising from human-wildlife interface.
Connection to Nature Scale	Extrinsic, instrumental values. Interdependence.	Objective 2. Connectedness to nature	Humans' dominion over nature, despite our place within the natural world evident. Overall recognition of position within nature, expressing strong sense of egalitarianism.

c) Poopo village

Method	Analytical contribution	Main corresponding objective	Key thematic findings
Participant observations and ethnographic interviews	Combination of old and new belief systems. Cultural pride and social norms. Emergent dualistic identities. Sentimentalism of the past.	Objective 1. Pro-sociality and pro-environmental behaviour	Emergence of mixed-belief paradigm to comfortably allow the flexibility for modern diverse contemporary interpretations of faith. Deeper integrity and continuity of farming practice and less aspiration to modernise than found in the more urban locations. Social respect and position key; highly influential role models effective messengers. The sentimentalism of people resonates with traditionalist type values.
	Relational values. Pathways to change.	Objective 3. Strategies for change	Highly receptive to messages about importance of environmental concern and relational values. New generation of ecocentric citizens emerging. Strategic development of hunter role model roadshow with local candidate offering support.
Focus groups	Perceived behavioural control. Empathic sensibilities. Values spill-over.	Objective 1. Pro-sociality and pro-environmental behaviour	Responsibility of individuals but also “the system” (government, institutions) for protecting forests. Disassociation of animals as meat. Discussions of culture, family and other traditionalism type values triggered other universalism values type indications, noted by expressing urgency and importance of preserving cultural elements, and nature protection.
	Human-nature connection benefits. Relational values.	Objective 2. Connectedness to nature	Shared recognition of nature’s independence of humans. Health and wellbeing strongly dependent on time in nature.
Connection to Nature Scale	Interdependence. Sense of belonging.	Objective 2. Connectedness to nature	People seen as central place in nature, but still inherently connected. Expressed strong sense of belonging to natural community.

d) Pandu village⁴

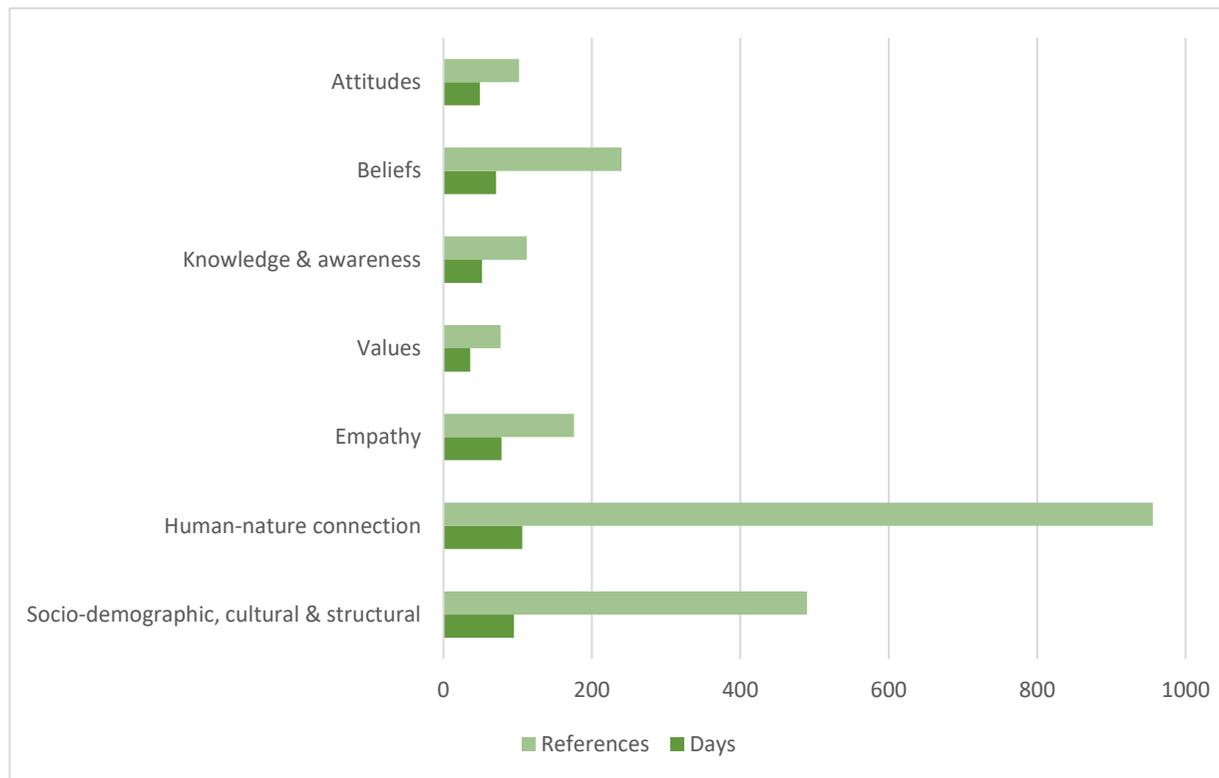
Method	Analytical contribution	Main corresponding objective	Key thematic findings
Participant observations and ethnographic interviews	Communal values; intimacy of communities. Perceived behavioural control.	Objective 1. Pro-sociality and pro-environmental behaviour	Emergent dualism was noted, in the motivations and social pressures for adherence, with the disagreement or rebellion against formal religion and its doctrines and normative structures. Salience of public perceptions and social pressures; life governed by perceived behavioural control and self-efficacy barriers.
	Pathways to change. Normative influence.	Objective 3. Strategies for change	Minahasan and Bolmong people can support and propagate norms and trust, and thus also the openness to change, to develop and adopt new systems which may eventually enable the normalised protections of nature.
Focus groups	Closeness of communities. Dilution of responsibility. Gengsi pehnoemenon.	Objective 1. Pro-sociality and pro-environmental behaviour	Privacy is a luxury.on. All recognised that many live beyond their means and that debt is becoming a problem – need to look out and care for one another to avoid this. Mutual aid systems support pro-social characteristics.
	Sense of responsibility, awareness.	Objective 2. Connectedness to nature	Recognition of impending loss of forest but hope in restoration work. Previous generations perceived as more harmonious and better stewards of the land.
Connection to Nature Scale	Human-nature connection benefits. Kinship with natural world.	Objective 2. Connectedness to nature	Nature perceived as place of recreation, providing awe and wonder even on a very small, localised scale. Participant's felt a pronounced sense of kinship with the broader natural community.

⁴ Pandu was the initial pilot village and only four days were spent with the community. However, all ten CNS questionnaires, focus group and ethnographic interviews were completed.

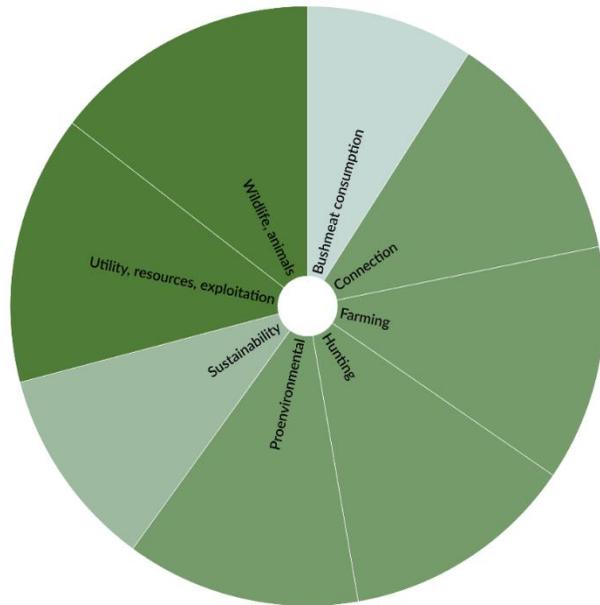
Appendix V: Visual outputs from NVivo

Results are pooled from all sources, across all study days and locations. As described in 4.7., NVivo was utilised primarily for organising and guiding thematic trends, rather than for its graphical presentation of results or comparative functions. The following appendices indicate a. the relative frequency of thematic areas discussed or observed; b. the most salient words encountered; c. > e., hierarchy charts indicating relative weighting of thematic orders coded.

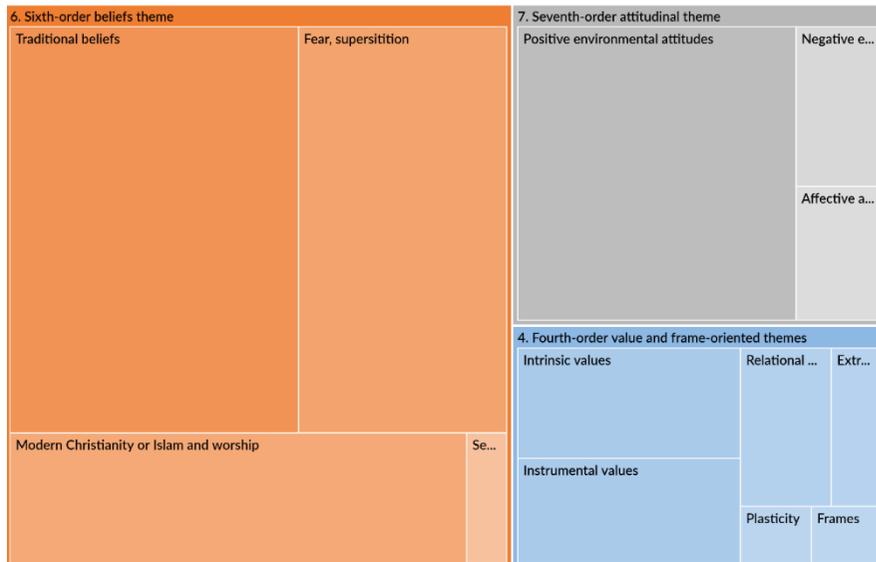
a. Number of references and days coded to each thematic order.



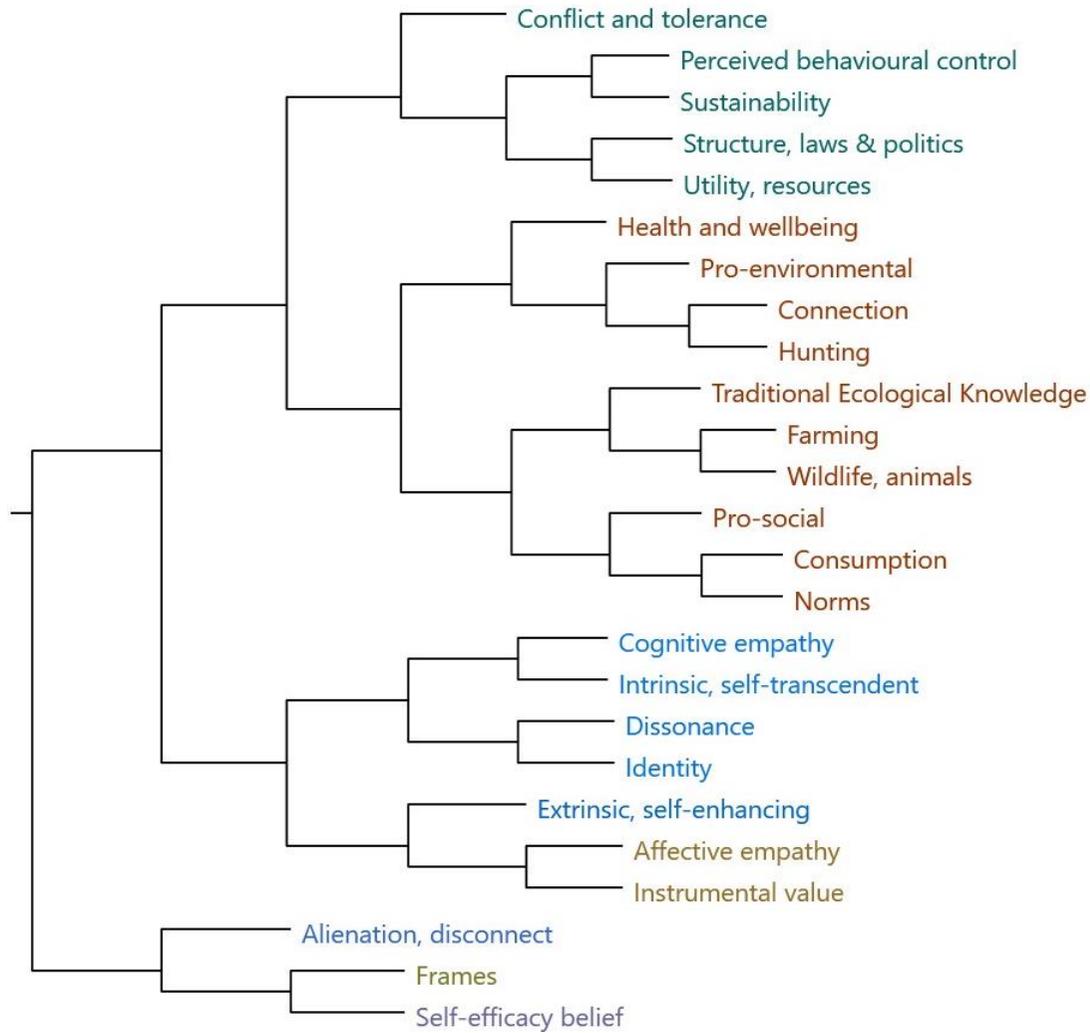
d. Hierarchy chart 2. Second-order nature themes, relative weighting per coded cases.



e. Hierarchy chart 3. Advocacy profiles (attitudes, values, beliefs) relative weighting per coded cases.



f. Cluster analysis based on themes clustered by coding similarity, indicating six main clusters



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Abbreviations

AI: Allo-inclusive Identity

ATA: Applied Thematic Analysis

BIT: Behavioural Insights Team

CBSM: Community-Based Social Marketing

EC: Environmental Citizenship

EI: Environmental Identity

IFEP: Integrated Framework for Encouraging Pro-Environmental Behaviour

KPA (Komunitas Pencinta Alam: nature loving community)

NGO: Non-Governmental Organisation

PA: Protected Area

PEB: Pro-Environmental Behaviour

REMO: Religious Environmental Movement Organisations

SPT: Social Practice Theory

SY: Selamatkan Yaki

WWF: World Wide Fund for nature

“Torang samua basudara”

“We are all brothers and sisters”

I close with this classic Minahasan saying again, its warm sentiment embodying the pro-social ideology aptly; an embedded identity of equality, with a social system characterised by communal values of unity, giving and helpfulness. It is with hope that, by channelling the universalism observed in this ethnographic study, the empathic reach of this notion may soon significantly extend to the more than human world, and thus nurture ecocentrism.