Empowering Conservation Partnerships:

Understanding the Human-Related Dimensions of Collaboration in Conservation, Using Threatened Felids as a Model

Rosalind A. Napleton-King | **2018**

Durrell Institute of Conservation and Ecology, University of Kent, Canterbury

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Abstract

This body of work offers an illustration of optimism and empowered hope in action: Via social science, it seeks to understand certain remarkable conservation efforts of human beings - to aid threatened wildlife species facing increasingly complex, urgent survival challenges from an ever-present, arresting backdrop of threats. This research considers and learns from the extraordinary, wide-ranging, multifaceted, impactful conservation efforts that occur for threatened wildlife - when multiple parties unite for their cause. Against many and fierce odds, conservation partnerships can form across boundaries of all types - national, cultural and sectoral. This study seeks to understand what could be incentivising and fuelling the array of macro-scale conservation efforts, seemingly boundless within and across nations, where regardless of mankind's differences - cultural, religious, professional, societal or otherwise - neither physical nor non-physical boundaries, nor the backdrop of threats to wildlife, appear to impede. This knowledge is crucially-needed to aid conservation outcomes: For many threatened species, cohesive effort is lacking - groups and organisations, between and within sectors, often act in fragmented manner. The upshot of these frequent situations of disparate working is that, despite common goals, bodies follow parallel but discrete tracks, seldom collaborating to maximise the potential of conservation outcomes and impact for their focal species.

Conservation does not occur in a vacuum: It is increasingly acknowledged that the precarious state of the world's wildlife is fuelled by anthropogenic drivers. The array of threats to wildlife survival is intrinsically and intricately linked to multiple, complex, multi-layered social, political and economic human factors; in short, biodiversity conservation is beset with 'wicked' problems - issues so intricate and complex that they are extremely difficult to solve. In a once-biologically-rooted discipline, scholarly understanding of the multiple human dimensions of conservation is increasingly recognised as key to effective, impactful outcomes for threatened species. This research makes its contribution by exploring the human dimensions of conservation collaborative endeavours - a much-understudied field.

To better integrate conservation for threatened species, there is urgent need for analysis of the human processes involved in conservation collaborative action. Examination of processes relating to connections within and between groups - and how consequent social networks are leveraged - relates pathways for understanding how partnerships and elaborate networks emerge to carry out collaborative endeavours. This research deeply considers micro level conservation interactions - and then relates them to the macro perspective of collaborative conservation action, considering how social capital between individuals influences the wider threatened species conservation movement. By using two multi-site case studies, to give depth of insight to this novel topic, I aim to understand the complexities of the human dimensions of conservation collaboration.

Specifically, my objectives are to 1) develop an understanding of the overall array of actors and heterogeneity of effort contributed to the threatened species conservation movement, 2) examine human-related drivers to determine how social capital can influence the building of cross-sector, multi-background, multi-party conservation partnerships and their aggregates, and 3) examine human-related drivers to determine the operation and influence of social capital pertaining to collective action in cross-sector, multi-background, multi-party conservation partnerships and their aggregates.

To answer objective 1, with a focus on 36 threatened wild cat species/subspecies, I take a novel approach to explore the array of actors and effort contributing to threatened species conservation. I undertake extensive content analysis of internet sources, examining the conservation actors and their exchanges that constitute the threatened species conservation movement. Once the preserve of biologists, I find the extant threatened species conservation movement has diversified to embrace an

eclectic array of actors and effort, including novel actors and innovative contributions from backgrounds not previously associated with threatened species conservation - and, from actors commonly-recognised within conservation, diversification to offer innovative contributions. The results can be used by conservation actors from all backgrounds and sectors to pursue pathways highlighted, widening the aggregates of those working to conservation goals to benefit conservation outcomes and impact. This study also illustrates a novel method by which an overarching purposeful assemblage of aggregated actors, such as a movement, may be studied.

To answer objectives 2 and 3, I conduct a case study, employing a social capital framework, based on conservation actors and their extraordinary, diverse, transboundary partnerships working to conserve the snow leopard *Panthera uncia*. I undertake documentary analysis, carry out extensive interviews - and narrative and social network analysis. To answer objective 2, I explore the human-related mechanisms by which eclectic, successful, visionary conservation partnerships are established. Following on from this, I answer objective 3 by exploring the complexities of inter-party relationships in operation during conservation collaborative action. I identify human-related mechanisms by which eclectic, successful, visionary conservation partnerships build and operate social capital to collaboratively aid a threatened species. By concomitant consideration of other factors considered important to partnership-building and collective action, I also identify overarching themes and every-day scenarios that empower the building of conservation partnerships and fuel their subsequent collaborative endeavours.

This study provides a unique perspective of the influence of human-related drivers on the building of cross-sector, multi-background, multi-party collaborative partnerships in biodiversity conservation. It is the first study, to my knowledge, to identify mechanisms by which social capital is created and harnessed in conservation partnerships. The study places individual actors' interactions within the larger ecological and socio-political context in which the threatened species conservation movement operates and makes a novel contribution to social capital knowledge.

The optimism embedded in this thesis is not fuelled by blind, uninformed hope, but empowered by research that is informed by real conservation issues and delivers practical, positive solutions as well as theoretical knowledge - in an accessible user-friendly manner. The findings of this thesis attest to the multi-faceted - and positive - nature of the human dimensions of collaborative conservation effort. Building social capital and harnessing it leads to a tipping point that moves conservation endeavour along a positive path - pivotal knowledge that can aid the many species currently passing 'under the radar' with respect to collaborative conservation effort. This study not only provides framework for practitioners of all sorts in conservation, but also transferable knowledge to aid partnership-building and globalised collective action embracing multiple backgrounds, cultures, sectors in many disciplines and theatres. In conclusion, the findings of this thesis advocate that the threatened species conservation movement would benefit from nurturing efforts to more diligently help human interactions - supporting and empowering people to build good relationships - so that we can holistically empower outcomes for wildlife and achieve our biological goals.

Published & Presented PhD Thesis Chapters

CHAPTERS 1, 2 and 3: Uniting Conservation Communities using Threatened Felids as a Model were presented to the European Association of Zoos and Aquaria Felid Taxon Advisory Group Annual Conference, Athens 2015.

During my Doctoral period, I was awarded a Research Council UK Policy Fellowship with Her Majesty's Government Office for Science. During this period (2016):

CHAPTERS 1, 2 and 3: Big and Small Wild Cat Conservation and Beyond, Social Science Methods to Inform Wicked Environmental Issues, and **The Conservation Movement** were presented verbally and in abridged written form to HM Department for Business, Innovation and Skills and HM Government Office for Science.

CHAPTERS 3, 4 and 5: Understanding Conservation as a Movement, **The Contribution of Social Capital in Building Multi-Actor Conservation Partnerships** and **The Operation of Social Capital in Multi-Actor Conservation Collaborative Action**; excerpts were shared with the Chief Scientific Advisor of HM Government, including in the form of a formal Submission.

Research carried out during this Policy Fellowship was both informed by, and informed, my Doctoral study. **Harnessing Social Capital amongst Diverse Parties Working to a Policy Goal: A Report to Her Majesty's Government Office for Science:** This work was published in HM Government Office for Science Policy Toolkit, 2016.

CHAPTERS 1, 2, 4 and 5: The Status Quo of Conservation Collaboration, **Social Science Methods to Inform Wicked Conservation Issues**, **The Contribution of Social Capital in Building Multi-Actor Conservation Partnerships** and **The Operation of Social Capital in Multi-Actor Conservation Collaborative Action** were presented to the Royal Zoological Society of Scotland and the Pallas' cat International Conservation Alliance (2017).

CHAPTERS 3, 4 and 5: Understanding Conservation as a Movement, **The Contribution of Social Capital in Building Multi-Actor Conservation Partnerships** and **The Operation of Social Capital in Multi-Actor Conservation Collaborative Action** have been sent in Executive Summary form to >50 organisations from the snow leopard and wider conservation community, the animal welfare arena and beyond (2017) and have been variously presented to the snow leopard conservation community and the Snow Leopard Network, the profession global forum for snow leopard conservation (2017).

CHAPTERS 1, 3, 4 and 5: Empowering Conservation Partnerships: A Toolkit for Multi-Party Conservation Collaboration (in prod.) encapsulates the findings and recommendations arising from this body of work in a freely-available publication offering practical, positive pathways and templates in accessible user-friendly manner, to guide practitioners wishing to harness social capital to enhance both partnership-building and collective action in conservation and beyond. It has been requested by > 90 organisations and groups from all sectors, globally.

I have numerous invitations globally to present the findings and recommendations arising from this research - to the conservation arena and beyond.


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Foreword & Acknowledgements

In the varied phases of my career, I have been privileged to lead people through very difficult times and meet incredible, inspirational people, often as they pull together in troubled parts of the world. I have learned that human nature can triumph over very steep odds. In the course of my work, I have encountered many wonderful working efforts for animals and conservation. However, I also repeatedly encounter scenarios that make me incredibly sad - and frustrated… Many of these wonderful efforts happen in fragmented manner, disconnected from, and often in competition with, one another - despite their common goals. Worse still, some creatures in desperate need have little or no effort on their behalf at all. And so the seeds of this project were sown…

By studying and highlighting what can be done when people from all walks of life contribute their eclectic efforts and unite for a cause, I am a conduit to gift this knowledge to others in need.

This work would not have been possible, in any way, without the manifold help, support and contributions of so many dear people around the world - you know who you are. My heartfelt thanks to every single one of you.

This work is dedicated to my family - and all who I love and who care for and empower me. It is dedicated to all who through their kindness, compassion and endeavours strive to help animals and people and to enrich our world.

Keep going.

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1.1 COLLABORATING FOR CONSERVATION

1.1.1 A Hopeful Status Quo

This body of work offers an illustration of empowered hope in action; of remarkable people doing and achieving remarkable things. This research proffers optimism rooted in science, social science, by which means - a largely interpretivist paradigm (Creswell, 2003; Yanow & Schwartz-Shea, 2011) - we may understand the remarkable things.

The remarkable things in question are the conservation efforts of human beings, against fierce odds, to aid threatened wildlife species: The odds derive from an array of threats; loss and degradation of habitat (e.g. Baillie et al., 2010; Böhm et al., 2013; IUCN, 2015); over-exploitation due to unsustainable hunting, poaching or harvesting; pollution; invasive species; disease; and climate change (Ripple et al., 2014) - wildlife face increasingly complex, urgent survival challenges.

This narrative could have begun with the preceding paragraph - portraying the outlook of doom attributed to the sixth mass extinction (e.g. Barnosky et al., 2011): A quarter of mammalian species are under threat of extinction (Hilton Taylor et al., 2009) and the decline of wildlife populations verges on a staggering sixty percent, on average, over the past forty-five years (WWF, 2016). The outlook for much of the world's wildlife is, understandably, frequently depicted as grave (Ceballos & Ehrlich, 2002; Ceballos, García, & Ehrlich, 2010; Wake & Vredenburg, 2008). However, instead this research sits alongside that of others who advocate the power of a positive and optimistic approach in conservation (e.g. Beaver, 2000; Knight, 2013); one not fuelled by a blind, uninformed hope, but empowered by research that is informed by real conservation issues and delivers practical, positive solutions as well as theoretical knowledge - in an accessible user-friendly manner. This research considers and learns from the multifaceted, multitudinous, impactful conservation efforts that occur for wildlife - when multiple parties unite for their cause. A number of notable models embody this ethos; for example, conservation effort for the golden lion tamarin *Leontopithecus rosalia* (Kleiman & Rylands, 2002) and for certain threatened cats, such as that for the Iberian lynx *Lynx pardinus* (Vargas et al., 2009), the Amur leopard *Panthera pardus orientalis* (Spitzen et al., 2012) and the snow leopard *Panthera uncia* (McCarthy & Mallon, 2016; Mishra, 2016). Specifically, this research offers novel understanding on the human dimensions of the phenomena that bind certain remarkable collaborative endeavours and fuel their collective action to conserve certain threatened species.

'Certain' is a salient word. This research is important and timely. Frequently, conservation for threatened species lacks cohesive collaborative effort; groups and organisations - between and within sectors - often act in fragmented manner (e.g. Borgerhoff Mulder, 2007; Chan et al., 2007; Jiminez, 2009; WAZA, 2012; Byers et al., 2013). The upshot of these frequent situations of disparate working is that, despite common goals, actors follow parallel but discrete tracks, (Nowell & Jackson, 1996; Borgerhoff Mulder, 2007; Byers et al., 2013), seldom collaborating to maximise the potential of conservation outcomes and impact for their focal species. Yet, it is recognised that the complex, urgent challenges faced by wildlife demand innovative conservation strategies, extensive exchange of diverse knowledge, collaborative planning and effort (sensu IUCN/SSC, 2008) - and linkage and cohesion across multiple stakeholders (Pretty & Smith, 2004).

Therein lies the next point. Conservation does not occur in a vacuum: It is increasingly widely acknowledged that the precarious state of the world's wildlife is fuelled by anthropogenic drivers (Ceballos et al., 2015; Dirzo et al., 2014). The array of threats to wildlife survival is intrinsically and intricately linked to multiple, complex, multi-layered social, political and economic human factors; in short, biodiversity conservation is beset with 'wicked' problems - issues so intricate and complex that they are extremely difficult to solve (Balint et al., 2011; Sharman & Mlambo, 2012). Mankind is an intrinsic part of the ecological system: In the age of the Anthropocene, humans are responsible for a stark footprint on the planet's biodiversity - and we are the source of solutions also. In a once-biologically-rooted discipline (see Borgerhoff Mulder, 2007; Chan et al., 2007), scholarly understanding of the multiple human dimensions of conservation is increasingly recognised as key to effective, impactful outcomes for biodiversity (e.g. Jiminez, 2009; Borgerhoff Mulder, 2007; Chan et al., 2007; Balint et al., 2011; Sharman & Mlambo, 2012; Madden & McQuinn, 2014; Mishra, 2016). This study makes its contribution by considering the human dimensions of collaborative conservation endeavour.

1.1.2 Safety in Numbers - Joining the Dots

Uniting in collaborative networks and cooperative aggregates to better achieve goals is a well-studied phenomenon (Lin, 2001; Schneider et al., 2003). Scholars have recognised the collaborative advantage - that pooling skills and resources can benefit manifold outcomes of multi-party working (Dyer, 2000; Lasker, Weiss & Miller, 2001; Huxham & Vangen, 2005). Despite the collaborative advantage, the intricacies of how and why collective action happens are manifold - indeed, it can happen freely and also under degrees of duress (e.g. Olson, 1965; Knorr-Cetina, 1997; Ostrom, 1997, 2000; Rydin & Pennington, 2000; Ashman, 2001; Fritsche, Jonas & Kessler, 2011; Hyatt & Berente, 2011; Harrell & Simpson, 2015).

What, then, can be incentivising and fuelling the array of conservation efforts that are on such a macro scale (e.g. Kleiman & Rylands, 2002; McCarthy & Mallon, 2016), within and across nations, where regardless of mankind's differences - cultural, religious, professional, societal or otherwise - neither physical nor non-physical boundaries appear to impede? Here a concept in the social sciences can be harnessed to enlighten; that concept is 'social capital' - in very distilled essence, the collective benefits derived from cooperation - which may be thought of as revolving around trust, reciprocity, norms of behaviour and connectedness (e.g. Pretty and Ward, 2001; Pretty, 2003) and is described and discussed in detail in the forthcoming Section 1.2.2.

The concept of social capital has been recognised to aid networks of actors managing natural resources spanning multiple boundaries, cultures and backgrounds (e.g. Pretty & Smith, 2004; Rydin & Falleth, 2006 and see Section 1.2.2.4). Threatened species can also be viewed as priceless natural resources: Each plays a key role in its ecosystem; biodiversity underpins ecological health, (Ray, 2005; Ahmed, 2011). Likewise, the health of ecosystems is key to the future of the planet on which all species - including *Homo sapiens* depend (Ahmed, 2011). Threatened species inhabit land regardless of, and spanning, national boundaries, and multiple societal differences and cultures. Their conservation, thus, needs input from - and sensitivity to - manifold perspectives. Biodiversity conservation, therefore, also requires the investment of eclectic effort from multiple actors from many diverse sources across a global theatre (e.g. Kleiman & Rylands, 2002; Pretty & Smith, 2004; Dudley, Higgins-Zogib & Mansourian, 2005; Borgerhoff Mulder, 2007; Chan et al., 2007; Jimenez, 2009; Lees & Wilcken, 2009; IUCN/SSC, 2008, 2014; WAZA, 2012; Li et al., 2014; Mishra, 2016). It is likely that concepts proving efficacious to widespread networks of actors collaboratively managing natural resources may prove likewise to biodiversity conservation.

Though social capital is generated between individuals, it is recognised to influence widely, and to work across levels and boundaries (e.g. Rydin & Holman, 2004 and see Section 1.2.2): The positive attributes vested in bonds between individuals

can reach wider to imbue further benefit. In terms of the broader societal picture, purposeful assemblages of aggregated actors can be regarded as embodiments of their actors' traits and interests and the outcomes of their aggregated interactions (Hodgson, 2006; Jackson, 2010). The concept of institutions, informal and formal (discussed in detail in Section 1.2.1.2), has been used by scholars (e.g. Hodgson, 2006; Jackson, 2010; Six et al., 2015) to study such purposeful aggregates. The work of these scholars highlights a clear linkage between theoretical frameworks covering interactions at the personal level and those regarding a wider society - such as between the frameworks of social capital theory and institutional theory - from which it can be inferred that social capital between individuals can influence a wider society in which they are involved.

To better integrate conservation for threatened wildlife there is urgent need for analysis of the human processes involved in conservation collaborative action and the associated cooperative networks. This research considers micro level conservation interactions - those between individuals - and then relates them to the macro perspective of collaborative conservation action, considering how social capital between conservation actors influences the wider conservation movement. In doing so, it also seeks to make a novel contribution to social capital and collective action knowledge by defining mechanisms by which social capital is actually created and operated in collective action, thus providing answers to previously-unaddressed questions posed by other scholars (e.g. Woolcock & Narayan, 2000; Rydin & Holman, 2004).

1.2 THEORETICAL PERSPECTIVES

1.2.1 Actors, Stakeholders, Parties, Organisations and Institutions

1.2.1.1 Who are the conservation actors, stakeholders, parties and organisations?

An actor can be defined as a person or organisation that acts or has the ability to originate an action (Latour, 1996). An organisation can be defined as a group of people working together in a structured way for a common purpose (Cambridge Dictionary, 2018). Conservation actors can be defined as actors whose commonality of interest and purpose direct them to follow the ethics of conservation and to advocate or work toward conservation goals (Jepson et al., 2011). Conservation actors are commonly-recognised to come from a number of backgrounds including conservation and environmental Non-Governmental Organisations (NGOs), governmental organisations and academia (e.g. Kleiman et al., 2000; Brockington, 2002; Pretty, 2003; Rydin & Matar, 2006; Borgerhoff Mulder, 2007; IUCN/SSC, 2008; Reed et al., 2014). Zoological organisations also make major contributions to saving endangered species (IUCN/SSC, 2008; Conway, 2011; Leus et al., 2011; Byers et al., 2013; WAZA, 2012; IUCN/SSC, 2014). A stakeholder in a given scenario can be defined as any person, group or organisation - or even the natural environment itself - that is able to affect, has interest in, or is impacted by, that scenario (Mitchell, Agle & Wood, 1997). Pretty & Smith (2004) highlighted the benefits of inclusion and interconnection in conservation planning and implementation of people from various backgrounds who are in some way associated with the subject in question. Increasingly, and rightly, range country communities are valued as key conservation stakeholders (Mishra et al., 2003, Redpath et al., 2004; Olsson, Folke & Berkes, 2004; Dudley, Higgins-Zogib & Mansourian, 2005; Mishra, 2016). In the sense of involvement, parties can be defined as actors who are involved in an activity, arrangement, situation or interchange together (Cambridge Dictionary, 2018). All the parties noted above are key actors, key stakeholders in conservation - and when they join together, key partners to that end.

By definition, as above, the stakeholders in conservation are all that are able to affect, have interest in, or are impacted by wildlife - practically, this may be considered to include those who work to save, those whose policy goals are impacted by, and those who live alongside, wildlife - and those who are just plain interested enough to care. It is collaboration across such an array of parties which likely holds the key to solving the many 'wicked' complex dilemmas and achieving successful outcomes for threatened species (Pretty & Smith, 2004; Borgerhoff Mulder, 2007; Jiminez, 2009; Balint et al., 2011; Sharman & Mlambo,

2012). Following this line of thinking, conservation is not just the preserve of professionals. Conservation actors could hail from less-obvious, less-traditional sources (sensu Mitchell, Agle & Wood, 1997). An internet search, for example, can highlight numerous examples of conservation-related effort by private sector bodies, NGOs from wide-ranging arenas - and individuals. Jepson, Barua & Buckingham (2011) highlighted that the array of actors for conservation could be wider than traditionally recognised - scholarly thinking has, thus, raised the thought that conservation for a species takes place due to efforts including both commonly-found and less-mainstream conservation endeavours.

To practical and theoretical intents and purposes of this research, the actors and stakeholders in conservation form an overlapping group. The subtle difference being that a stakeholder - by virtue of the fact that they can be defined as such due to being impacted by a scenario - is not necessarily an actor, unless they have agency to act. Within this thesis, the term 'conservation actor' is used to refer to all actors, (person or organisation, as above) whose commonality of interest and purpose direct them to follow the ethics of conservation and to advocate or work toward conserving the species that is the subject of conservation attention, and likewise, 'parties' is used is used in the sense of involvement, to refer to actors who are involved in a conservation-related activity, arrangement, situation or interchange together.

1.2.1.2 Institutional theoretical perspectives

Purposeful assemblages of aggregated actors can be regarded as embodiments of their actors' traits and interests and the outcomes of their aggregated interactions (Hodgson, 2006; Jackson, 2010). The character, workings and outcomes of such assemblages are also shaped by the constellations of their associated societies which intersect with and contribute to them (Morgan et al., 2010). Section 1.1.2 highlights that, when studying such purposeful assemblages, the framework offered by institutional theory offers a scaffold upon which to assemble the outcomes of interactions of individual actors. Notably however, Hodgson (2006) details the lack of consensus with respect to the definition of an institution, and advocates that the term can embrace highly-varied, diversely-constituted overarching assemblages, both formal and informal, with a key tenet being that they embrace systems of practice that structure their actors' interactions. Institutions stem from particular historical assemblages of actors who possess certain interests, identities and abilities (Steinmo & Thelen, 1992) - therefore institutions and overarching purposeful assemblages can evolve with their actors. It is not thought that institutions can totally define actors' identities, goals and actions, but merely shape them. The agency for choice rests with actors, both with respect to choice of their fellows and the institutional boundaries (Scharpf, 1987; Jackson, 2010). The points within this paragraph are important to my research.

As noted within Section 1.1.2, scholars(e.g. Hodgson, 2006; Jackson, 2010; Six et al., 2015) have shown clear linkage between theoretical frameworks covering interactions at the personal level and those regarding a wider society - such as between the frameworks of social capital theory and institutional theory. An institution can also be defined as an established practice, an embodiment of norms that enable and shape the behaviour of individuals within its community (e.g. Scott, 2008; Campbell, 2004), a system of embedded and recognised social rules (Hodgson, 2006). Norms, thus, form a conduit between social capital and institutional theories. Since social capital is vested within the interactions and linkages between individual actors, it clearly provides a lens by which to reflect upon overarching purposeful assemblages of aggregated interacting actors who possess certain interests, identities and abilities. Jackson (2010) advocated that overarching purposeful assemblages and institutions, formal and informal, be explored in actor-centric fashion. Six et al. (2015) did likewise, considering how inter-actor trust, under a social capital framework, might sustain umbrella collective action in an aggregated assemblage of interacting actors. Institutional thinking has formed a core part of the study of inter-actor relationships within natural resource management, where it has been taken as an approach to understanding collective action (e.g. Ostrom, 1990, 2000; Rydin &

Falleth, 2006 and see Chapter 5) - commonality of some type at inter-actor level underpinning infrastructure for a wider society. Kolk, van Dolen & Vock (2010) emphasised the importance of the study of interpersonal actions when looking at outcomes of collaborative endeavour, since it is not just the outcomes of such endeavour that yield benefits, but the interactions themselves. In short, people-processes give added benefit to outcomes. Therefore, salient to this research is the study of the norms and behaviours which provide the sinews of the conservation movement. Chapter 3 considers the actors and their contributions that form the conservation movement for threatened species; Chapters 4 and 5 consider social capital in informal and formal partnerships and aggregates and how it influences collective action to help the threatened species conservation movement operate.

1.2.2 Social Capital

Social capital has been extensively covered in the literature across the field of political science (e.g. Maloney et al., 2000; Lowndes & Wilson, 2001), economics (e.g. Adam & Roncevic, 2003) and sociology (e.g. Foley & Edwards, 1999; Fox & Gershmann, 2000; Woolcock, 2000). As scholars have given the concept attention, it has evolved and diversified, such that it now covers an assemblage of related theories. This body of work draws on and highlights salient social capital understanding, from various scholars and backgrounds, as appropriate within the context appropriate to my research. Social capital is defined, explained and explored hereon:

1.2.2.1 Defining the multifaceted concept: What is social capital?

Formative contributors to social capital concepts include Bourdieu (1972, 1995, 1986), Coleman - who defined a theoretical framework (1988, 1990) and Putnam - who advanced this aspect (1993a, 1993b, 1995, 2000). In the field of political sociology, Bourdieu (e.g. 1972; 1995), in essence, focused on social capital's agency of power - social capital as a resource to aid conflict and advancement of an individual's interest. There exists a clear distinction with this viewpoint and, for example, those of Coleman and Putnam. Though the perspective of Coleman (1988) did attest to an element of coercion fuelling normative operation, Putnam's (1993a,b, 1995, 2000) perspective considered social capital more positively, in terms of three constituent parts - norms, social ethos' such as trust, and connectedness. Coleman later (1990) did likewise, describing it as vested within inter-actor relationships and promoting productive endeavour.

It is the above and other scholars' perspectives of social capital that provide the framework for my research. Social capital may be considered as the collective benefits derived from cooperation (Rydin & Holman, 2004), or the norms and networks that enable collective action (Woolcock & Narayan, 2000). Though clearly a multidimensional concept, Pretty and Ward (2001) and Pretty (2003), postulated that social capital has four central aspects; 1) interpersonal trust, 2) reciprocity and mutual exchanges, 3) agreed community rules (formal or informal), norms (or preferences) and sanctions for behaviour, and 4) connectedness, such as might be embodied in networks. Acknowledgement of these facets of social capital underpins this research.

In keeping with the complex nature of social capital, the aspects identified by Pretty and Ward (2001) may be thought of as consequences of social capital, whereas those identified by Woolcock and Narayan (2000) look more towards its sources, considering the types and combinations of social interactions and the influences of historical context upon them. Coleman (1988) describes social capital as not a single tool, but an assortment of resources available to an individual, with two common elements; a form of social structure, that enables actions of individuals under the umbrella of the structure. It is helpful to consider that social capital is intrinsic to the relations between people - it does not rest within people themselves or anything

physical (Coleman, 1990). A key point here is that, since social capital is vested in such a way, it is up to the people concerned to generate and maintain it - it needs nourishing and does not simple reside as an unalterable 'stock' (e.g. Deng & Hendrikse, 2014). Falk and Kirkpatrick (2000) define social capital as knowledge and identity resources held and utilised by communities with a common goal. This concept of interactions at the inter-personal (or micro) level being able to influence the collective action of an aggregate of those individuals at the wider societal (or macro level) is another key concept to my research.

1.2.2.2 Types of social capital

The multi-dimensional concept of social capital can be subdivided into bonding, bridging, and bracing social capital, all of which can enable different results (e.g. Rydin & Holman, 2004; Rydin, 2006). Scholars have described how bonding social capital enables building of links within a community or group - and bridging social capital facilitates building of links between communities or groups (e.g. Woolcock & Narayan, 2000; Pretty, 2003; Rydin & Holman, 2004; Cramb, 2005,2006; Garcia-Amado et al., 2010). As relationships, aggregated partnerships and networks develop, the combinations and types of social capital in use can alter (Rydin & Holman, 2004; Cramb, 2005, 2006). For example, during the formative stages of a conservation project group, a high level of bonding social capital is required to provide support between its members and enable it to function. For development to proceed - to achieve wider conservation outcomes - the group also needs to develop linkages, or bridging social capital, to open up new opportunities for its individuals and for the community. Indeed, Cramb (2005) describes how development of the latter type may undermine the former, since successful wider outcomes may place heightened demands on existing bonds as group members pursue a growing array of bridging linkages, potentially at the detriment of links within the original group.

The concept of bracing social capital is highly pertinent to this research. In addition to bonding and bridging social capital, bracing social capital is important to develop and sustain the complex partnerships needed to manage natural resources: Rydin & Holman (2004) offer the metaphor of bracing capital as providing 'social scaffolding' to a strategically-focused group, strengthening connections and encouraging common values, whether members are physically close or distant. It operates on differing scales, from local to international, and across multiple sectors (Rydin & Holman, 2004; Rydin, 2006). Thus, it may be inferred that bracing social capital is also crucially important for multi-party threatened species conservation networks - where horizontal and vertical linkages between local, regional, national and international actors are needed. Certain scholars raise a concept of linking social capital (e.g. Sabatini, 2006; Jamal, 2009; Andriani, 2013), describing it as offering linkages to and between bodies of differing power. In the offering of overarching connections, there are obvious similarities between the concepts of linking and bracing social capital. In my study, I prefer to consider the latter, since it seems more equitably-based - the inference is less on power differentials and more on connections between differing scales. Indeed, Kusakabe (2012) also finds the concept of bracing capital vital to describe the type of social capital that connects eclectic aggregates of actors, already-connected by bonding and bridging social capital, into an overall open-style network whereby they can collectively work to achieve sustainable development goals.

1.2.2.3 How does social capital work?

Copious social capital literature shows that common values, trust and reciprocity can bestow beneficial effects (e.g. Cramb, 2005, 2006; Garcia-Amado et al., 2010; Roberts & Jones, 2013; Six et al., 2015). Social capital facilitates cooperation, enabling communities to overcome collective action problems, since it lowers the cost of working together (e.g. Putnam, 1993a; Rydin & Pennington, 2000; Pretty & Ward, 2001; Roberts & Jones, 2013). Lin (2001) recognised that social capital can promote collaboration through beneficial exchanges, for example of information, which in turn, stimulate growth of common viewpoints

and trust. Social capital encourages inter-relationships between individuals. Pretty (2003) describes how social capital can boost the confidence of individuals to invest in group activities. In the field of collective action theory, Ostrom (1990) describes how collective action problems exist because the costs to individuals outweigh the benefits. For example, costs associated with interactions can impede the exchange of ideas, knowledge and resources (e.g. Dayton-Johnson, 2000). Building social capital alters the balance of benefits and costs to actors, reducing transaction costs and raising incentives, thus encouraging greater cooperation (Fukuyama, 1999).

1.2.2.4 What can social capital achieve?

Social capital encourages productive activities - making possible to achieve that which would not be possible without it (Coleman, 1988). Resources inherent in the bonds between and amongst actors act to enable productivity and realisation of goals (Coleman, 1990). The levels of social capital in societal groups have been considered indicative of the groups' abilities to perform well cohesively (e.g. Pargal, Huq, & Gilligan, 2004; De Blasio & Nuzzo, 2010a,b). As detailed below, numerous scholars have associated social capital with successful collective action, across multiple stakeholders, in the field of sustainable natural resource management. Conversely, as an example, networks established to manage transboundary Scandinavian natural resources, described by Hovik & Vabo (2005), experienced many conflicts - though the networks had governmentally-formed structure, they lacked the social capital that may well have helped resolve such troubles. Pretty and Smith (2004) describe how new ideas are spread more rapidly within biodiversity conservation and management due to the presence of social capital in a community.

Social capital can help deliver on policy goals, by providing policy-level support for practices that encourage social capital (Montgomery, 2000; Rydin, 2004). Rydin & Pennington (2000) note that, to aid collective action problems, social capital helps build effective institutions for environmental governance, which in turn can aid the building of successful policy. Thus, literature infers social capital to be highly efficacious to threatened species conservation, which must interact variously with policy at local, regional and national level.

Since social capital is not one tool, but a variety of strategies (Coleman, 1988; Rydin & Holman, 2004; Six et al., 2015), it is able to be morphous in its application to varied scenarios. Social capital, in general, can unite very different types of actors in a project (Putnam, 1993a; Cramb, 2005, 2006, García-Amado, 2012) - building relationships and common ways of working to achieve a goal (Rydin & Pennington, 2000; Rydin & Holman, 2004; Roberts & Jones, 2013; Six et al. 2015).

Pretty and Ward (2001) highlight that various models can facilitate changes in social and organisational structure. Indeed, it may be questioned as to why to build and harness social capital to encourage collaborative action - and not employ regulations and economic incentives (e.g. Woolcock & Narayan, 2000). One answer can be found within the study of Pretty (2003), who describes how the latter are commonly used to alter behaviour - yet they achieve little positive effect on attitudes. Similar effects are echoed by MacMillan and Phillip (2010) who found economic incentives unlikely to be effective to resolve conflict between management of wild deer herds and habitat conservation in Scotland. Social capital can empower use of innovative practices, perhaps fuelled by positive attitude change (e.g. sensu Prager, 2012). Rydin (2006) states how the resources and relations embodied within mutual trust, reciprocity and common values can be important in galvanising change, or, indeed, may explain lack of change. Indeed, Compton & Beeton (2012) describe a situation within land management practice whereby the various types of social capital inadvertently acted to maintain a situation by inhibiting actions of individuals and groups, rather than to galvanise change - external support to the groups within the social network was key, a concept echoed by

Maloney et al. (2000). Additionally, Gargiulo & Benassi (2000) posited that a network too rigidly bound by ties could lack adaptability to change.

Studies of sustainable natural resource management have linked social capital to economic growth (e.g. Jonsson, 2004; see also Rydin & Falleth, 2006). This is a salient point with respect to its ability to produce sustainable benefit for conservation. Also, Svendsen & Svendsen (2000) showed social capital in the Danish co-operative dairy movement could reduce transaction costs and improve trust between actors, thus improving productivity and boosting economic growth. Bowles and Gintis (2002) regarded a core strength of social capital to be its ability to galvanise economically-beneficial community governance.

Social capital underpins cohesive communities (e.g. Wilson, 1997; Kusakabe, 2012). It can be created where missing and can lead to positive environmental outcomes: Pretty and Smith (2004) show comprehensively that the core values of social capital - trust, reciprocity, norms and connectedness - have benefited wide-ranging biodiversity settings. Positive outcomes across a growing theatre of natural resource management are also credited to social capital (e.g. Pretty & Ward, 2001; Falleth, 2006; Galaz, 2006; Dwyer et al., 2007; García-Amado, 2012). Of particular pertinence to this study: Social capital has shown great value to conservation of the ancient landscape of the New Forest, United Kingdom, via cooperative planning for common use, (Rydin & Matar, 2006). Brata (2006) describes that a delicate balance of trust and commitment, coupled with the power to exercise sanctions, enabled a more positive outcome for Norway's reindeer herds than before a collaborative plan. Notably, the study stresses the difficulties faced by those managing common pool resources, such as wild herds - and, as such, offers particular guidance to the building of collaborative threatened species conservation communities. Cramb (2005) details successful multi-stakeholder, cross-sector soil conservation in the Philippines. Roberts and Jones (2013) describe how social capital came to underpin multi-party, multi-background conservation effort for a European Marine Site, where stakeholder conflicts had raged for years.

A significant body of literature endorses the potential of social capital to help threatened species conservation. However, Pretty (2003) recognises that though social capital frequently proves successful in natural resource management on local, regional, even national scale - a growing challenge will be the ability to apply its principles against global environmental threats and to create conditions to harness social capital's benefits under increasing economic globalisation.

1.2.2.5 Pertinent research considerations

Due to the multifaceted nature of social capital and its associated concepts, it is important to define the research framework as accurately as possible, in order to understand the place of ensuing results within, and to enrich, the overall concept (Sabatini, 2006; Andriani, 2013). In particular, it is important to outline indicators that are appropriate to the focal study (Andriani, 2013). In this respect, the following factors are particularly pertinent to my research and can help inform data gathering (addressed in detail in Chapter 4):

- The four central aspects of social capital defined by Pretty and Ward (2001) and Pretty (2003), described in Section 1.2.2.1.
- The types of social capital described in Section 1.2.2.2., including the scale and level at which social capital is operating and the nature of the linkages. Bonding social capital may be constrained by a bounded area and bridging social capital may facilitate connections beyond such a boundary - non-physical links may connect actors across space, via horizontal (bonding), vertical (bridging) or more complex (bracing) social capital (e.g. Woolcock, 1998; Rydin & Holman, 2004 and see 1.2.2.4 for further examples). For example, a network may involve local, regional, national and international bodies;

actors will aim to build relationships and common ways of working at different scales to achieve their goal. Connections at and between all levels must be recognised where actors operate across spatial settings (e.g. Pretty and Ward, 2001; Baerenholdt & Aarsaether, 2002).

It is noteworthy to this research that, in terms of social capital, the boundaries of a group are defined by that on which it focuses - and are of varying relevance to the type of social capital in operation. Rydin & Holman (2004) propose that bracing social capital promotes common ethos' and behavioural norms - however they may more tactically- and less generally-focussed than those involved in bonding social capital. Scholars generally consider bridging social capital in terms of linkages to other partners and aggregates (e.g. Woolcock & Narayan, 2000; Pretty, 2003; Rydin & Holman, 2004; Cramb, 2005,2006; García-Amado et al., 2012), as opposed to in terms of ethos', common behaviour and values.

Andriani (2013) highlights that, since social capital may be considered as resources vested between actors in networks, access to, and use of, these human resources rests with the actors - and the actors need to be aware of them in order to use them. Thus, the importance of defining the actual embodiments of social capital in order to harness its benefits is clear. Further research considerations are addressed in Chapter 2.

Previous studies have contributed to social capital understanding via focus on types at work and effects of its existence. As yet, no studies have sought to understand the actual mechanisms by which it may be built within partnerships and harnessed in their subsequent collective action.

1.3 STUDY FOCUS

Felids (species of big, medium and small wild cats) form the focal taxon for this research. As apex predators, felids play key roles in maintaining the health of their ecosystems (Nowell & Jackson, 1996; Ray, 2005; MacDonald, Loveridge & Nowell, 2010). Therefore, achieving successful conservation outcomes for felids has wider benefits for species that share their habitats. Felids - and other carnivores - face particular survival challenges (Macdonald et al., 2010; Ripple et al., 2014). Biological traits render felids especially prone to extinction (Cardillo et al., 2004; Purvis et al., 2000) - most species persist at naturally low densities and have widespread home ranges (Nowell & Jackson, 1996). Carnivore populations are in decline, globally (Di Marco et al., 2014). Thus, a vast array of strategies is necessary within the felid conservation toolbox. These commonly include field research and operations, captive breeding by zoos, and varied outreach & awareness-raising (e.g. Kleiman & Rylands, 2002 and see Chapters 3, 4 & 5 for more details).

There are number of exemplary conservation networks for felids, including those that span actors working without and within the species' ranges. For example, the Amur Leopard and Tiger Alliance (ALTA) for the Amur leopard *Panthera pardus orientalis* and Amur Tiger *Panthera tigris altaica* (e.g. Spitzen et al., 2012; Miquelle et al., 2010), the *ex situ-in situ* (captive-field) network for the Iberian lynx *Lynx pardinus* (e.g. Vargas et al., 2009) - and, for the small-bodied cats, those that work for the fishing cat (*Prionailurus viverrinus*), black-footed cat *Felis nigripes*, sand cat *Felis margarita* (Small Wild Cat Conservation Working Groups, 2017) and Pallas' cat *Otocolobus manul* (Pallas' cat International Conservation Alliance (PICA), 2017). These are examples of networks that are growing, achieving successful conservation outcomes - often spanning biological and social initiatives - and embracing multiple partners from zoo, NGO, private sector and governmental backgrounds (e.g. EAZA 2015; IUCN 2015; IUCN/CSG 2015; PICA, 2017).

Within this thesis, the term 'threatened species' is used to refer to species classified as 'threatened' by the IUCN Red List assessment process (IUCN, 2001); accordingly, threatened species belong to the IUCN categories of 'Critically Endangered', 'Endangered' and 'Vulnerable'. Chapter 3 takes an overview of conservation effort and actors for threatened felids; for my study, that is those felids classified by the IUCN Red List (2015) as Critically Endangered, Endangered and Vulnerable. Chapters 4 and 5 take a case study approach giving deep focus to conservation effort and actors for the snow leopard *Panthera uncia*, with further focus on partnership aggregates for a number of other cats to elucidate the findings.

1.4 THESIS OBJECTIVES

This research - employing social science techniques, via a mixed methods approach and focusing on threatened felids - aims to understand the complexities of the human-related dimensions that affect the building of cross-sector, multi-background, multi-actor conservation partnerships and their collaborative conservation action. The objectives are to:

1. understand the array of actors that comprise the threatened species conservation movement, the nature of the movement and the heterogeneity of its actors' efforts,

2. explore human-related drivers to determine how social capital can influence the building of cross-sector, multi-background, multi-actor conservation partnerships and their aggregates,

3. explore human-related drivers to determine the operation and influence of social capital on collective action in cross-sector, multi-background, multi-actor conservation partnerships and their aggregates.

With a focus on threatened felids (IUCN, 2015), the first objective takes a novel perspective on exploration of the array of actors and effort contributing to threatened species conservation; considering the conservation movement for these threatened species, an paradigm of the extant threatened species conservation movement is proposed. This is deemed important for two major reasons: Firstly, once the preserve of biologists (e.g. Borgerhoff Mulder, 2007; Chan et al., 2007), the composition of the modern-day threatened species conservation movement may well be very different from that of previous eras, due to opportunities, afforded by contemporary media (Bimber, Flanagin & Stohl, 2005) and connectivity in a globalised world, for input to conservation from novel actors (sensu Mitchell, Agle & Wood, 1997; Jepson, Barua & Buckingham, 2011). Secondly, in order to illuminate the intricacies of social capital in conservation partnerships, it is most important to establish the frame of the extant threatened species conservation movement in order that objectives 2 and 3 may study appropriate viewpoints regarding the actors that work towards conservation goals and the efforts they bring to the arena. It is also important that the paradigm of the extant threatened species conservation movement be understood by conservation actors from all backgrounds, such that they may be aware of varied partnership opportunities to maximise the impact of conservation outcomes (Pretty & Smith, 2004; Jiminez, 2009; Borgerhoff Mulder, 2007; Chan et al., 2007).

As described in Section 1.1.1: The world's wildlife faces an increasing array of threats to survival. For certain species, extraordinary and wide-ranging efforts are galvanised into collaborative conservation action embracing partnerships that span differing societal, religious, cultural and national backgrounds. Sadly, however for many threatened species, cohesive effort is lacking. The second and third objectives take a mixed method social science approach via a case study based on conservation actors and their extraordinary partnerships working to conserve the snow leopard. By undertaking extensive semi-structured

interviews and social network analysis, a detailed exploration of the human dimensions of conservation collaboration is undertaken.

The second objective explores and identifies, using the concept of social capital, the human-related mechanisms by which diverse, successful, visionary conservation partnerships and their aggregates form to aid the snow leopard. In various arenas, social capital is increasingly credited with aiding the building of multi-actor partnerships and networks that embrace eclectic actors (e.g. Pretty & Smith; 2004; Rydin & Holman, 2004; Roberts & Jones, 2013). However, prior to the current study, the intricacies by which it does so remained unstudied and unknown (Woolcock & Narayan, 2000; Rydin & Holman, 2004). Therefore, discerning this knowledge is deemed important in order to understand how to strengthen existing conservation partnerships and provide transferable knowledge to galvanise the formation of collaborations to aid species currently passing 'under the radar' in this respect.

The third objective leads on from the second, to examine the complexities of inter-party relationships in operation when trying to improve conservation outcomes via collective action. Though, in numerous arenas, social capital has also been credited with fuelling successful collective action across multiple actors from diverse backgrounds (see Section 1.2.2), the conduits by which it operates to enhance collaborative endeavour also remained unknown (Woolcock & Narayan, 2000; Rydin & Holman, 2004). Developing an understanding of these processes is considered of fundamental importance to strengthen both existing and future collaborative working in the field of threatened species conservation.

Research into the human-related dimensions that impact conservation collaboration is rarely-undertaken but much-advocated (e.g. Borgerhoff Mulder, 2007; Chan et al., 2007; Mishra, 2016). Social capital is a powerful vehicle for a network, by way of aiding its building and operation - and offering a means by which to address human-related aspects of pressing problems via a multifaceted approach (e.g. Woolcock, 2000; Pretty, 2003; Rydin & Holman, 2004, Rydin, 2006). This study evinces it to be a precious tool in the context of its application to finding ways to improve conservation collaboration. In facing the many complex dilemmas, an optimistic approach is urged in conservation (Beever, 2000). Indeed, it is argued that despair cannot motivate action (Noss, 1995). Rooted in the power of optimism and empowered hope that is advocated to fuel conservation effectiveness and action (Knight, 2013), this research takes novel pathways to understand the human dimensions of conservation collaboration, thus providing much-needed insight. In addition to novel contribution to social capital theory, results from this research bestow vital knowledge - and adaptability - to address the changing and 'wicked' scenarios, so often encountered (Balint et al., 2011; Sharman & Mlambo, 2012). Practical and positive in its approach (Beever, 2000; Knight, 2013), this research highlights galvanising pathways for policy makers and practitioners to develop strategies that help conservation partnerships form, mature and produce vibrant, innovative collaborations embracing eclectic actors, to mobilise all skills available to threatened species. Social capital offers a common language to actors from diverse arenas, such that we may engage and interact with one another. Although a bulk of this research focuses on the diverse conservation actors and effort for the snow leopard, it is my belief that my research not only contributes a framework of value for conservationists, particularly to aid threatened species for whom cohesive effort is lacking, but also transferable knowledge to aid globalised collective action embracing multiple backgrounds, cultures, sectors in any discipline and theatre.

CHAPTER 2. METHODOLOGY

2.1 ABSTRACT

Threats to wildlife are intricately entwined with complex, multi-layered social, political and economic human factors. Therefore, understanding of conservation's multiple human dimensions is increasingly recognised as key to effective, impactful outcomes to aid threatened species. Social science methods are, thus, strongly motivated. A key and, thus-far, understudied area that impacts conservation is the human dimensions of conservation collaboration. In this chapter, I describe common and pertinent social science paradigms, theories, methodologies, methods and principles associated with study of social capital and collaborative action. I discuss benefits and limitations of these systems and practices, highlighting pertinent instances of their utilisation and also consider important ethical issues. This chapter concludes by outlining and justifying the methods chosen for this thesis.

Keywords: *social science, paradigms, quantitative, qualitative, theories*

2.2 INTRODUCTION

Wildlife conservation operates in a complex arena due to multiple intricately entwined social, political and economic human factors. Such complexities are often termed 'wicked' problems (e.g. Balint et al., 2011) - these are extremely difficult to resolve, for example, due to risks, uncertainty, social and biological complexities, lack of consensus and wide-ranging scale (e.g. Sharman & Mlambo, 2012). Conservation must regard interlinked ecological and human ecosystems (Salafsky et al., 2002; Barnes Mauthe et al., 2015). Therefore, in order to aid its endeavours for wildlife, the conservation community increasingly advocates use of social science research into its manifold associated human dimensions (e.g. Chan et al., 2007; Jiminez, 2009; Robinson et al., 2012; Dickman, Marchini & Manfredo, 2013; Reddy et al., 2016; Bennett et al., 2017a,b). Notably, study of the human processes involved in conservation collaboration is a neglected, yet much-needed area (as reviewed in Chapter 1). However, parallel studies in natural resource management (e.g. Rydin & Falleth, 2006; Roberts & Jones, 2013) infer that such knowledge could directly positively impact threatened species conservation.

A pathway taken by researchers to explore ways of improving multiparty collaboration and collective action is via understanding of collaborative drivers. Studies may focus, for example, on economic and institutional incentives (e.g. Googins & Rochlin, 2000; Hyatt & Berente, 2011). Such studies provide understanding which can guide strategies to improve collaboration, however, they do not address deep human-related social complexities that are at play regardless of scenario - understanding of which is increasingly deemed vital to empower success in the conservation arena (Reddy et al., 2016). In particular, the concept of social capital and related theory has growing utility for understanding the human dimensions of collaboration (e.g. Pretty & Ward, 2001; Rydin & Holman, 2004).

Examination of processes relating to connections within and between groups, and how consequent social networks are leveraged, can aid understanding of how partnerships and elaborate networks emerge to carry out collaborative endeavours (e.g. Borgatti et al. 2009). To better integrate species conservation there is urgent need for analysis of the human processes

involved in conservation collaborative action and the associated cooperative networks. A raft of social science techniques offers conduits to better understand these multifaceted issues (Bennett et al., 2017a,b). Indeed, their increasing use is credited with yielding deep insight to various cooperative conservation scenarios and contribution to theoretical frameworks (e.g. Witasari, 2016; Bennett et al., 2017a,b; Young et al., 2018). Selection from the array of techniques may be guided by considering the advantages and disadvantages of each to the relevant research scenario - and firstly by reflection upon a suitable paradigm and theoretical foundation for the study.

2.3 THEORETICAL PERSPECTIVES

A research paradigm may be considered to have three constituent parts; a stance regarding the nature of knowledge, a methodology and justifications of its validity (MacNaughton, Rolfe & Siraj-Blatchford, 2001). The choice of paradigm, thus, strongly influences choice of theory, methodology and methods. Positivism and interpretivism may be considered as pertinent to this type of study. Positivism asserts and tests hypotheses based on theoretical concepts through replicable, deductive and inductive reasoning (Charmaz, 2009) - it aims to objectively explain the relationship between cause and effect (Cresswell, 2003). Interpretivism allows for inductive, abductive and other imaginative understandings of a phenomenon in which facts and values may be intertwined; for example, seeking to understand human experiences from within, seeing the phenomena as of social construct, with total objectivity undefined and, perhaps, impossible, it aims therefore, to interpret (Charmaz, 2006; Thanh & Thanh, 2015). Positivism may offer utility where relationships between discrete objects with observable qualities produce quantifiable results that can be compared, for example, pertaining to network structure. Interpretivism can help identify and understand individuals' choices of behaviours, classifications, values and perceptions of their fellow actors, and the complex relationships that emerge between these.

Theory is a system which outlines and explains a set of concepts that are linked by logical conduits (Birks & Mills, 2011). Social science offers an array of theoretical perspectives; Bennett et al., (2017a,b) review these extensively. Due to this study's focus on both individuals' interactions and their effect in a wider society, via social capital and institutional perspectives, it straddles a number of interlocking theoretical disciplines; anthropology and sociology - which consider humans, their values and norms, the scientific study of social relationships, social interactions and culture; human ecology - which is the inter- and trans-disciplinary study of relationships between humans and their natural and social environments; and also political ecology, which considers social networks and human groupings that interact with the environment (Bennett et al., 2017a,b).

Choice of research methods must be directed by definition of the study's aims, which in turn, indicate pertinent techniques (Drury, Homewood & Randall, 2011).

2.4 THE ARRAY OF AVAILABLE METHODS

A vast array of methods and practices could be applied when trying to understand the human dimension of conservation collaboration via social capital and institutional perspectives, encompassing the deductive, the inductive, the quantitative, the qualitative, with varied targets and sample sizes and timeframes (Newing et al., 2010a,b,c,d). A number of factors are pertinent to choice of research approach, for example budgetary and time constraints. Ethical considerations are highly important (see Sections 2.6 and 4.3.2.2). Major factors influencing methodological approach are directed by the aims of the research and the

extent to which the research questions are targeted and the level of any prior understanding and/or experience of the study focus. Considering these salient aspects, this chapter hereon addresses the pros and cons of various methods pertinent to this research. I provide examples of their use in studies relating to social capital and collaborative endeavour to illustrate their potential utility to conservation collaboration.

2.4.1 To Examine Relatively Uncharted Territory

With respect to linkages and collaborative endeavour in purposeful assemblages of aggregated actors, previous studies of social capital have considered types of social capital at work (e.g. Woolcock & Narayan, 2000; Pretty, 2003; Rydin & Holman, 2004; Cramb, 2005,2006; Sabatini, 2006; Jamal, 2009; Garcia-Amado et al., 2010; Kusakabe, 2012; Andriani, 2013), and effects of its existence (e.g. Putnam 1993a, Rydin & Pennington, 2000; Pargal, Huq, & Gilligan, 2004; Pretty & Smith, 2004; Hovik & Vabo, 2005; Cramb, 2005,2006; De Blasio & Nuzzo, 2010a,b; Roberts & Jones, 2013; Six et al., 2015) and contributed much to understanding of social capital. Though methodological approaches from this extensive body of related research offer guidance (described hereon), as yet, to my knowledge, no studies have sought to understand the actual mechanisms by which social capital may be built in partnerships and harnessed in their subsequent collective action. This question, posed by previous scholars (e.g. Woolcock & Narayan, 2000; Rydin & Holman, 2004) thus renders my study a venture into relatively uncharted territory. Whist quantitative methods aim for external probabilistic validity via statistically robust findings, qualitative approaches can yield deep understandings of relationships, processes and perceptions, especially pertinent to cross-cultural situations, thereby offering a high degree of internal validity and facilitating theory development from observations (Drury, Homewood & Randall, 2011). Thus, harnessing predominantly qualitative and/or inductive practices seems apt to a study which hopes to untangle and describe the complexities of the formation and operation of relationships across the multi-party, multi-background conservation arena. To this end, an assortment of qualitative approaches are summarised below, with critique of their advantages and disadvantages, illustrated by their use in conservation and natural resources collaboration research.

2.4.1.1 Case study approach

There is a shortage of case studies in conservation (Akcakaya, 2004) - and a need for the deep insight they provide (Bennett et al., 2017; Drury, Homewood & Randall, 2011). A case study is a detailed examination of a situation - that gives a deep understanding of that particular scenario and can also facilitate generation or expansion of theories (Newing et al., 2011c). A case study approach may harness a wide suite of data collection methods, for example, observations, interviews and document analysis (Yin, 2003). Case studies, particularly via qualitative approaches, are generally strong in contextual (or 'ecological') validity - the extent to which the situation under which the research is carried out represents 'real life' - as such, the approach has great utility in situations where experiments would not be practicable or pertinent to achieve research aims (Zainal, 2007). The method is ideal to elicit holistic explanations of social and behavioural issues and has shown particular utility to studies on societal and community issues (Johnson, 2006). However, qualitative case study results are not necessarily expected to offer transferability to other scenarios, since they do not offer the high levels of external validity of a quantitative method (Yin, 2003). Rigour and validity can be improved by careful attention to research design, for example by employing triangulation to corroborate data (Newing, 2011c). Comparing both recurrent and idiosyncratic patterns across multiple case studies can expand confidence in external and internal validity and modify interpretations to encompass the corpus of case studies.

Drury, Homewood & Randall (2011) advocate that qualitative case studies offer a valid, major, unique pathway to real-life issues which are pivotal to conservation research - and also to the design of successful conservation programs. Such insight cannot practicably be gained via experimental or quasi-experimental paths. Through a broad insight into underlying issues, case

studies can have implications for conservation collaborative practice, as evinced by Augustine and Dearden's (2014) case study of marine and coastal conservation in Canada. The study was able to highlight how acknowledging the values of stakeholders from diverse backgrounds was key to development of a new collaborative paradigm that benefitted both conservation and indigenous communities. Case studies offer great utility to deepen our understanding of manifold human-related conservation issues across a raft of scenarios.

2.4.1.2 Grounded theory approach

Grounded theory offers an iterative, inductive approach to qualitative research (Glaser & Strauss, 1967). By immersion in a subject area, a researcher develops familiarity prior to generating hypotheses; data collection thus starts prior to the definition of the research question(s) (Glaser, 1978). Data is collected on a particular scenario; analysis of the data seeks key aspects or recurring themes in order to guide the ongoing research. Themes are regarded as subject to continual change in response to their surroundings. Therefore, the grounded theory process should offer continual review as data is gathered. Guided by emerging themes, the researcher explores the topic ever-deeper, gaining greater insight into the prevailing themes and any inter-relations (Glaser & Strauss, 1967). In this inductive method, theory is, thus, spawned from data, as opposed to the deductive approach whereby data generation follows from theories (Glaser & Strauss, 1967). Grounded theory is not rigidly prescriptive - recognising certain key approaches, rather than an exact method. However, it is important that certain explicit data collection and analytical procedures are followed to maintain the rigour of the approach. These include;

- analysis of data from the commencement of collection, in order to direct the forthcoming research, with due recognition of recurring concepts, patterns and regularities;
- concepts being used to form theories, in contrast to actual incidents occurring in the data - related concepts being then grouped into categories via axial coding (Birks & Mills, 2011).

Data can be variously gathered, for example, from qualitative interviews, documents, video recordings or participant observation. The approach uses theoretical sampling - by way of concepts and not specific individuals/units - to achieve consistency. It acknowledges representativeness of these concepts, building theories by denoting phenomena with respect to their causal set of conditions, their means of expression through actions and interactions, and the resultant consequences. Strauss and Corbin (1990) urge inclusion of a broader scope - as opposed to merely aspects immediately related to the focal interest - for example socio-economic conditions and cultural values. Due to this recommendation, it is a particularly pertinent approach where social, economic and other human-related factors bear upon a research topic.

This detailed approach can yield deep insight into a topic - due to its inductive nature it can produce findings that may otherwise remain unfound. It is, however, a highly labour-intensive approach, that requires a level of specialist knowledge in both data collection and analysis stages. The utility of grounded theory to research seeking answers from professional practice and institutional and organisational arenas has been recognised (Punch, 2009). The field of conservation collaboration has received very little attention, rarely seeing reach by the grounded theory approach. A recent notable exception is the study of Abdullah et al. (2016) who show its use to understand multi-stakeholder marine issues in Malaysia and to recommend management approaches that are acceptable to all. Grounded theory offers an alternative paradigm within human-related conservation research, especially where deeply-embedded concepts have yet to be brought to light - and where analysis of action and process are key (Charmaz, 2006).

2.4.1.3 Adapted grounded theory approach

Grounded theory provides systematic approach to develop a deep explanation for a situation; it is substantive in that it has situation specificity. It seeks to derive explanation for that which occurs in a situation; why people behave in a certain way and how they are achieving their outcomes. Corbin and Strauss (2008) urge the researcher to collect data from situations and actors that will offer maximum prospects to develop concepts and their associated aspects, to discover diversity within these concepts and to recognise relationships between concepts.

Vision and adaptability are key qualities in grounded theory research (e.g. Watling & Lingard, 2012) - the initial approach of Glaser & Strauss (1967) has evolved (e.g. Bulawa, 2014). In contrast with Glaser & Strauss (1967), who advocated literature be studied only after theory generation, Strauss and Corbin (1990) embrace prior review of related literature, from all backgrounds - peer-reviewed and grey, technical and non-technical, such as web documents, and reports - as underpinnings for research which will adopt grounded theory. Such literature can guide understanding of pertinent categories and their inter-relations, which may be tested against newly-collected data. Studies of relevant literature are also deemed appropriate to guide interview questions (Strauss and Corbin, 1990). Literature studies can, therefore, contribute to theoretical sensitivity and underpin a certain type of grounded theory approach. Professional experience is also regarded as a valuable source of theoretical sensitivity, guiding the researcher to a greater insight than would otherwise be garnered (Strauss & Corbin, 1990).

Studies have shown efficacy in recognising the core elements of grounded theory, but extrapolating the approach to suit the study in question (Sarker, Lau & Sahay, 2001; Bulawa, 2014). In particular, the meta-theoretical framework employed can be varied to suit the study, utilising the structure which provides best fit to link identified categories into a theory (Sarker, Lau & Sahay, 2001; Merriam, 2009; Charmaz, 2009). To my knowledge, adapted grounded theory has not yet been used to study collaborative conservation issues.

2.4.1.4 Participant observation

Participant observation is a qualitative method that is commonly used where little is known about an issue. It allows the researcher to observe people in their every-day situations and, thus, to form an understanding of the motivations and mechanisms associated with their actions (Puri, 2011). Commonly, researchers reside with the community under observation, building rapport and bonds and working alongside them as a pathway to such understanding (Bernard, 2006).

Due to the immersion of the researcher in the community of study and recording of salient data in an unobtrusive way, participant observation reduces the risk of participants changing their behaviour due to the researcher's presence (Bernard, 2006) Thus, the method has great merit to the study of sensitive issues, such as conservation conflict and illegal activities. It can uncover that which could not be uncovered by other routes - illuminating people's actions, rather than just their words. It is vital that the researcher employ reflexivity, to question whether their own values and beliefs are impacting their judgement and perception of the study population (Barnard, 2006). It is an extremely time-intensive method - and may require the learning of another language (Puri, 2011). As a highly context-specific method, the outcomes do not bear high external validity - though some transferability may come via improved understanding of the underpinnings associated with commonly-found scenarios (Drury, Homewood & Randall, 2011). Notably, it can be undertaken alongside other research methods, especially whilst in the field, to enhance and deepen knowledge gathered. Jones, Andriamarovololona & Hockley (2008) found utility in such circumstances, the results of which gave understanding in to a local community's informal institution, thus allowing conservation objectives to be designed in empathy with local values. I have also used participant observation alongside other methods, for

example during ecological study in KwaZulu Natal, South Africa (Napleton-King, 2007, 2008), to deepen understanding regarding a local community's perception of the impact on their lives of the mammalian assemblage present on a nature reserve on their native land.

2.4.1.5 Ethnography

Anthropological research frequently uses ethnographic approaches. Some scholars consider participant observation to be a subsection of ethnography (e.g. Bennett et al., 2017). More commonly, others consider it to be highly similar, but to place greater focus on cultural interpretations of phenomena and cultural processes (e.g. Walley, 2002; Witasari, 2010), while emphasising comparability with other ethnographic studies. In common with participant observation, researchers must immerse themselves in close associations with the study population (Watson, 2011; Pfadenhauer & Greenz, 2015). Within ethnographic approaches, data may be gathered via curated archives, documentary research, personal histories and qualitative interviews (see Section 2.4.1.6), as well as quantitative approaches. To commence, it does not have particular phenomena as a focal point, or require detailed theoretical framework, but uses initial unstructured explorations to examine participants' experiences (Escobar, 2001; Schwab & Syed, 2015). Ethnography can produce context-specific, while comparable, studies and regard a variety of scales, however, it can be prone to some subjective bias, due to the researcher's perceptions and interactions - some elements are also not easily repeatable (Fortun, 2012).

Ethnography can have great utility to conservation social science; it can help to illuminate why collaborative endeavour might be failing due to inter-group processes (Walley, 2002). Of pertinence to this study, Witasari (2016) adopted an ethnographic approach to great effect to illumine external and internal factors and processes that impacted the building of trust between bodies involved in collective action within a reforestation program in Lampung Province, Indonesia.

2.4.1.6 Qualitative interviews

Interviews are a very adaptable form of data gathering; they can be employed in combination with numerous methods, including those detailed within this chapter. Types of interviews and their manner of approach are now described:

- **Informal interviews** are, in essence, conversations between study participants and the researcher, usually by happenstance and with no formal question guide. The researcher listens and encourages expansion of pertinent points, taking notes on relevant issues. Since participants feel at ease, they may feel comfortable to discuss sensitive issues (Newing, 2011a). Informal interviews can be used to scope a topic or for future participants, or to triangulate data.
- **Unstructured interviews** are pre-arranged conversations, which cover a particular topic. The researcher is able to direct the interview to a greater degree than with informal interviews, since prior, informed consent must have been gained (see Section 2.6) (Newing, 2011a). As with unstructured interviews, they are particularly helpful in the scoping phase of a study and to reveal potentially sensitive information (Bernard, 2006).
- **Semi-structured interviews** are perhaps the most useful of the interview types. They are pre-arranged and, prior to the interview, the researcher prepares a guide of themes or questions to be covered (Bernard, 2006). The guide is not prescriptive and may be deviated from if relevant new themes emerge during the interview. It may also contain prompts to enable further elucidation of topics. There is a particular skill attached to guiding participants through semi-structured interviews in a manner that will put them at their ease from an early stage and thus elicit full responses (see Section 4.3.2.2). The structure of the interview can also be used to provide forms of triangulation (Newing, 2011a). Responses from semi-structured interviews can guide the design of questionnaires (Drury, Homewood & Randall, 2011).

Semi-structured interviews can also be used in grounded theory and adapted grounded theory approaches (Charmaz, 2009 and see Chapter 4) to elucidate emergent themes.

- **Structured interviews** utilise prescribed wording, or other means of communication such as pictures, which are delivered in precisely the same manner to all participants (Newing, 2011a). They may take place via a questionnaire, which may be delivered on a one-to-one basis by the researcher or sent out en masse. A benefit of structured interviews is that they may be qualitatively and/or quantitatively analysed, the latter producing a degree of transferrable results and statistical rigour. They can reach wide-ranging participants if sent via an online format. Particular skill is needed in designing the questionnaire (see Section 2.4.2.1).
- **Focus groups** are pre-arranged, formal interviews where a number of people, commonly six to eight, participate concomitantly. An interview guide may be used to elicit responses, or scenarios used to promote discussion. Focus groups enable the researcher to gain different views of the same topic, but do require the researcher to be experienced in facilitating the sessions, especially to ensure all participants feel able to speak - and that participants do not speak over one another.

Interviewing is an extremely time-consuming process, requiring a level of practice and skill from the researcher (Drury, Homewood & Randall, 2011; Bennet et al. 2017). Data gathered during interviews is commonly analysed qualitatively, generating descriptive narratives. Such analysis is also a particular skill - for example the manner and context of the responses are key (Drury, Homewood & Randall, 2011; Bennet et al. 2017). Semi-structured interviews can yield data for quantitative analysis if pre-designed to do so.

2.4.1.7 Qualitative content or thematic analysis

Content analysis is a flexible method, suitable for qualitative or quantitative research, that can be approached inductively or deductively (Krippendorff, 2004). By systematically evaluating a variety of media - for example documents, narratives, or visual data - complex data can be coded into core themes that represent the data (Duriau, Reger, & Pfarrer, 2007). Deductive content analysis focusses its searches on prescribed themes or queries, in comparison, inductive content analysis may follow a grounded theory or adapted grounded theory approach (Krippendorff, 2004).

Researchers employing content analysis must ensure to discern appropriate measures, search terms, coding and thematic frameworks, such that they accurately represent the evidence from the chosen medium - there are some differences of opinion regarding procedures (Graneheim & Lundman, 2004). It is also impossible to attribute causality to variables and the approach has a certain context-specificity which limits transferability of findings (Duriau, Reger, & Pfarrer, 2007).

Content analysis is of particular utility to organisational, institutional and societal studies since it can uncover behavioural norms, stakeholder- and member-related themes, presence or absence of concepts, societal and working trends and social constructs (Duriau, Reger, & Pfarrer, 2007). Content analysis is an unobtrusive method of data collection, expeditious regarding research time and cost (Krippendorff, 2004). Contemporary online media provide numerous sources and possibilities for societal study, via objects and populations; trends in a given population may be tracked over time, illustrating societal change, and digital and traditionally-curated datasets may be compared (Edwards et al., 2013). Large samples may be gathered from social media that can enlighten study of human interactions, topics and social networks at macro level (e.g. Miller, 2011).

2.4.2 Where Previous Research Can be Built Upon and Research Questions are Focussed

Studies of social organisation, partnerships and collective action have garnered a vast body of knowledge that can underpin and guide future studies, especially to help define research questions, for example, if specific theories were to be tested.

2.4.2.1 Questionnaires

Structured interviews (questionnaires; see also 2.4.1.6.) are useful to gather data which can be used to test specific hypotheses. Commonly, respondents are asked to give brief responses selected from pre-set answers. However, great care is needed in questionnaire design and use, to increase robustness and avoid potential pitfalls at the analysis stage (Newing, 2011d). Questionnaires can yield large bodies of data which can be statistically analysed to provide transferable conclusions and validity, particularly if sampling is random (Bennett et al., 2017). However, it is not possible to know if respondents have understood the questions. This can be aided by piloting a sample questionnaire on a small number of people. This vital stage can highlight confusing areas, check for order bias (whereby order of questions can affect the responses) and check that questions are generally yielding suitable responses (Newing, 2011d). Other drawbacks include the inability to know if respondents have answered truthfully and lack of follow-up to elucidate reasons behind answers. The latter issue renders questionnaires of very limited use to ascertain nuances of individuals' behaviour towards one another. Also pertinent to cross-sector, cross-culture collaborative studies; Homewood & Randall (2011) highlight the importance of taking care not to impose the researcher's belief system on the research, particularly when the target population is of a different culture or spans varied cultures.

2.4.2.2 Quantitative content analysis

Quantitative content analysis develops themes based on the occurrence of particular defined search terms in the data (Schreier, 2012). As with qualitative content analysis, data can be gathered via a number of approaches, for example systematic literature review (Schreier, 2012) or via a search with a stopping protocol - a stopping protocol defines at what point at search will end and can be established by running a pilot study to discern the level of search which will yield suitable sample size (Benfield, 2006). Content analysis forms an important link between solely qualitative and solely quantitative methods, for example, facilitating the study of institutional and social issues that are difficult to study via quantitative methods (e.g. Edwards et al., 2013).

Several recent studies highlight the use of content analysis via the Internet, which can provide novel angles in conservation research where data may otherwise prove difficult to obtain and the researcher needs to be innovative and look widely, and can also reduce potential bias (Edwards et al., 2013; Jarić et al. 2016). Data mining of the Internet is increasingly acknowledged as valuable to conservation research. For example, of pertinence to the current study: Harrison, Roberts & Hernandez-Castro (2016) studied illegal wildlife trade via content analysis of the dark web. Content analysis via Internet searches can expedite results, allowing a far greater reach than would otherwise be possible in an allotted time period and uncover pathways of behaviour, such as with the study of Hernandez-Castro & Roberts, (2015) into elephant ivory sales over the Internet. Yeo, McCrea and Roberts (2017) used mark-recapture technique to examine behaviour and characterise communities associated with online ivory trade. Content analysis of Internet sources can also give indication of public attitude towards endangered species, thus guiding the targeting of outreach information and education (e.g. Papworth et al., 2015; Jarić et al., 2016).

Content analysis results may be verified by Kappa analysis which provides a measure of the degree to which two judges concur in interpretation of search results (Lombard, Snyder-Dutch & Bracken, 2002).

2.4.2.3 Social network analysis

Quantitative social network analysis (SNA) is a methodology which can yield various sociometric measures pertaining to a social network as a whole and to its member actors' ties (Borgatti et al., 2009). The actors (nodes) in a social network may be individuals or organisations. The social relations between them are mapped, by a variety of techniques, and produced as numerical structural data - structural characteristics - relating to the presence/absence of ties (edges) (Carrington et al., 2005; Edwards, 2010). In short, SNA gives a mathematical and visual representation of human relationships, allowing understanding of social networks and their members. The various sociometric measures generated by quantitative SNA indicate how the particular structural characteristics of the network - the pattern of relational ties - impact the passage of any resource that flows between its actors, such as knowledge transfer, communication and information sharing (Bodin & Crona, 2009). For an actor, different locations in the network bring varied benefits due to the pattern of connections. Evaluation of these factors via SNA can show, for example, actors that are bridges between groups, trusted experts, leaders and influencers, those who are isolated - and it can highlight aggregates of actors and mini-hubs within an overall network (Borgatti et al., 2009). SNA has been postulated as advantageous to understand policy processes (Rydin, 2006), however it cannot illustrate the roles of norms and culture, and the effects of human agency (e.g. Mizruchi, 1994).

Data can be gathered for SNA via varied methods, both qualitatively and quantitatively - and both can be analysed qualitatively and quantitatively (Freeman, 2004). For example, McKether, Gluesing & Riopelle (2009) and Schweizer (1997) showed the utility of mining narrative data to reveal embedded networks. This is a very labour-intensive process, however, it does yield both structural and deeper human-process-related insight. Commonly, data for SNA can be mined from documentary sources and Internet-hosted databases, via traditionally-curated datasets or social media - and data on a network can be gathered from more than one source to great effect. For example, Edwards et al., (2013) advocate the efficacy of SNA of social media data to complement understanding of interactions of similar actors gathered by offline sources. Patel et al. (2015) used qualitative methods to gather data pertaining to a wildlife trafficking network, and quantitatively analysed it to identify key nodes, to target conservation intervention.

The sociometric measures can be used as indicators of social capital: Such studies provide valuable mapping of pathways by which social capital might operate, and measures of relationships between actors and the potential of their various places in the network to their role. Numerous studies have utilised SNA to examine how structural patterns impact social capital (e.g. Bodin & Crona, 2008, 2009; García-Amado et al., 2012; Barnes-Mauthe et al., 2015). Bodin & Crona (2009) used SNA in a very enlightening manner to investigate how the structural pattern of actors in a natural resources network influenced social capital in multi-actor governance - and whether one particular structural pattern was preferential overall. The study endorsed that social networks can hold more sway than formal institutions in environmental management. Barnes-Mauthe et al., (2015) used SNA and various proxies of actors' human capital and backgrounds to examine indicators of social capital in a multi-stakeholder fishing community, harnessing the results to recommend measures towards equitable, sustainable resource governance.

Quantitative SNA, though highly enlightening, cannot elucidate the finer nuances that provide understanding of the building and operation of social capital. The study of these nuances, via qualitative approaches - such as gathering of data via observations, interviews and historic archives pertaining to actors' social interactions and associated structure - is also a form of social network analysis, particularly found in anthropological studies (Heath, Fuller & Johnston, 2009). Such methods give insight to the complexities and dynamics of actor linkages. Social network analysis thus has its origins in mathematical and

anthropological theoretical fields - it is an interdisciplinary field. A mixed methods approach to social network analysis is increasingly advocated (Edwards, 2010), since it offers understanding from an external perspective, of the network structure, and an internal view of processes, behaviours and values from the member actors' perspectives.

2.4.3 Combined Approaches

The examples given within this chapter show quantitative and qualitative aspects via a mixed-methods approach offer widest benefits to a study into the human dimensions of conservation collaboration - and both internal and external validity (Drury, Homewood & Randall, 2011; Bennet et al., 2017). Multiple-methods research - a combination of data gathering via different methods - is also an advantageous course of action for a study of this type; for example, results from the different methods can be triangulated to give added rigour and compared/contrasted to give greater insight (Newing, 2011c).

It is advocated that, to study an overarching society or movement, study at individual, organisational, community and network level is vital; though each is related, each has its own set of criteria which must be evaluated to understand the whole - and the place of each in the whole (Proven & Millward, 2001). SNA has been born from recognition of the profound impact of social practices. It has been proposed that SNA holds the key to understand power structures in a group, and thus can illuminate links between social capital and collective action in natural resource management (e.g. Bodin & Crona, 2009). However, other social capital studies illustrate the values of more traditional anthropological pathways, for example, taking varying forms of ethnographic (e.g. Witasari, 2016) or process-orientated (Tadesse & Kassie, 2017) approach to understand drivers of behaviour, norms and values. Within these approaches, studies have often addressed cognitive dimensions such as trust (Stern & Coleman, 2014; Six et al., 2015) and subjects of reciprocity (Six et al., 2015). Sadly, it does seem a lesser number of studies take a qualitative approach to social capital research, despite the deep insight which can be garnered.

2.5 Methods Chosen in this Thesis

As noted in Chapter 1, the human dimensions of conservation collaboration have, thus far, received very little scholarly attention; however, methods that have proved valuable to networks managing other natural resources provide considerable guidance.

This research employs a mixed-methods approach that offers synergy between qualitative and quantitative methods to understand processes related to social capital generation/operation between individual actors - and place them, in context of their associated collective action, within the operation of the threatened species conservation movement. To give the depth of insight necessary to understand this novel topic, two multi-site case studies are taken; the first focussing on actors that work to conserve threatened felids, and the second focussing on actors that work to conserve the snow leopard *Panthera uncia.*

Objective one (to discern the array of actors and heterogeneity of effort within the threatened species conservation movement) focusses on developing an understanding of an overarching movement; it is deemed most appropriate to use qualitative content analysis via an inductive interpretivist paradigm. Data gathered via documentary sources is also quantitatively and qualitatively analysed via social network analysis.

Objective two is to examine human-related drivers to determine how social capital can influence the building of cross-sector, multi-background, multi-actor conservation partnerships and their aggregates - and objective three is to examine

human-related drivers to determine the operation and influence of social capital pertaining to collective action in cross-sector, multi-background, multi-actor conservation partnerships and their aggregates. It is deemed most apt to employ a qualitative approach to data collection via documentary sources and semi-structured interviews. Data gathered via documentary sources is qualitatively analysed to inform subsequent stages. Narrative data is analysed using an adapted grounded theory approach. The results of the social network analysis (objective one) and the narrative data analysis are compared. The combination of the insight from these methods compliments the goals of the objectives. As I have a significant number of years' professional experience in the field of study, acquired across all of the sectors and types of conservation practice and effort, this research draws on that experience as an important source of theoretical sensitivity - yielding understanding of the workings, reasons for, and practices employed in certain situations (Strauss & Corbin, 1990). An inductive, interpretivist paradigm is employed for objectives two and three. The following three data chapters provide the methods in detail.

2.6 ETHICS

This study follows the University of Kent Ethical Protocol and the design is as per approval by the School of Anthropology and Conservation's Research and Ethics Committee. An array of ethical issues must be taken into consideration when undertaking social science studies, as detailed in Chapters 4 and 5. Issues pertain to participants and their responses regarding potentially sensitive topics and must be regarded throughout - during data collection, analysis and write-up - and beyond the study. Free, informed, prior consent is obtained from each participant; Chapter 4 details this procedure. Following recording of interviews, files are exported to a computer and each labelled solely by a unique code attributed to each contributor. Data on recording devices is then erased. Thus, even if the files on the computer (which has a passcode lock) are accessed by another, participants' identities remain unknown. Quotes used within the thesis are attributed to participants via their contributor code, to preserve anonymity. Further ethical considerations are fully detailed within Chapter 4.

CHAPTER 3. THE ARRAY OF CONSERVATION ACTORS AND EFFORTS FOR THREATENED SPECIES

3.1 ABSTRACT

Purposeful assemblages of aggregated actors can be regarded as embodiments of their actors' traits and interests and the outcomes of their aggregated interactions. The concept of institutions, informal and formal, has been used by scholars to study such purposeful aggregates. Taking a novel frame of reference from arenas such as organisational and institutional theory, this chapter considers the threatened species conservation movement: Once the preserve of biologists, the composition of the modern-day threatened species conservation movement is questioned. Who, now, are the actors that work towards conservation goals and what diverse efforts do they bring to the arena? With a focus on threatened felid species, as a proxy, this study takes a novel perspective on exploration of the array of actors and effort contributing to threatened species conservation and thereby, to propose a paradigm of the extant threatened species conservation movement. The study finds that, for threatened felids, the conservation movement has diversified to embrace novel actors contributing innovative effort from arenas not previously associated with threatened species conservation - and that many actors traditionally recognised within conservation are diversifying to offer innovative inputs also. The threatened species conservation movement is posited to be a diverse, dynamic, evolving actor-centric movement - much changed from commonly-recognised paradigms. These results can be used by conservation actors from all backgrounds and sectors, such that they can pursue pathways and actors highlighted to widen the aggregates of those working to conservation goals and thus increase conservation outcomes and impact.

Keywords: *actor, institution, movement, threatened species conservation, novel actor, conservation actor, conservation effort, actor-centric, bricolage, institutional change*

3.2 INTRODUCTION

Prior to investigating the human dimensions of collaboration in conservation of threatened species, it is prudent to give scholarly thought to the concept of 'conservation' and the 'threatened species conservation movement' in this context (Robson, 2011). The system of concepts, beliefs and expectations surrounding conservation perhaps most obviously associate it with actions aimed at the preservation of biological diversity (e.g. Jepson & Whittaker, 2002). However, conservation is more than a set of actions - it is a purposeful movement underpinned by an ethos that focusses on maintaining the health of the natural world, giving due regard to use and protection of its resources (Jordan, 1995).

The threatened species conservation movement is the focus of this study, but what, actually, are its constituent parts, what is the nature of the movement? It is necessary to broadly define the actors within the movement, such that their interactions and collaborations may be studied (Muñoz-Viñaz, 2005). The importance of the study of actors to the understanding of a purposeful society has been recognised within institutional studies, for example in the economic and political sciences

(Steinmo & Thelen, 1992; Greif, 2005; Aoki, 2007). The terms 'actor' and 'conservation actor' are used within this chapter according to the definition in Section 1.2.1.

As noted in Chapter 1, purposeful assemblages of aggregated actors can be regarded as embodiments of their actors' traits and interests and the outcomes of their aggregated interactions (Hodgson, 2006; Jackson, 2010). The character, workings and outcomes of such assemblages are also shaped by the constellations of their associated societies which intersect with and contribute to them (Morgan et al., 2010). Section 1.1.2 highlights that, when studying such purposeful assemblages, the framework offered by institutional theory offers a scaffold upon which to assemble the outcomes of interactions of individual actors. Conservationists can be thought of as actors whose commonality of interest and purpose direct them to follow the ethics of conservation and to advocate or work toward conservation goals (Jepson et al., 2011). Extrapolating these considerations, it is pertinent to consider the threatened species conservation movement - the overarching assemblage of conservationists who cohese into aggregates, to such ends - under the framework of institutional theory. Indeed, other scholars have applied institutional theoretical frameworks in explorations of large-scale, transboundary aggregates of actors undertaking collective action (e.g. Davis et al, 2005; Six et al., 2015).

The origins of the conservation movement are debated, for example, see Jepson & Whittaker (2002). Regardless of this debate, conservation has been commonly considered to be biological in focus (Borgerhoff Mulder, 2007; Jimenez, 2009) - for example, with a suite of practitioners applying scientific methods and actions to preserve imperilled wildlife and their habitats (sensu Kleiman et al., 2000). In many areas of the world, it has also been a very 'top-down' process, with senior policy makers and scientists prescribing what should occur in order to conserve threatened species and natural resources - without involvement of the people living alongside threatened species, whose lives were subject to daily impact by the species (Brockington, 2002). Over the past decades, the focus has widened considerably, with many conservation initiatives embracing a wider community of people in decision-making and daily activities (e.g. Pretty, 2003; Rydin & Matar, 2006; Reed, 2008). Increasingly, community-related initiatives form part of the conservation agenda (e.g. Mishra et al., 2003, Redpath et al., 2004; Jackson & Brewer Lama, 2016; Zahler & Paley, 2016).

Adaptation is a necessary fact of life: For example, species in the natural environment can adapt to environmental change (Lande, 1995). Similarly, humans in the working environment adapt their suites of professional and practical skills to meet changing needs (Levitt & March, 1988). This is exemplified within processes such as business process re-engineering, where core business processes are re-designed to embrace new value systems in order to improve end products (Grover & Malhotra, 1997; Al-Mashari et al., 2001). Institutions, formal and informal, also evolve; for example, growth may embrace new types of actors who may bring previously-unavailable capabilities to the institution, thus rendering possible new capacities that were unforeseen when the institution was formed (Thelen, 2004).

Diversification to embrace wider professional skills has been advocated in threatened species conservation (Borgerhoff Mulder, 2007; Chan et al., 2007; Jacobson et al., 2010). Jimenez (2009) emphatically voiced a growing need to particularly consider beyond the biological arena. The current study proposes it is possible that a considerably more diverse array of skills and effort are utilised in conservation of threatened species than were commonly considered pertinent to the arena - and that, indeed, these skills may hail from both sources known to conservation and sources not previously considered in this respect. For example, actors who hail from a commonly-recognised conservation background may have adapted their working paradigm, to contribute to conservation in novel ways (sensu Kleiman & Rylands, 2002) - and the array of actors advocating or working toward

conservation goals may be wider than commonly considered. The latter possibility has been considered with respect to human and non-human conservation actors by Jepson et al. (2011). The array of actors that comprises an assemblage influences the collective action possible by that assemblage, whether it be an organisation, social movement or formal or informal institution (Davis et al., 2005). Employing elements of institutional theory to guide understanding, this study asks: What array of actors comprises the conservation movement for threatened species - and what is the nature of the movement? What heterogeneity of effort may be within the movement?

Digital social research can aid understanding of actors' relations and identities, especially providing perspective on temporal changes. In comparison with traditional methods, it provides novel pathways to study transformation of social processes at population-level (Edwards et al., 2013). This study incorporates a novel perspective, based on data mining of the Internet, to explore the array of actors and effort contributing to conservation of threatened species and thereby, to propose a paradigm of the extant threatened species conservation movement. The results can be used by conservation actors from all backgrounds and sectors, such that they may pursue pathways and actors highlighted to widen the aggregates of those working to conservation goals and thus increase conservation outcomes and impact.

3.3 METHODS

3.3.1 Study Focus

Threatened felids form an excellent focal taxon, to act as a proxy, for this study where the conservation movement for threatened species is the object of analysis. Felids are emblematic, engendering wide-ranging conservation effort, support and study data (e.g. Nowell & Jackson 1996; MacDonald, Loveridge & Nowell, 2010; Roberge, 2014). As such, and for reasons detailed in Section 1.3, study of conservation actors and effort for threatened felids may be expected to yield a reasonably representative picture of the constituent parts of the threatened species conservation movement. (The issue of representativeness is addressed in detail in Section 6.6). There exists, however, a bias in effort - research and general conservation - towards the larger cat species (MacDonald, et al. 2010). Therefore, an attempt is made to redress this imbalance, somewhat, by considering conservation actors and effort for small-, medium- and large-bodied cats. Additionally, by considering such a range, a picture of conservation actors and effort for high profile - and more-neglected - species can be constructed.

A review of felid conservation effort, actors and partnerships is implemented for threatened felids, as identified by the IUCN Red List assessment protocol (2001) (see also Section 1.3 and Section 6.6); for this study, this comprises each felid subspecies (or species, if subspecies were not recognised), classified by the IUCN Red List for Threatened Species (2015) as Critically Endangered, Endangered or Vulnerable. This element provides a horizon scan of conservation effort and actors for these categories of felid, and therefore serves as a proxy for conservation effort and actors for threatened species - and signposts the future case study. Following this element a social network analysis of the chosen case study is undertaken, to further understand the array of its conservation actors and their effort (detailed in Section 3B).

3.3.2 Data Collection

Qualitative content analysis of data mined via the Internet is used to achieve the study objectives. Data mining of the Internet is increasingly recognised as a valuable - and innovative - tool within conservation research, allowing wide-ranging information to be sourced (Wilson et al., 2007; Kim et al., 2014). Internet-based research, using Internet search engines and web-centred data

assessments are expeditious of time and funds - and can counter issues that can beset physically-based surveys, such as poor reflection of temporal trends or systematic sampling bias (Edwards et al., 2013; Jarić et al., 2016). Therefore, content analysis of data mined via the Internet provides an appropriate means by which to assess the current conservation movement, facilitating identification of actors and conservation effort from all sectors.

Discretely taking each subspecies (or species, see 3.3.1) of felid classified as Critically Endangered, Endangered or Vulnerable (IUCN, 2015), pertinent documents were sourced from the Internet, via the Google search engine. The following search queries were used: (a) - [*'cat common name in English' conservation*]; (b) - [*'subspecies Latin name*' *conservation*], or where the species was not taxonomically classified into subspecies, [*'species Latin name*' *conservation*]. The search provided results in order of relevance to these terms. For (a) and (b), a stopping protocol of searching for the first 50 unique websites or documents, in each case, was employed. Using the same stopping protocol, and the search terms: (1) - [*'cat common name in English'*]; (2) - [*subspecies Latin name*], or where the species was not taxonomically classified into subspecies, [*species Latin name*], the IUCN/Species Survival Commission Cat Specialist Group (IUCN/SSC CSG) Digital Cat Library (IUCN/SSC CSG, 2015) was then searched to identify related research, associated academic bodies and conservation activities. The IUCN/SSC CSG Digital Cat Library is a regularly-updated, comprehensive repository of felid-related published literature (peer-reviewed and grey). Data collection took place April - November 2015. Though Jarić et al. (2016) have shown that, with respect to species name, the Latin or the vernacular may be used as a substitute for the other when mining data from the Internet and databases for conservation research, the protocol described above was utilised for added rigour. It is considered that the Internet offers major pathways for actors from wide-ranging backgrounds to convey conservation information (Corbett, 2006; Wilson et al., 2007; Proulx, Massicotte & Pépino, 2014). Additionally, scientific literature and databases showcase scientific actors and effort (Sitas, Baillie & Isaac, 2009; Jarić, Knežević-Jarić & Gessner, 2015). This manner of purposive, relevance-sample search (Krippendorff, 2004) yielded wide-ranging actors and conservation effort pertaining to threatened - Critically Endangered, Endangered and Vulnerable - felids (IUCN, 2015). Designing the searches in this way enabled the catchment of actors from all sectors involved in conservation, contributing wide-ranging conservation effort, for both iconic, well-supported and lesser-known, more-neglected felid species.

3.3.3 Sampling

No additional sampling was utilised beyond the criteria for selection in Section 3.3.2. All documentary evidence from the searches in 3.3.2 (webpages and documents, such as reports, action plans and published papers) was thoroughly read to identify actors involved in conservation of the felid in question and effort contributed. There were no species with overlapping names or vernacular names that could likely produce mismatches. The taxa *Leopardus tigrinus* and *Leopardus guttulus* were under taxonomic review at the time of data gathering (IUCN, 2015), so have been omitted from the study.

3.3.4 Analysis

Search results of 3.3.2 underwent qualitative content analysis to derive societal sector classifications for conservation actors. Following standard content analysis protocol (Krippendorff, 2004), thematic analysis was carried out to classify core themes of conservation effort. Within these themes, the range of constituent actors and effort was also identified, classified and described (sensu Putnam, 1993). Additionally, for each actor identified, the following was noted and recorded in a computer spreadsheet for each species/subspecies:

1. Actor name,

2. Societal sector classification,

3. Type(s) of conservation effort contributed by the actor,

4. Presence/absence of linkages to any other conservation actors: Such linkages were identified during the thorough reading of the documentary evidence (Section 3.3.3). Linkages were classified as 'networking' linkages in situations where documentary evidence pertaining to a particular conservation actor reported that the actor was making some form of collaborative working interaction with other conservation actors, according to the core themes of identified conservation effort listed in Table 2; as an example, this could be by way of working in the field together, strategic planning, or communications to discuss working matters. Linkages were classified as 'virtual' linkages if documentary evidence pertaining to a particular conservation actor showed that they were not interacting as above, but that they did give support to other conservation actors by providing website addresses of those actors; for example, this could be evinced in the case of an online actor blogging to raise awareness of conservation need for a certain species and providing weblinks of other actors working for the species.

For each species/subspecies of cat, the number of entries in each of these categories was noted, (see Figures 1, 2 and 3). The reliability of data classification pertaining to elements 1, 2, 3 and 4 was verified by Kappa analysis, using an independent coder (Cohen, 1960). Values >0.70 are deemed to show a strong reliability level (Lombard, Snyder-Dutch & Bracken, 2002). Inter-coder reliability for all entries was found to be >0.95.

The above stages enabled selection of a major case study for in-depth study during the remaining research, and a number of other collaborative partnership scenarios pertaining to other cats to elucidate and triangulate findings. Additionally, to generate a fuller picture to inform the major case study, data gathering was further-focussed from the level of threatened felids addressed in this chapter thus far: Further data was gathered on the major case study and a social network analysis (SNA) performed, pertaining to the major case study's associated actors and their conservation efforts (Section 3B). The SNA results were used to guide narrative data gathering (described in Section 4.3.3) and to triangulate and compare with the findings of the research described within Chapters 4 and 5.

3.4 RESULTS

Data pertaining to a total of 36 felids was gathered, comprising 25 subspecies and 11 species, as shown in Figures 1, 2 and 3. Conservation actors and effort hailed from a wide demographic. The eclectic array of conservation actors identified spanned organisations from varied societal sectors; governmental organisations, non-governmental organisations (NGOs) including charitable and not-for-profit organisations, zoological organisations, companies and businesses from the private sector, both secular and religious community-led organisations, academic organisations - and individuals of all ages from varied professional arenas and lay people. Though zoos are often non-governmental organisations, and, in some cases, can be governmental organisations, they represent organisations that make particular contributions to conservation not found elsewhere (Field & Dickie, 2007; Lees & Wilken, 2009; Leus et al., 2011; Lacy, 2012) - therefore, the decision was made to treat them as a distinct societal sector of the conservation movement. Societal sectors and descriptions of constituent conservation actors are noted in Table 1.

Table 1. Societal sectors of conservation actors identified by this study

Societal sector	Description of sector member actors
Governmental	Organisations and agencies operating under local, regional, national or international government auspices
Non-Governmental	Not-for-profit organisations, independent of governments and international government organisations
Private	Companies and businesses owned by private citizens or groups operating for profit
Community	Community-led groups and organisations, including secular and religious groups, in range and non-range countries of the species
Academic	Organisations dedicated to education and research, which grant academic degrees
Zoo	Zoological gardens or parks in which animals are housed in enclosures, for the purposes of public display and species conservation via education and research
Individuals	Persons acting not under the auspices of any organisation or group, with professional and/or lay skills, of all ages

Figure 1. Sectoral distribution of conservation actors for threatened felids, as identified by this study

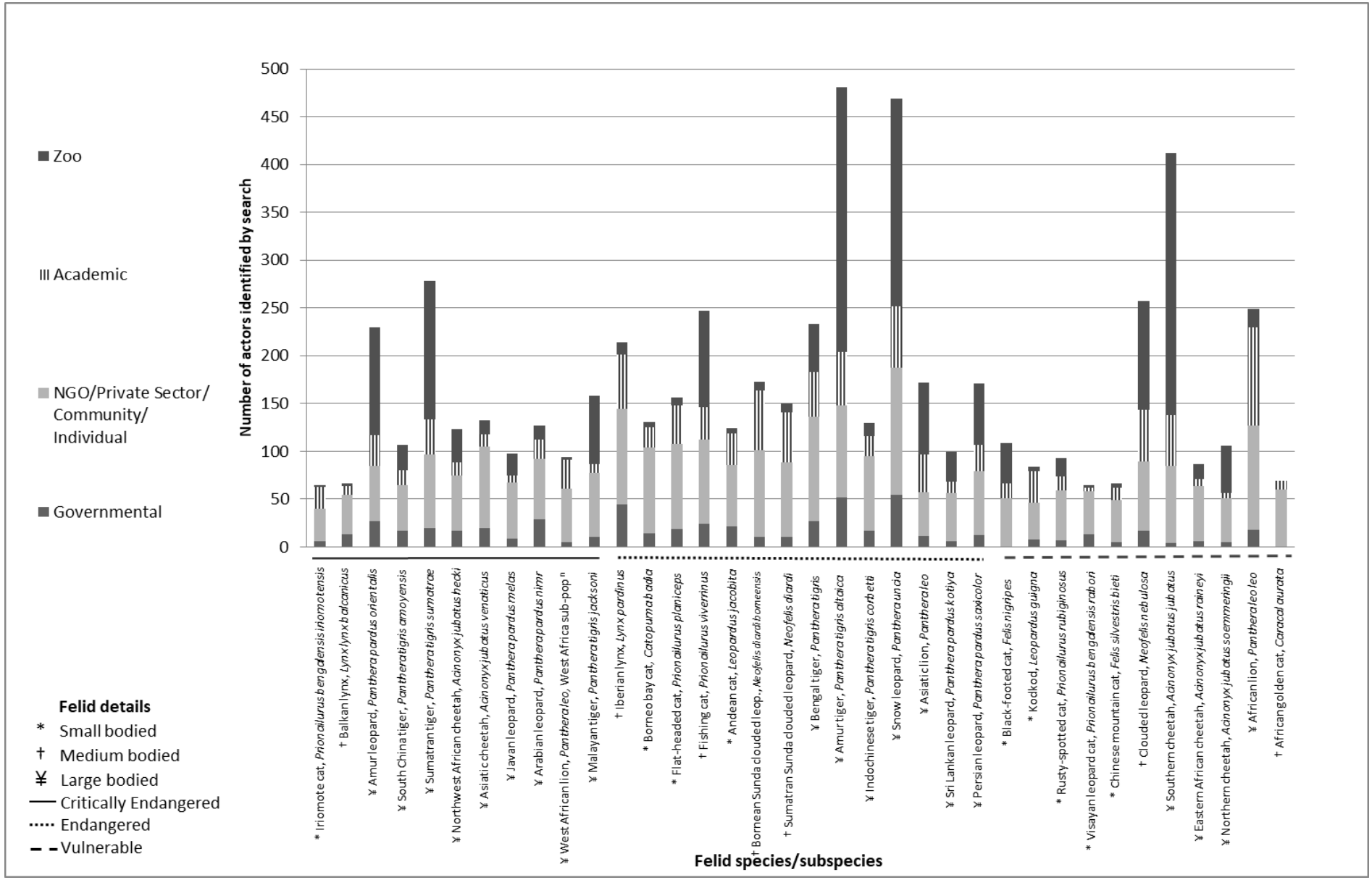


Figure 1 shows the sectoral distribution of conservation actors for threatened felids, as identified by this study**.** For most felids, search results showed the majority of conservation actors to hail from the combined category of NGO/private sector/community/individual. However, zoos comprised a clear majority of conservation actors for the Amur leopard *Panthera pardus orientalis*, Sumatran tiger *Panthera tigris sumatrae*, Amur tiger *Panthera tigris altaica*, snow leopard *Panthera uncia*, Southern cheetah *Acinonyx jubatus jubatus* - and for Malayan tiger *Panthera tigris jacksoni*, Persian leopard *Panthera pardus saxicolor* and fishing cat *Prionailurus viverrinus*, the number of conservation actors between the two categories was similar. For each of the cats listed here, zoo actor numbers peaked with respect to other cats in the study, with the highest zoo actor numbers seen for the Amur tiger, followed by the Southern cheetah and snow leopard, respectively. NGO/private sector/community/individual actors peaked for the snow leopard, followed jointly by the Bengal tiger *Panthera tigris tigris* and African lion *Panthera leo leo.* Academic actor numbers were seen to peak for the African lion, followed by the snow leopard and Bornean Sunda clouded leopard *Neofelis diardi borneensis*. Governmental actors peaked for the snow leopard, followed by the Amur tiger and Iberian lynx *Lynx pardinus*, respectively.

Conservation effort was classified according to the themes noted in Table 2. The array of conservation actors made diverse contributions to conservation, spanning funds-related effort, research, awareness-raising and education, biological and technical effort, socially-focussed effort and strategic and policy-related effort. These efforts contributed to varied conservation practice, research and policy-making. Efforts encompassed those commonly-recognised or utilised in conservation; for example in the biological arena, wildlife population and ecological monitoring - and in the social sphere, human-wildlife conflict mitigation initiatives. Many examples of more unusual conservation effort were also seen; for example, shelter dogs being trained to aid wildlife trafficking, Buddhist monks carrying out conservation work, artists painting to raise awareness, range-country communities making handicrafts and undertaking citizen science, indigenous communities writing poetry and making films, sculptures being crafted from retrieved metal carnivore traps and snares, school children blogging and making video presentations and sharing on the Internet, private sector non-conservation technology personnel using skills to combat wildlife cyber-crime, fashion companies making faux-fur garments to raise awareness. It was commonplace to find skills being contributed to conservation endeavours that were not biological, such as from the fields of psychology, counselling and human medicine. Conservation effort operated *in situ* (in the species' range) and *ex situ* (in zoos - and every-day situations). The diverse panoply of actors and effort was exemplified by that acting to conserve the snow leopard, and is further described within Chapter 4, Section 4.3.1.

Table 2. Themes of conservation effort identified by this study

Conservation effort	Description of conservation effort carried out by actor
Funds-related	Raising or donating of funds for conservation purposes
Research	Undertaking of research activities (academic and/or community-based) pertaining to the felid in question
Awareness-raising in person	Education or awareness-raising conservation effort in person (such as zoo conservation education, community conservation education)
Awareness-raising via the Internet	Education or awareness-raising conservation effort via the Internet
Biological or technical	Any type of biological or technical conservation effort and/or expertise, such as but not exclusively; field operations, project design and implementation, *ex situ* operations, veterinary effort
Socially-focussed	Any type of social or community-related conservation effort and/or expertise, such as but not exclusively; conflict resolution, work with landowners/hunters, community protection of the cat, community conservation enterprise
Strategic or policy-related	Conservation policy- or strategy-formation effort and/or expertise at local regional, national or international level

Details of the above effort and the array of contributing actors are described in Tables 3-8:

Table 3 details varied types of actors that contributed funds for conservation purposes. Examples of research effort and the array of contributing actor-types are shown in Table 4. Examples of awareness-raising effort, in person and via the Internet, and the backgrounds of contributing actors are shown in Table 5. Table 6 gives examples of biological and technical effort and the backgrounds of contributing actors, Tables 7 and 8, likewise, for socially-focussed effort and strategic or policy-related effort, respectively.

Table 3. Examples of types of funds-related contributors to conservation effort, as identified by this study

Examples of funds-related contributing actors	Further details
Charitable foundations and trusts	Bodies with a sole purpose to provide financial support
International, national and regional charitable NGOs	Actors from the arenas of; wildlife conservation, environmental protection, animal welfare, human development, culture, who raised funds through donors and supporters to fund varied conservation effort
Banks	Public and private sector bodies
Entertainment corporations	Charitable arms thereof
Governmental bodies and agencies	National and multilateral, including focus on environment and human development
National research councils	Spanning environmental and human matters
Academic organisations	Spanning environmental and human matters (e.g. social development, health)
Individuals	For example; people raising funds through web-based effort; individuals who simply donate; photographers selling images; artists selling paintings
Zoos and zoological societies and organisations	Raising funds via visitors, donors and targeted campaigns
Community-led groups and organisations	Raising funds via advocacy and targeted campaigns, community enterprise (e.g. handicrafts)
Animal rehabilitation centres	Raising funds via visitors, donors and targeted campaigns
Specialist breeding centres that are not zoos	Raising funds via advocacy and targeted campaigns
Veterinary practices	Wildlife, livestock and small animal practices raising funds via advocacy and targeted campaigns
Private sector businesses	Donating funds, for example from sale of bottled water, vodka, housing, tobacco, matches, petroleum, engineering, general travel, photography, multi-media
Ecotourism companies	Donating a proportion of profits
Multi-sector alliance bodies	Providing grants

Table 4. Examples of conservation research effort and the array of contributing actors, as identified by this study

Examples of research actors	Examples of research conservation effort carried out by actor
International, national and regional charitable NGOs - from the arenas of wildlife conservation, environmental protection, animal welfare, human development and health	Studies of: wildlife populations (including data gathering by human and canine actors), habitats and ecosystems; impacts of hunting; impacts of wildlife trade (including data gathering by human and canine actors); diseases of wildlife, livestock, domestic animals and humans; human-wildlife interactions and perceptions; human-wildlife conflicts; socio-economic issues related to wildlife and the environment; cultural relations to wildlife; religious relationships to wildlife
Academic organisations - covering arenas of biodiversity, veterinary science, environment, human development, human health, cultural matters, socio-political matters, economic matters	Studies of: wildlife populations, habitats and ecosystems; impacts of hunting; impacts of wildlife trade; diseases of wildlife, livestock, domestic animals and humans; human-wildlife interactions and perceptions; human-wildlife conflicts; socio-economic issues related to wildlife and the environment; cultural relations to wildlife; religious relationships to wildlife
Community-led groups and organisations	Citizen science, e.g. setting and monitoring camera traps; wildlife population counts; habitat and environmental monitoring; gathering data on human perceptions of wildlife
Governmental bodies and agencies	Studies of: wildlife populations, habitats and ecosystems; impacts of hunting; impacts of wildlife trade; diseases of wildlife, livestock, domestic animals and humans; human-wildlife interactions and perceptions; human-wildlife conflicts; socio-economic issues related to wildlife and the environment
Zoos and zoological societies, specialist breeding centres	Studies of: captive counterparts of wild species, e.g. disease, behaviour, genetics; development and testing of equipment to be used in the field, e.g. radio collars, lures for camera traps; testing of tranquiliser dosages; analysis of data gathered in the field
Veterinary practices	Studies of: diseases of wildlife, livestock and domestic animals in threatened species' range; biological monitoring and bio-data gathering re. threatened species, including field anaesthesia
Ecotourism companies	Aiding data-gathering re. wildlife populations and habitats
Individual specialists	Studies of: wildlife populations, habitats and ecosystems; impacts of hunting; impacts of wildlife trade; diseases of wildlife, livestock, domestic animals and humans; human-wildlife interactions and perceptions; human-wildlife conflicts; socio-economic issues related to wildlife and the environment; cultural relations to wildlife

Table 5. Examples of conservation awareness-raising effort, in person and via the Internet, and the array of contributing actors, as identified by this study

Examples of awareness-raising actors	Examples of awareness-raising conservation effort carried out by actor in person	Examples of awareness-raising conservation effort carried out by actor via the Internet
International, national and regional charitable NGOs - from arenas of wildlife conservation (including human and canine actors), environmental protection, animal welfare, human development and health	Presentations to professional audiences, e.g. at conferences, workshops, meetings - and to general audiences at business functions, charity fund-raising events, school and higher education establishments. Radio and television broadcasts	Webinars to professional audiences. Articles and information on sites such as LinkedIn and ResearchGate. Webcasts to general audiences. Organisational websites; email newsletters; use of social media such as Facebook, Twitter
Academic organisations - covering arenas of biodiversity, veterinary science, environment, human development, human health, cultural matters, socio-political matters, economic matters	Presentations to professional audiences, e.g. at conferences, workshops, meetings. Radio and television broadcasts	Webinars to professional audiences. Articles and information on sites such as LinkedIn and ResearchGate. Webcasts to general audiences. Institutional websites; use of social media such as Twitter
Community-led groups and organisations	Presentations at community meetings and workshops and to NGOs. Advocacy related-meetings to governmental bodies. One-to-one conveying of information to other community members. Radio and television broadcasts	For communities that have access to the Internet: Websites; email newsletters; use of social media such as Facebook, Twitter
Religious groups	Presentations at group meetings. One-to-one conveying of information to community members	
Governmental organisations and agencies	Presentations to professional audiences, e.g. at conferences, and meetings. Presentations to general audiences. Radio and television broadcasts	Organisational websites
Zoos and zoological organisations, specialist breeding centres	Presentations to professional audiences, e.g. at conferences, workshops, meetings. Presentations to general audiences at business functions, charity fund-raising events, school and higher education establishments. Radio and television broadcasts. In-person education to zoo visitors and to field conservation professionals	Webinars to professional audiences. Articles and information on sites such as LinkedIn and ResearchGate. Webcasts to general audiences. Organisational websites; email newsletters; use of social media such as Facebook, Twitter
Veterinary practices	Presentations to professional audiences, e.g. at conferences, workshops, meetings - and to general audiences at business functions, charity fund-raising events, school and higher education establishments. Radio and television broadcasts	Organisational websites; newsletters by email to subscribers; use of social media such as Facebook, Twitter. Articles and information on sites such as LinkedIn and ResearchGate
Ecotourism companies	One-to-one conveying of information to tourists	Advocacy via organisational websites
Individual actors, including conservation professionals from biological and human-related specialities, photographers, artists, interested, informed members of the public	Presentations to professional audiences, e.g. at conferences, workshops, meetings - and to general audiences at business functions, charity fund-raising events and places of education. Media broadcasts and other advocacy	Webinars to professional audiences. Articles and information on sites such as LinkedIn and ResearchGate. Webcasts to general audiences. Individual websites and blogs; use of social media such as Facebook, Twitter

Table 6. Examples of biological and technical conservation effort and the array of contributing actors, as identified by this study

Examples of biological and technical effort actors	Examples of biological and technical conservation effort carried out by actor
International, national and regional charitable NGOs - from arenas of wildlife conservation, environmental protection, animal welfare, human development and health	Design and implementation of initiatives pertaining to: conservation management of wildlife populations, habitats and ecosystems; anti-poaching and anti-wildlife trade, including use of canines; disease control and mitigation re. wildlife, livestock, domestic animals and humans; human-wildlife conflict mitigation
Community-led groups and organisations	Citizen actions to protect wildlife and livestock e.g. building of corrals; application of indigenous knowledge
Governmental organisations and agencies	Design and implementation of initiatives pertaining to: conservation management of wildlife populations, habitats and ecosystems; anti-poaching and anti-wildlife trade; diseases control and mitigation re wildlife, livestock, domestic animals and humans; human-wildlife conflict mitigation
Zoos and zoological organisations, specialist breeding centres	Captive breeding of threatened species to provide populations for insurance and/or reintroduction to the wild
Veterinary practices	Field veterinary effort re. mitigation of diseases of wildlife, livestock and domestic animals in threatened species' range; field anaesthesia. Veterinary effort to zoos, other breeding centres and wildlife rehabilitation centres
individual specialists	Professional skills re. conservation management of wildlife populations, habitats and ecosystems; anti-poaching/anti-wildlife trade; disease control and mitigation re. wildlife, livestock, domestic animals and humans; human-wildlife conflict mitigation

Table 7. Examples of socially-focussed conservation effort and the array of contributing actors, as identified by this study

Examples of socially-focussed effort actors	Examples of socially-focussed conservation effort carried out by actor
International, national and regional charitable NGOs - from arenas of wildlife conservation, environmental protection, animal welfare, human health/development	Design and implementation of initiatives pertaining to: anti-poaching and anti-wildlife trade; disease control and mitigation re. wildlife, livestock, domestic animals and humans; human-wildlife conflict mitigation, including use of canines; livelihood enhancement programs such as livestock insurance, community handicraft enterprises
Community-led groups and organisations	Citizen actions related to wildlife protection e.g. running livestock insurance programs, community handicraft enterprises, anti-poaching advocacy, general conservation advocacy
Governmental organisations and agencies	Design and implementation of initiatives pertaining to impact of wildlife on humans; anti-poaching and anti-wildlife trade; human-wildlife conflicts; human health and socio-economic development
Zoos and zoological organisations	Professional human-related skills in development initiatives in wildlife range countries
Religious groups	Advocacy and encouragement of environmentally-friendly practices in wildlife range countries
Ecotourism companies	Advocacy and encouragement of environmentally-friendly practices in wildlife range countries
Individual specialists	Contribution of professional human-related skills, e.g. leadership, management, marketing, advocacy, business process skills, conflict mitigation, facilitation, medicine and human health, cultural appreciation, counselling

Table 8. Examples of strategic or policy-related conservation effort and the array of contributing actors, as identified by this study

Examples of actors contributing strategic or policy-related effort	Examples of strategic or policy- related effort carried out by actor
International, national and regional charitable NGOs - from the arenas of wildlife conservation, environmental protection, animal welfare, human development and health	Conservation-related policy- or strategy-formation at local, regional, national or international level, pertaining to the organisation's own goals and those of other bodies. Advocacy and input to local, regional, national and international policies
Community-led groups and organisations	Input to local or regional policy or strategy pertaining to conservation, environmental and related social issues
Governmental organisations and agencies	Policy-formation at local regional, national or international level, pertaining to issues affecting people, wildlife and the environment
Zoos and zoological organisations	Conservation-related policy- or strategy-formation at national and international level, pertaining to both people and threatened species
Academic organisations - covering arenas of biodiversity, veterinary science, environment, human development, human health, cultural matters, socio-political matters, economic matters	Input to local, regional, national or international level policy, pertaining to conservation, environmental and related social issues
Individual specialists	Input to local, regional, national or international level policy, pertaining to conservation, environmental and related social issues

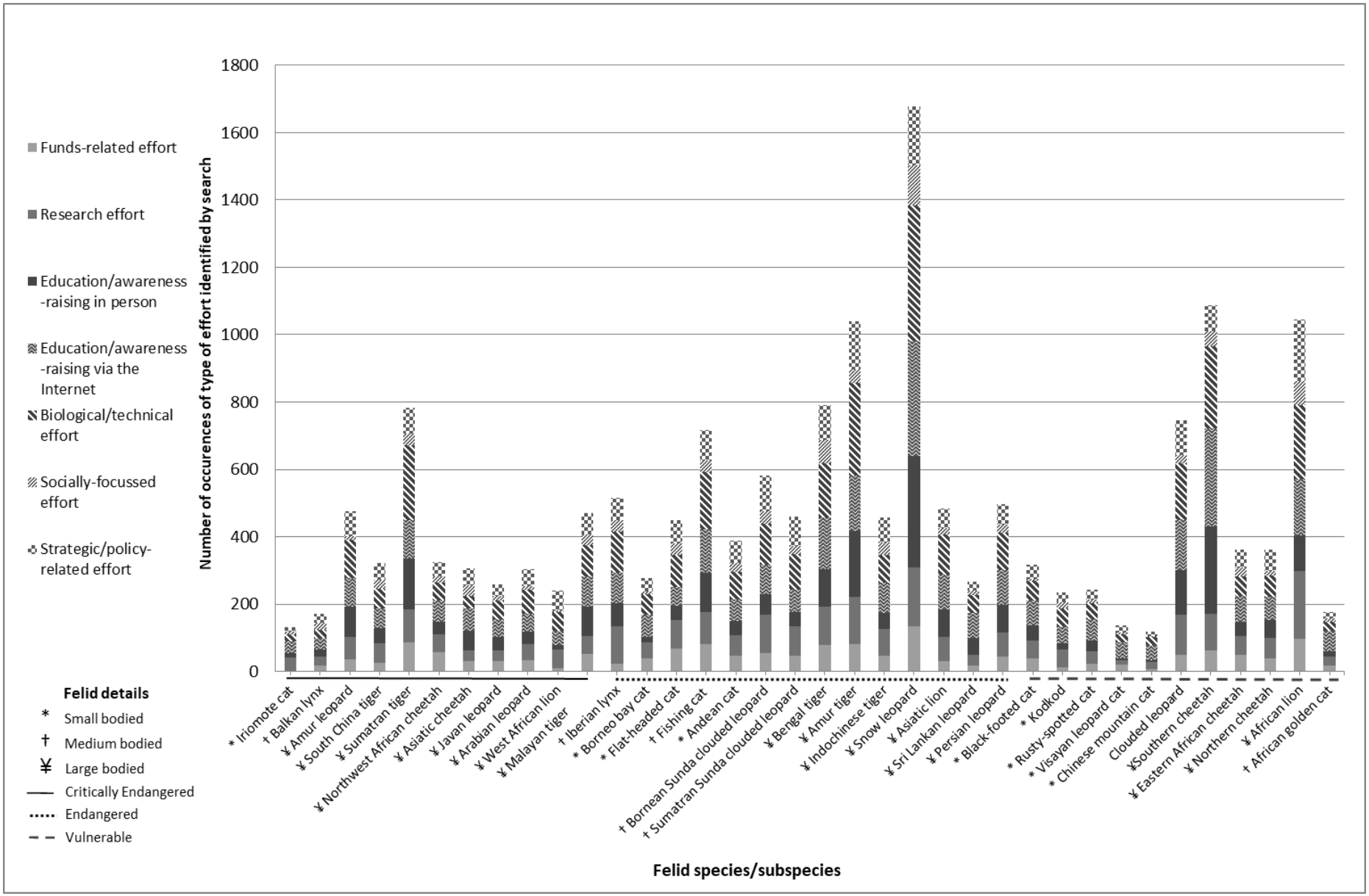
Figure 2 shows a thematic distribution of conservation effort for threatened felids, as identified by this study**.** For the majority of cats surveyed, biological/technical effort received the greatest number of contributing actors. The greatest values were seen for snow leopard, Amur tiger and Sumatran tiger, respectively - with other clear peaks for Amur leopard, Sumatran tiger, Iberian lynx, fishing cat, Bengal tiger, Bornean Sunda clouded leopard, clouded leopard *Neofelis nebulosa* and African lion. For the majority of the cats surveyed, socially-focussed effort was the category with the lowest number of contributing actors, peaking for the snow leopard followed, jointly, by the Bengal tiger and African lion. Education and awareness-raising, in person, peaked for the snow leopard, followed by the Southern cheetah and Amur tiger, respectively. Research effort peaked for the African lion, snow leopard and Amur tiger, respectively. For several of the cats, especially those with lower overall effort score, education and awareness-raising via the Internet formed the most prevalent or second most prevalent category of effort. Strategic effort was highest for African lion, snow leopard and Amur tiger, respectively, and funding effort for the snow leopard and African lion, respectively.

In total, across the 36 felids, 6025 conservation actors were identified by this study. For each threatened felid surveyed by the study, Figure 3 shows overall conservation actor numbers and linkage numbers, as identified by this study. Overall actor numbers were highest for Amur tiger, snow leopard and Southern cheetah - large-bodied cats - and lowest for Chinese mountain cat *Felis silvestris bieti*, Iriomote cat *Prionailurus bengalensis iriomotensis* and Visayan leopard cat *Prionailurus bengalensis rabori* - small-bodied cats. For cats surveyed, the majority of their actors reported 'networking' linkages to other conservation actors. Cats with the highest number of actors exhibiting 'networking' linkages were Amur tiger, snow leopard and Southern cheetah - the corresponding lowest results were for Visayan leopard cat, Chinese mountain cat and African golden cat *Caracal aurata.* For each cat surveyed, a proportion of actors were noted with no linkages or with 'virtual' linkages only.

As illustrated by Figures, 1, 2 and 3, it is almost always the large-bodied cats which receive the highest scores with respect to overall actor numbers and amount of effort per contribution type - and number of linkages. The corresponding lowest scores were predominantly attributed to small-bodied cats. Figures, 1, 2 and 3 also show that for cats within the categories of Critically Endangered, Endangered and Vulnerable, though each of these categories represents threatened species/subspecies, with respect to overall actor numbers, amount of effort per contribution type and number of linkages, again, it is predominantly the large-bodied cats which receive the highest scores - and the small- and medium bodied cats that receive the corresponding lowest scores.

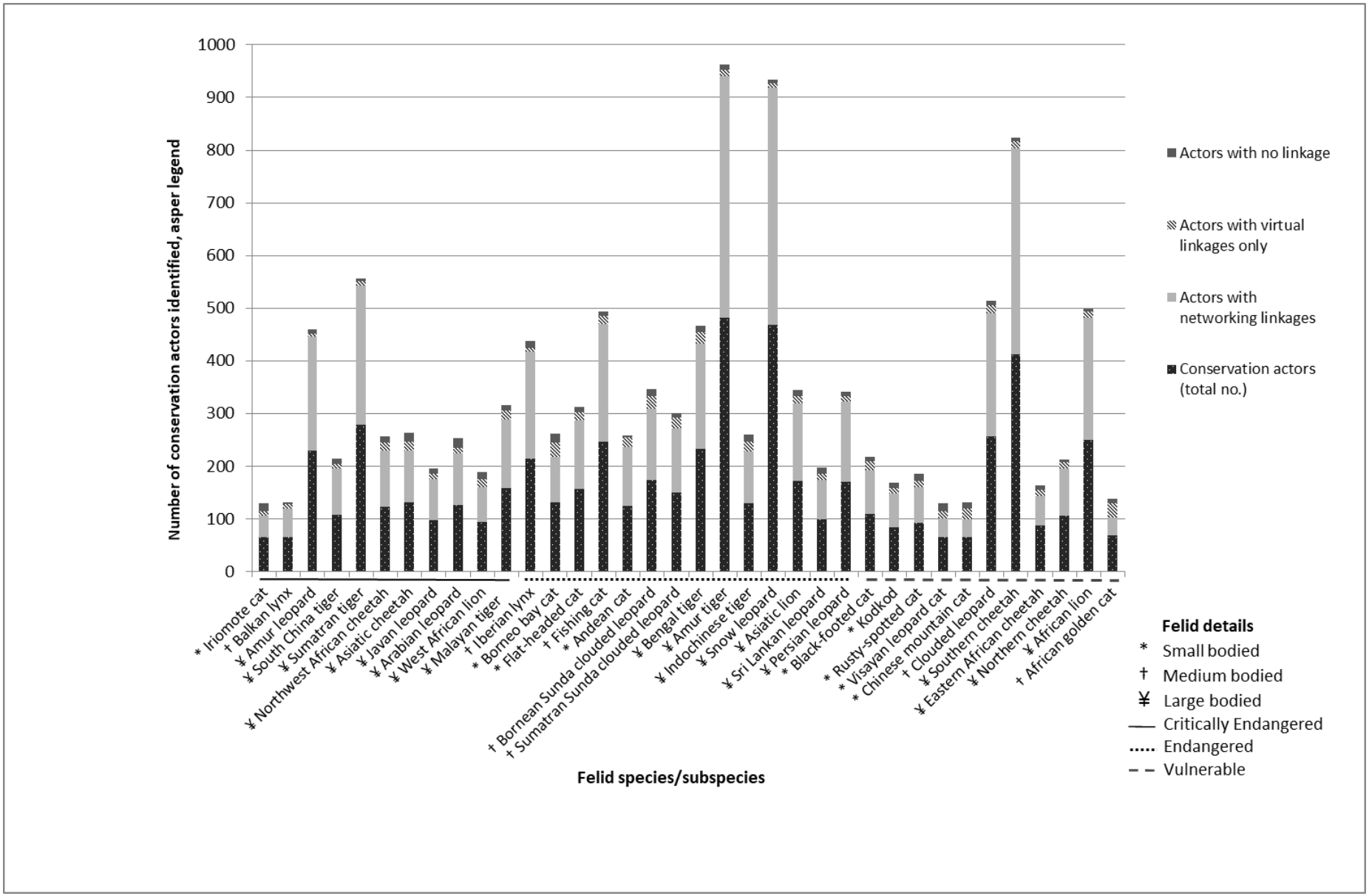
Many and varied partnership and aggregates were observed. Diverse, multi-sector, transboundary collaborative networks were identified for various cats, for example, for the Amur leopard, Amur tiger, Iberian lynx, fishing cat, black-footed cat *Felis nigripes*, and Pallas' cat *Otocolobus manul*. These aggregates often spanned biological and social initiatives - and multiple actors, including those commonly recognised within the conservation arena and the more unusual. The diverse actors and collaborations acting to conserve the snow leopard exemplified a successful, eclectic, transboundary conservation collaborative and were therefore chosen for further study within Section 3B and Chapters 4 and 5, with elucidation from actors and effort pertaining to selected other cat species.

Figure 2. Thematic distribution of conservation effort for threatened felids, as identified by this study



Felid species/subspecies are in the same order as per Figure 1; Species Latin names are provided in Figure 1 and, as lengthy, have been omitted here to maximise clarity of the figure.

Figure 3. Conservation actors for threatened felids, total per felid and linkage numbers, as identified by this study



Felid species/subspecies are in the same order as per Figure 1; Latin names are provided in Figure 1 and, as lengthy, have been omitted here to maximise clarity of the figure.

3.5 DISCUSSION

A study of threatened felids was used as a proxy to examine the extant threatened species conservation movement - to better understand who are its actors and the conservation-related effort that they contribute. A panoply of actors was found, making diverse contributions: Organisational actors hailed from various sectors of society, spanning governmental organisations, non-governmental non-profit organisations, zoos, private sector organisations, secular and religious community-led organisations, and academic organisations. Also identified were individuals of all ages, from varied backgrounds, acting independently of the auspices of an organisation. This assemblage of conservation actors made diverse contributions to conservation, spanning funds-related effort, research, awareness-raising and education, biological and technical effort, socially-focussed effort and strategic and policy-related effort. Efforts encompassed those commonly-recognised or utilised in conservation - and many examples of contributions that were novel, or more unusual, within the conservation arena.

The study harnesses scholarly thinking regarding institutional analysis from the fields of political science, sociology and economics: Purposeful assemblages of aggregated actors can be regarded as embodiments of their actors' traits and interests and the outcomes of their aggregated interactions (Hodgson, 2006; Jackson, 2010). Section 1.1.2 highlights that, when studying such purposeful assemblages, the framework offered by institutional theory offers a pertinent scaffold upon which to assemble the outcomes of interactions of individual actors, indeed other scholars have done so (e.g. Hodgson, 2006; Six et al., 2015). Conservationists can be thought of as actors whose commonality of interest and purpose direct them to follow the ethics of conservation and to advocate or work toward conservation goals (Jepson et al., 2011). Extrapolating these considerations, it is pertinent to consider the conservation movement for threatened species - the overarching assemblage of conservationists who cohese into aggregates, to such ends - under the framework of institutional theory. Indeed, other scholars have applied institutional theoretical frameworks in similar explorations of large-scale, transboundary aggregates of actors undertaking collective action (e.g. Davis et al, 2005; Six et al., 2015).

Institutional theory considers the array of actors that comprises a purposeful assemblage of aggregated actors influences the collective action possible by that assemblage (Davis et al., 2005) and the character, workings and outcomes of a purposeful assemblage of aggregated actors is shaped by the constellations of its associated societies which intersect with and contribute to it (Morgan et al., 2010). To understand the nature of the threatened species conservation movement, under the framework of institutional theory, this study asks, 'Who are its actors and what are they doing to aid conservation?' Jepson et al. (2011), prior to asking a similar question, defined conservation actors as individuals, organisations and collectives who can exert influence over conservation values and actions. They then argued for conservation actors to be defined by a broader stroke, making a case that a wider spectrum of actors - such as other species and devices - were also conservation actors and should be included within the clan. In concurrence with Jepson, this study finds a vast array of actors with agency and capability to contribute to conservation goals and outcomes - seemingly a wider array than previously considered, as a whole, to comprise the conservation movement for threatened species. This study posits that the threatened species conservation movement has undergone certain processes which are recognised, in institutional theory, as markers of change. Therefore this study proposes that the conservation movement for threatened species is a changed movement - the case for which is now discussed, by selecting pertinent examples from the study's findings and relating them to various aspects of institutional theory.

That a wealth of actors - the majority - are identified by this study as contributing biological and technical effort is no surprise and concurs with a large body of knowledge and thought. Many examples have shown these spheres as the centre-

points of established conservation thinking (e.g. IUCN/SSC, 2008; Vargas et al., 2009; Miquelle et al., 2010, Spitzen et al., 2012) and many studies refer to conservation effort and actors being traditionally rooted in this realm (e.g. Borgerhoff Mulder, 2007; Chan et al., 2007; Dickie et al. 2007; Jacobson et al., 2010). Indeed, sound science is ubiquitously acknowledged as key to informing polices and management actions for wildlife and their ecosystems (Miquelle et al., 2010, Sanderson et al., 2010; McCarthy et al., 2016). Conservation is, thus, underpinned by contributions whereby scientific data is collected and analysed to guide policy - from micro level, such as conservation genetics (e.g. Fieneig & Galbusera, 2013; Napleton-King, 2014), to large scale studies of wildlife populations (Maheshwari & Sharma, 2010) and ecological studies at landscape scale, for example, via data gathered by GPS radio-collared animals (Johansson et al., 2016). This study finds many such examples. Commonly, such efforts harness professional skills. However, this study also finds numerous examples of contributions made by citizen science, where data is scientifically collected on small and large scale, for example, by community members trained to use camera traps. Amongst these biological and technical efforts come many innovative offerings - such as from scientists training dogs to aid conservation data gathering and to combat illegal wildlife trade.

Socially-focussed conservation is increasingly valued within the conservation arena, for example, where range country communities form partnerships with governments and NGOs (e.g. Mishra et al., 2003; Jackson & Wangchuck, 2004; Jimenez, 2006; Chan et al., 2007; Jackson & Brewer Lama, 2016; Mishra, 2016; Zahler & Paley, 2016), or offer support in other ways. This study does evince wide-ranging cross-sector, cross-culture effort for many threatened cats and the humans sharing their ecosystems. In accordance with other studies (e.g. Chan et al., 2007), this research does, however, find socially-focussed conservation to be the category of conservation effort with the lowest number of contributing actors. This is an ongoing worry, since people are clearly key to all efforts. Notably, for certain species, such as the snow leopard, this category contains some highly innovative efforts, hailed for their success and wide impact, such as community enterprise schemes (e.g. see Mishra, 2016). It is vital that the conservation movement embraces and supports similar effort for neglected species and communities.

Policy-formation, once under the aegis of governments and international NGOs, is found to be occurring in a participatory and inclusive manner in many situations embracing sectors - from governments, NGOs (local, regional, national and international), community organisations and interested individuals - people from many backgrounds can be involved. Moreover, conservation is found to not only include influencers and policy-formers from its own arena, but to reach out to those in diverse arenas, such as human health and development. This diversification and devolution of conservation agency is encouraging, mirroring the holistic, collaborative approach of the 'One Health' concept (e.g. Galaz et al., 2015) which recognises the wellbeing of people, animals and ecosystems as interconnected.

That governmental, NGO and academic actors are within the conservation movement is not unusual and concurs with the commonly-recognised picture of the conservation arena (e.g. Sundberg, 1998; IUCN, 2008; Borgerhoff Mulder, 2007; Fraser et al., 2010; Ming'ate et al., 2014). This study clearly shows that NGOs form a back-bone to threatened felid conservation - Larsen & Brockington (2018) found similarly for threatened species in general. It is notable that governmental conservation involvement used to be purely wildlife-focussed (e.g. Sundberg, 1998; Newmark & Hough, 2000; Jepson & Whittaker, 2002), however this study highlights wide-ranging governmental conservation effort, for example, via avenues relating to human development and health. The study also underlines the changing nature of the zoo, as an organisation - and a 'headquarters' of conservation. Many zoos show that they now offer a wealth of varied inputs to conservation, in addition to the captive breeding and education they are known for (e.g. Leus et al., 2011). For example, zoo effort is evinced allied to strategic matters and human development for communities living alongside threatened wildlife - linking zoos to both the threatened species and

humans in the places from which their captive collections' wild counterparts hail. The spikes in zoo effort for certain cats reflect captive breeding programmes for particular species and subspecies (Conway, 1986, 2011; Leus et al., 2011; EAZA Felid Taxon Advisory Group, 2015).

In addition to organisational actors, an assortment of individuals offer a wide array of skills not commonly recognised within the conservation arena - for example, from business, military, counselling, creative arts, fashion and non-conservation technology spheres. The large body of individual actors centering on the online arena shows that the conservation movement contains a 'digital public', embodying a concept noted by Knorr-Cetina (2001). Edwards et al. (2013), in their study of the changes that can be wrought upon societies by online media, recognised that the online space can offer an arena for communities to form, where membership is not dependent on more traditional requirements for acceptance. Therefore, those with pertinent knowledge - and ability to connect to online media - can be important players, regardless of any 'traditionally-recognised' conservation background.

Education and awareness-raising remain fundamental parts of the conservation effort. However, they are not evinced as the preserve of professionals. For example, lay people can pass on thought-provoking conservation messages in person - and online - facilitating processes of learning, and shaping beliefs and values. As noted above, the Internet opens up a key pathway, in this respect, for individuals to contribute to, and be embraced within, the conservation movement.

This study finds that iconic, larger-bodied species tend to have the greatest number of contributing actors; in as much, this study concurs with others (e.g. Macdonald, Loveridge & Nowell, 2010). This larger-bodied preference appears to exist irrespective of level of endangerment. Being classified as Critically Endangered (IUCN, 2015) does not necessarily galvanise a large and cohesive conservation response - it appears that body size is much more of a governing factor. Indeed, numerous Critically Endangered and Endangered small- and medium-bodied cats are amongst those seemingly passing 'under the radar' in this respect. However, the smaller- and medium-bodied, less well-known species are equally important - in the case of felids, many are apex predators of their own ecosystems and all contribute to the health and well-being of those ecosytems (Ray, 2005). For less-supported species/subspecies, the online actors comprise a relatively higher proportion of their supporters than for high profile species in receipt of greater amounts of overall effort. Therefore online actors can be key aids in this respect - new, innovative individuals could raise awareness if linked up to other parties.

Within the conservation movement for threatened felids, there is an encouraging array of partnerships and collaborations working for numerous species, embracing diverse actors and effort across broad geographical span. (Certain of these aggregates provide fodder for the further aspects of my overall research which investigates how such collaborations cohese and achieve collective action.) This study shows the structure of the subsection of the threatened species conservation movement under investigation has within it a high degree of heterogeneity and a wide reach; conservation actors who are professionals and also interested members of general public - people of all ages, from countries within and without of their focal species' range. Varied actors and effort are bracing a framework, in a manner similar to a large, holistic, informal institution (sensu Hodgson, 2006). It would seem that this section of the conservation movement has evolved - and devolved**,** with diverse actors focussing around the conservation cause. As such it forms a type of objectual practice, or object-centred sociality akin to those noted by Knorr-Cetina (2001), where societies of diverse actors convene thematically around subjects.

If the actors and effort, as described in this chapter, represent the conservation movement for threatened species - is it appropriate to suggest that the movement has changed? This is a pertinent question, especially since, within institutional

thinking, many of the forces that catalyse changes within assemblages are recognised to also underpin their stability (Morgan, 2010). Political science recognises the concept of path dependence as occurring when actors repeat actions which they have previously found to benefit them, thus perpetuating the assemblage and its behaviours in a particular form (Pierson, 2000). Path dependent actors and assemblages are more constrained by preceding events (e.g. Mahoney, 2000; Ebbinghaus, 2005). This study finds path-dependant resonances, in that certain facets of the threatened species conservation movement's fabric remain the same or similar - biological science remaining as a disciplinary cornerstone, for example.

If parts remain the same, can it, indeed, be correct to claim that the movement is changed? Elucidation of this oxymoron can be found by further unpacking it. This research considers the threatened species conservation movement in an actor-centric manner - a path considered key within institutional analysis (Jackson, 2010). If the actors are the *dramatis personae*, then their efforts and the framework they create in order to function - their customs and practices - are all contributory to their overarching assemblage (Richerson & Henrich, 2012) and, consequently, to this line of investigation.

It is not that the change of the threatened species conservation movement can be defined by a change in functional purpose - it broadly cannot. The functional purpose of the movement remains fundamentally the same - to preserve threatened species. However, institutional theory (Campbell, 2004; Streek & Thelen, 2005; Morgan et al., 2010) does not consider changes in functional purpose alone as markers that an assemblage has changed.

Notably, the threatened species conservation movement's composition and practices have transformed and diversified: Novel actors working in innovative ways have changed the movement's conformation; there has been rearrangement of its practice in innovative and creative ways - and blending-in of new elements to sit alongside existing practice. Institutional theory recognises these processes of bricolage and translation as markers of transformation with respect to assemblages of aggregated actors (Campbell, 2004; Crouch, 2005) - in particular the phenomenon is noted within refashioning of multi-sector, broad-scale institutions and assemblages, such as those surrounding economics (Hanké, & Goyer, 2005; Schneiberg, 2007).

The establishing of customs and practice is a dynamic process. Scholars of institutional change pay regard to the actors within an overarching purposeful assemblage - and how, mirroring the bricoleur nature of its constituent actors, the assemblage may adapt to utilise whatever tools - actors in this case - are available to it in order to perform its function (e.g. Morgan, 2010). Thus, institutional theory considers change in customs and practice as a key indicator of change of an overarching purposeful assemblage (Campbell, 2004; Streek & Thelen, 2005; Morgan et al., 2010). My study shows that the array of actors and effort operating under the aegis of the threatened species conservation movement, with agency to aid it achieve its goals, is more eclectic than that commonly, or previously, acknowledged within the movement - and that the framework governing its operation is therefore changed. The customs and practice and actor-array of which it has commonly been described to comprise are now of far more eclectic make-up. The conventions of the threatened species conservation movement have been altered by the nature of its actors - a mark that it is agent-sensitive (sensu Hodgson, 2006).

This study has taken a wide-angled view of conservation actors and effort for threatened felids - a subsection of the conservation movement for threatened species - as a proxy for the threatened species conservation movement. In doing so, this study raises a number of considerations and caveats with respect to representativeness; these are addressed in Section 6.6 in detail, with those arising from the research detailed in Chapters 4 and 5. Nonetheless, many cats are considered emblematic and engender wide support, As apex predators, felids play key roles in maintaining the health of their ecosystems (Ray, 2005), therefore achieving successful conservation outcomes for felids has wider benefits for species that share their habitats - an

added incentive to garner conservation aid. Additionally, as detailed in Section 1.3, wide-ranging strategies are necessary to conserve felids. Therefore, I posit that it is reasonable to consider the array of categories identified in this study of threatened felids generously reflects those available to threatened species - and may therefore reasonably be extrapolated to represent those available in threatened species conservation, in general.

Using data mined from the Internet enables a different viewpoint of the extant threatened species conservation movement. As found by Edwards et al. (2013), it offers a pathway by which to capture and examine very recent changes in the social structure and organisation - and identity - of this assemblage, that would arguably not have been possible by other research means. This chapter reaffirms data mining via the Internet to be a useful tool, albeit with limitations, for understanding the nature and extent of dynamic assemblages, such as the threatened species conservation movement. The method can only take account of actors whose presence and actions are noted on the Internet, either by themselves or their partners. Therefore it is possible that certain actors, for example, actors from rural, remote communities who do not have Internet access, may be underrepresented, if their efforts are not highlighted by their working partners. Additionally, information posted by organisations about themselves and their work will likely aim to place them in the best possible light, for example, in the case of NGOs, keen to sustain donor funding (Redford and Taber, 2000). It is therefore important to validate findings by triangulation with reports from other actors, for example partners in a collaborative endeavour, as this study has done.

Purposeful assemblages of interacting actors, such as movements, form bodies of resources that actors can utilise to achieve their goals (Morgan, 2010). Therefore, as such purposeful assemblages evolve and widen, increasing resources are available - and increasing goals achievable. Thus, change may be ongoing - and assemblages ever-malleable. Consequently, it behoves iterative review of the nature of the extant threatened species conservation movement by those steering conservation policy and initiatives, such that the extent of its actors, as a resource, is known.

In conclusion, this review has considered the threatened species conservation movement, via study of threatened felid conservation as a proxy, under an institutional framework - in particular reflecting upon its actors, their interactions, practices and aggregates. I show that by expanding in an actor-centric fashion, the movement can allow for diversity in the type of actors. Evolution and devolution of this agent-sensitive assemblage - growing to embrace new types of actors bringing previously-unavailable capabilities to the movement - renders possible the previously unforeseen (sensu Thelen, 2004). My research indicates that a diverse array of organisational and individual actors contributing an eclectic mix of effort make up the movement, which is a dynamic and evolving assemblage - and thus, by embracing increased diversification in actors and effort, the movement may be considered to be a changed movement. As noted above, Section 6.6 addresses issues of representativeness - whether the findings of a study of threatened felid conservation may be considered applicable to threatened species conservation (and wildlife conservation) in general. However, if so, and as posited above, my study infers that the skills and backgrounds of the actors within the threatened species conservation movement are vast and many actors are capable of playing important roles. It behoves all who are in positions of influence in conservation to embrace diverse actors and their skills, in order that the movement, like the species it strives to save, may adapt to maintain its fitness for purpose.

3B SOCIAL NETWORK ANALYSIS OF SNOW LEOPARD CONSERVATION ACTORS & EFFORT

3B.1 Introduction

The preceding part of this chapter addresses the array of conservation actors and effort for 36 threatened felids. In doing so, it has enabled selection of a major case study for in-depth study during the remaining research: As detailed in Section 3.4, the diverse actors, efforts and collaborations acting to conserve the snow leopard *Panthera uncia* exemplify a successful, eclectic, transboundary conservation collaborative network and have therefore been chosen for further study within the remaining part of this chapter and Chapters 4 and 5.

The purpose of the remaining part of this chapter is to build on the knowledge gathered at the level of threatened felids in this chapter thus far - and to generate greater detail via deeper focus specifically on the array of snow leopard conservation actors and their efforts. The understanding gained from this section will further inform this major case study.

Further data is gathered on the snow leopard conservation actors and their efforts and a social network analysis (SNA) performed. (The benefits and aspects of SNA have been detailed and discussed in Section 2.4.2.3.) Both quantitative and qualitative SNA are performed. Quantitative SNA is used to generate sociometric measures of the snow leopard conservation actor network; mapping pathways between actors, providing measures of relationships between actors and the potential of their various places in the network to their role. Qualitative SNA is used to deepen understanding of the types of actors, their efforts and collaborative interactions in order to conserve the snow leopard.

The mathematical structural results generated by the quantitative SNA are used to triangulate and compare with the deeper human-process-related insight of the research described within Chapters 4 and 5. The qualitative SNA results provide first-line guidance to the complexities and dynamics of actor linkages at work to conserve the snow leopard; these results are used to guide certain aspects of the narrative data gathering of the research described within Chapters 4 and 5, including the selection of participants for interview (detailed in Section 4.3.3).

3B.2 SNA Methods

3B2.1 Data collection

Data was gathered qualitatively. As per Section 3.3.2, documents pertaining to snow leopard conservation were sourced from the Internet, via the Google search engine. The following search queries were used: (a) - [*snow leopard conservation*]; (b) - [*Panthera uncia conservation*]. The search provided results in order of relevance to these terms. For a) and b), a stopping protocol of searching for the first 50 unique websites or documents, in each case, was employed. Using the same stopping protocol, and the search terms; a) [snow leopard] and b) [*Panthera uncia*], the IUCN Digital Cat Library was then searched to identify snow leopard-related research, associated academic organisations and conservation activities. This search method, using the relatively large search number (50 unique websites or documents) aimed to, thus, mitigate the effect of certain actors elevating their sites in the search list - and to facilitate identification of actors and conservation effort from all sectors (as per Sections 2.4.1.7 and 2.4.2.2). Data collection took place in November and December 2015 and April and May 2016.

All documentary evidence from the searches (webpages and documents such as reports, action plans and published papers) was thoroughly read to identify actors involved in conservation of the snow leopard. No additional sampling was utilised. Excel 10 (Microsoft, Washington, USA) spreadsheets were prepared to record the following:

Spreadsheet I:

For each identified actor a row was created recording the following information:

1. Actor name
2. Societal sector to which the actor belonged, according to the following classification:
    a. Governmental - covering organisations and agencies operating under local, regional, national or international government auspices;
    b. Non-Governmental - covering not-for-profit organisations, independent of governments and international government organisations;
    c. Private Sector - covering actors such as companies and businesses owned by private citizens or groups;
    d. Community - covering actors such as community groups and families from snow-leopard range country rural communities and groups from non-range countries;
    e. Academic - covering organisations dedicated to education and research, that grant academic degrees;
    f. Zoo - covering zoological gardens or parks in which animals are housed in enclosures, for the purposes of public display and species conservation via education and research;
    g. Individual - covering persons acting and lone entities, not under the auspices of an organisation.
3. Type(s) of snow leopard-related conservation effort contributed by the actor, according to the following categories:
    a. Funds-related - raised or donated funds for conservation purposes;
    b. Research - carried out research and/or monitoring pertaining to snow leopards, either academic or community-based;
    c. Awareness-raising in person - provided education or awareness-raising conservation effort in person, such as zoo conservation education, community conservation education;
    d. Awareness-raising via the Internet - provided education or awareness-raising conservation effort via the Internet;
    e. Biological or technical - provided any type of biological or technical conservation effort and/or expertise, such as but not exclusively; field operations, project design and implementation, *ex situ* operations, veterinary effort;
    f. Social or community-related - provided any type of social or community-related conservation effort and/or expertise, such as but not exclusively; conflict resolution, work with landowners/hunters, community protection of the cat, community conservation enterprise;
    g. Strategic or policy-related - provided conservation policy- or strategy-formation effort and/or expertise at local regional, national or international level.

4. Each other actor (termed hereon in this paragraph as 'partner actor') to which the actor in '1' was linked in any type of collaborative conservation-related effort (as described in '3' above). For all the 'partner actors' so identified by reading documentary evidence pertaining to the actor in '1' above, further online documentary evidence was also sourced regarding actors that were collaboratively involved: The following search query was used: ['*partner actor name' 'collaborative program name'*], where 'collaborative program' is the name of the conservation initiative that was being co-undertaken. This stage allowed cross-checking of findings and discovery of other actors that may not have been mentioned by the initial source.

5. Details of collaborative work between conservation partners, including purpose of and further details of working program, assemblage of actors involved, location.

Spreadsheet II:

Each actor identified and recorded in Spreadsheet I was noted in a separate spreadsheet, given a unique identifier nominal code (UINC), and the actor's societal sector recorded (as listed in '2'), as per the following format:

Column A	Column B	Column C
Actor name	Unique identifier nominal code (UINC) for each actor	Societal sector of actor

Spreadsheet III:

A further spreadsheet was prepared: For every collaborative linkage that was identified between an actor and another actor (as noted in Spreadsheet I), a row was created to record the two actors and which type(s) of conservation effort (as detailed above in '3: a-g') emanated from the actor in column A to the actor in column B, as per the format below. This was repeated to record the directional flow of effort in each of the collaborative linkages identified, such that a row existed representing the effort emanating from each identified actor to each of its identified collaborative partners:

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I
From	To	Effort type as in '3a'	Effort type as in '3b'	Effort type as in '3c'	Effort type as in '3d'	Effort type as in '3d'	Effort type as in '3f'	Effort type as in '3g'
actor UINC	actor UINC	x	x	x	x	x	x	x

The row above is given as an example; it represents a linkage where each type of effort (as detailed above in '3: a-g') is emanating from the actor in column A to the actor in column B.

3B2.2 Analysis

The reliability of data classification pertaining to elements 1, 2, 3 and 4 was verified by Kappa analysis, using an independent coder (Cohen, 1960). Values >0.70 are deemed to show a strong reliability level (Lombard, Snyder-Dutch & Bracken, 2002). Inter-coder reliability for all entries was found to be >0.95.

Quantitative SNA

Cytoscape 3.5.1 (Cytoscape Consortium, San Francisco, USA) was used to perform quantitative SNA to yield various sociometric measures pertaining to the snow leopard conservation network as a whole and to its member actors' ties. Spreadsheets II and III were imported to Cytoscape and a sociometric SNA carried out to calculate network statistics - statistical characteristics of the overall network (network density, network centralisation, average number of neighbours, clustering

coefficient, number of connected components, network diameter, network radius, characteristic path length, percentage of shortest paths, number of multi-edge node pairs, number of isolated nodes) and node statistics (betweenness centrality, closeness centrality, edge count, indegree centrality, outdegree centrality, instances of partner of multiedge node pairs) - mathematical representations of various aspects of the links (edges) pertaining to each node (actor).

Qualitative SNA

Data from Spreadsheet I was qualitatively analysed to provide background guidance to the case study research detailed in the forthcoming Chapters 4 and 5. In particular, it was used to guide aspects of the narrative data gathering: The data in Spreadsheet I was read to identify collaborative conservation-related initiatives and programs involving aggregates containing linkages between multiple actors and multiple sectors and backgrounds. This information was used identify interview participants for subsequent narrative data gathering - the sampling strategy is explained in Section 4.3.3. The analysis was also used to inform the thematic interview guide (see Appendix B), particularly with respect to inclusion of questions, for between-subject triangulation, regarding conservation scenarios where actors were co-involved in collaborative initiatives. The qualitative SNA is further detailed in Chapter 4.

3B.3 Results

Quantitative SNA

Section 3B.2 facilitated identification of 770 actors involved in snow leopard conservation.

Network Statistics:

Table 9 gives the network statistics resulting from the quantitative SNA on the overall snow leopard conservation network, formed of the partnerships and aggregates of these 770 snow leopard conservation actors identified by this element of the research. These network statistics - statistical characteristics of the overall network - are explained and discussed in Section 3B.4.

Table 9. Network statistics resulting from network analysis of the snow leopard conservation partners and their aggregates

Network statistics for snow leopard conservation partnerships and their aggregates	
No. of nodes	770
Network density	0.006
Network centralisation	0.506
Av. no. of neighbours	4.545
Clustering coefficient	0.426
Connected components	15
Network diameter	6
Network radius	1
Characteristic path length	2.823
Multi-edge node pairs	1329
Isolated nodes	11

Node Statistics:

The node statistics provide mathematical representations of various aspects of the links (edges) pertaining to each node (actor). The node statistics for actors in the overall snow leopard conservation network are given in Appendix A and summarised herewith (Table 10 provides the first 10 entries, for easy reference): The highest betweenness centrality, closeness centrality, edge count, indegree centrality and outdegree centrality were found in a non-governmental organisation (NGO) actor (HUB A), and the second-highest values for these measures found in an alliance organisation. The third highest-ranking betweenness centrality was evinced in zoo organisation, and the third highest-ranking closeness centrality found in another NGO.

Varied effort types (detailed in Table 11), were reciprocally exchanged between partners. This is evinced by the number of multi-edge node pairs seen in Appendix A (and Table 10), where the edges correspond to exchanges of types of conservation effort, as detailed in Table 11. Notably, every dyadic linkage is a multi-edge node pair - multiple types of effort are being exchanged in every partnership. Also notable is that, for each snow leopard actor, the indegree centrality and outdegree centrality values - indicating the number of connections into and out from the actor, respectively, are very similar.

Table 10. Node statistics resulting from SNA of snow leopard conservation partners and their aggregates

(Top 10 of 770 actors, ranked by betweenness centrality)

Sector of Actor	Betweenness Centrality	Closeness Centrality	Edge Count	Indegree Centrality	Outdegree Centrality	Partner of Multiedged Node Pairs
NGO (*HUB A)	0.67471258	0.65217391	783	391	392	390
Alliance	0.34703665	0.56064073	332	166	166	164
Zoo (*HUB B)	0.14570977	0.40652655	177	89	88	88
NGO	0.11364139	0.49131016	168	83	85	83
Alliance (*HUB C)	0.05923242	0.48196721	109	55	54	54
Zoo (*HUB D)	0.01691898	0.3594132	137	69	68	68
Academic	0.0155526	0.36153468	14	7	7	7
NGO	0.01202092	0.4226567	34	17	17	17
GO	0.01165052	0.45794393	41	17	24	17
NGO	0.01059533	0.37634409	39	20	19	19

Table 11. Distribution of identified snow leopard conservation actors per sector type and conservation effort per contribution type

		Per sector, distribution of identified actors' contributions, per effort type						
Sector of actors	Number of actors identified per sector	Funds-related effort	Research	Education or awareness-raising in person	Education or awareness-raising via internet	Biological or technical expertise or effort	Social expertise or effort	Strategic or policy-related effort
Alliance*	12	9	4	10	12	9	9	10
Governmental	97	23	67	29	23	88	43	95
NGO	117	76	68	93	95	97	75	87
Academic	69	4	66	14	11	66	19	42
Private†	244	229	1	2	24	4	1	1
Community	32	2	4	24	6	23	30	28
Individual	39	35	1	3	4	4	1	2
Zoo	160	160	153	158	157	158	1	154
Total	770	536	364	333	332	449	179	419

***** Alliance organisation of mixed sector bodies; †including businesses, foundations.

Table 11 summarises the distribution of the snow leopard conservation actors, by sector and effort type. The wide range of snow leopard conservation actors and effort are further addressed in Section 4.3.1, as most pertinent to Chapter 4.

Qualitative SNA

Section 3B.2 facilitated identification of snow leopard conservation actors from diverse sectors and backgrounds, including: community-led organisations, including secular and religious organisations in snow leopard range countries (such as range country rural herder organisations) and non-range country community organisations; international and range country Non-Governmental Organisations (NGOs); local, regional, national and international governmental organisations; academic organisations; zoos; private sector organisations; and conservation-minded individuals not acting under the auspices of any organisation (professional and laypersons, of all ages and backgrounds).

A diverse array of conservation effort for snow leopard was identified, including: Raising or donating of funds for conservation purposes; research activities, both academic and community-based, of biological and social nature; conservation education and awareness-raising in person (such as zoo conservation education, community conservation education); conservation education and awareness-raising via the Internet; biological/technical conservation effort and/or expertise, including field operations, project design and implementation, *ex situ* operations (e.g. captive breeding), and veterinary effort; social or community-related conservation effort and/or expertise, including conflict resolution, work with landowners/hunters (incorporating community protection of the cat, livestock insurance, livestock vaccination), and community conservation enterprises (handicrafts enterprises, ecotourism). Many actors were identified as working in both biological and social initiatives and as contributing more than one type of effort.

Linkages were identified between many actors from different sectors, backgrounds and countries. Numerous aggregates of partnerships were identified, including various multilateral initiatives with high-level governmental actors. Numerous collaborative initiatives were identified that included actors from outside the usual conservation arena. Collaborative initiatives were also identified that included actors commonly found within the conservation arena, but who had diversified their efforts to include those not commonly found within the conservation arena.

3B.4 Discussion

The sociometric results of the quantitative social network analysis (SNA) of the overall snow leopard network - the partnerships and aggregates of the 770 snow leopard conservation actors (organisational and individual) identified by this element of the research - are now discussed, alongside aspects of the qualitative SNA. (The qualitative SNA results are predominantly used to guide narrative data gathering of the research described within Chapters 4 and 5, and are therefore further described and discussed in Sections 4.3.1 and 4.3.3):

The network statistics arising from the quantative SNA describe an open network structure: Networks with a star-like topology have a centralisation value close to 1, whereas the corresponding value for decentralised networks tends to 0 (Breiger, 2009). Therefore, the network centralisation value representing this network, 0.506, indicates a network which is not highly centralised. These sociometric results for the snow leopard describe a boundary-spanning network (sensu Schneider et al., 2003, see also Chapters 4 and 5) - a network structure with many bridging ties, thus inferring opportunity for many partnerships

between actors. The qualitative SNA concurs, highlighting numerous linkages between actors hailing from different backgrounds and sectors.

The quantative SNA identifies 15 connected components; which indicates a tendency of the structure to have some 'mini-hubs' (Breiger, 2009). Certain NGOs and zoo organisations are highly bridging, being hubs to cohesive subgroups containing actors from varied backgrounds - certain alliance organisations do likewise. Previous scholars' research has shown that such 'mini-hubs' can be advantageous to an overall network if the interpersonal resources vested within them can flow wider (Baerenholdt & Aarsaether, 2002). The qualitative SNA also indicates collaborative aggregates containing linkages between multiple actors and multiple sectors and backgrounds. These 'collaborative mini-networks' offer dense inter-actor linkages which can be studied within Chapters 4 and 5 in order to gain depth of insight to the dynamics of building, and collaborative operation of, linkages between conservation actors.

The network density - a measure of how densely the network is populated with edges (links between actors), that is to say, what proportion of all possible dyadic connections are present - is 0.006 for this network. It has a structure tending to openness, rather than every edge possible being extant (Hanneman & Riddle, 2005). Scholars (e.g. Gargiulo & Benassi, 2000) have proposed that a tendency to openness may be advantageous to a network, since a network rigidly-bound by ties could lack adaptability to change. Therefore, the network density value for the snow leopard network may indicate a network that could be able to respond with flexibility to working needs. Despite the open nature of the pattern of linkages, the average number of neighbours in the snow leopard network, 4.545, does indicate that, on average, actors have multiple avenues for interaction.

Within the overall network, actors that group together can be thought of as being within 'neighbourhoods'; the clustering coefficient of 0.426 (the average of the densities of the neighbourhoods of all of the actors) indicates some tendency towards dense local neighbourhoods or 'clusters'. Notably, the clustering coefficient describes areas where actors are grouped - but not necessarily around one hub - hence the clustering coefficient describes a different attribute to the tendency to contain hub nodes (Hanneman & Riddle, 2005). The largest distance between two nodes - the network diameter - is 6; in accordance with the 6-degrees of separation phenomenon (reviewed by Tadimety, 2015), even though the network is large in number of actors, no actor is more than 6 connections away from their furthest neighbour. Indeed, the characteristic path length of 2.823 indicates that, on average, actors are less than 3 connections away from each other. The clustering tendency of actors and relatively short path length likely aids interchanges between connected snow leopard conservation actors. However, of the 770 actors identified in the research, 11 are isolated, with no connection to other snow leopard conservation actors - they constitute a missed opportunity, as described by Saglie (2006). The unconnected actors are online actors. As previous sections show, embracing these actors within the conservation movement could unleash valuable potential to aid conservation goals.

The SNA indicates that it is common for an actor to contribute more than one type of effort: The network statistics indicate that neighbouring nodes (actors) are linked by more than one edge in 1329 instances; in 1329 cases, more than one type of conservation effort is passing between two actors. The qualitative SNA indicates similarly, as evinced in Table 11. The findings of this study show that the snow leopard conservation network facilitates many channels for reciprocity - interaction and exchange of varied expertise. The node statistics for actors in the snow leopard network attest to this and are discussed hereon:

Betweenness centrality reflects the influence that a node (actor) has over the interactions of other nodes in the network - the extent to which the actor in question connects dense sub-networks. It can be seen as a measure of the 'broker'-

ness of the node. A node with high betweenness centrality has high influence since it is a major conduit for flow within the network and outcomes of the network (Breiger, 2009). Scholars have previously shown that actors in such a position can be particularly beneficial to their overall network if their resources can reach out to the wider network (Baerenholdt & Aarsaether, 2002). Closeness centrality shows how close a node is to other nodes; those with the highest values have the patterns of ties with the shortest direct and indirect paths to all others. Thus, these actors also have high profile within the overall network. These values highlight network prominence and brokerage opportunities that likely facilitate access to resources and information (Bodin & Crona, 2009); in other studies, such positions have been key to the persistence of a network as a whole (Henry, 2009). In the current study, the actors evincing the highest betweenness centralities and closeness centralities - a non-governmental organisation, an alliance organisation and a zoo organisation - may prove valuable sources for further study in the remaining elements of this research covered in Chapters 4 and 5.

Scholars have suggested that high values in these two centrality respects increases an actor's adaptive capacity, innovativeness and readiness to respond (Vardaman et al., 2012). Bridging ties that allow information and experiential exchange are especially important within complex socio-ecological systems to allow diverse information exchange (Grafton, 2005). The network stricture evinced in this study may well enable eclectic actors to collaborate in diverse effort, supporting the theories of these authors. It will be interesting to see if narrative evidence highlights instances of such adaptive capacity and innovative capabilities within the subsection of snow leopard network studied in the remaining elements of this research.

In this study an edge is a linkage between actors through which specific effort flows; Table 10 indicates that, for these actors, every dyadic linkage is a multi-edge node pair - multiple types of effort are being exchanged in every partnership, as noted above. The values in Table 10, Table 11 and Appendix A attest to the reciprocal relationships within the snow leopard conservation network, by which varied forms of effort can be exchanged. Indegree centrality and outdegree centrality show the number of connections into and out from an actor (node), respectively. For each snow leopard actor, the indegree centrality and outdegree centrality values are virtually equal - highlighting pathways for reciprocity in the partnerships. Indeed, from these figures, it seems likely that a high level of reciprocity is present amongst snow leopard conservation actors. Indegree centrality, outdegree centrality and betweenness centrality have been shown to be pertinent indicators of interpersonal resources - social capital - and the flow thereof, in a network, especially regarding prominence and brokerage (Barnes & Mauthe, 2015). My forthcoming research may do well to include those actors evincing high values in these respects.

In this study, the quantitative SNA has given sociometric measures pertaining to the snow leopard conservation network; of the network as a whole and of the social relations represented by the presence/absence of ties between its member actors' (sensu Carrington et al., 2005; Borgatti et al., 2009; Edwards, 2010). In short, the quantitative SNA gives a mathematical and visual representation of the human relationships of the overall snow leopard network and its member actors. The various sociometric measures generated by the quantitative SNA indicate how the particular structural characteristics of the network - the pattern of relational ties - may impact the passage of any resource that flows between its actors, such as knowledge transfer, communication and information sharing (Bodin & Crona, 2009). As noted, for an actor, different locations in the network bring varied benefits due to the pattern of connections. Evaluation of these factors via quantitative SNA has indicated, for example, actors that are bridges between groups, positions of those who are likely to be trusted experts, leaders and influencers, those who are isolated - and aggregates of actors and mini-hubs within the overall network (sensu Borgatti et al., 2009). The sociometric measures can be used as indicators of social capital, as with other scholars' similar studies - which have provided valuable mapping of pathways by which social capital might operate, and measures of relationships between actors and the

potential of their various places in the network to their role (e.g. Bodin & Crona, 2008, 2009; García-Amado et al., 2012; Barnes-Mauthe et al., 2015). The SNA results from my study indicate that Chapters 4 and 5 may investigate elements of a flexible, adaptable, boundary-spanning network with collaborative mini hubs containing diverse actors, which may be expected to show adaptive capacity, innovativeness, many pathways for inter-partner reciprocity, and influential actors and brokers with network prominence and brokerage opportunities that likely facilitate access to resources and information.

The data for the SNA in Section 3B was mined from the Internet, the benefits and caveats of which are detailed in Section 2.4.2.3 and Section 3.5 and, therefore, are not repeated here. A mixed-methods approach to SNA is increasingly advocated (Edwards, 2010), since it offers understanding from an external perspective, of the network structure, and an internal view of processes, behaviours and values from the member actors' perspectives. Scholars, for example Edwards et al., (2013), advocate that data on a network can be gathered from more than one source to complement understanding of interactions of its actors. The anthropological approach of studying the nuances pertaining to actors' social interactions in a social network via qualitative approaches - such as gathering of data via interviews (e.g. Heath, Fuller & Johnston, 2009) - can yield insight to the complexities and dynamics of actor linkages. Indeed, scholars have derived deep insight of networks by mining narrative data to yield both structural and deeper human-process-related insight (Schweizer, 1997; McKether, Gluesing & Riopelle, 2009).

Quantitative SNA cannot illustrate the roles of norms and culture, and the effects of human agency (e.g. Mizruchi, 1994), nor elucidate the finer nuances that provide understanding of the building and operation of social capital. The SNA within this Section 3B provides an overview of the of the overall snow leopard network. Chapters 4 and 5 now follow, to provide an in-depth insight to a sub-section of the linkages within the overall snow leopard conservation network, regarding social capital generation and operation within these linkages. Noting that, albeit, the mathematical structural results generated by the quantitative SNA pertain to the overall snow leopard conservation network, these SNA results are used to guide and augment understanding of the deeper human-process-related insight of the research described within Chapters 4 and 5 and are further discussed therein.

CHAPTER 4. THE CONTRIBUTION OF SOCIAL CAPITAL IN BUILDING MULTI-ACTOR CONSERVATION PARTNERSHIPS

4.1 ABSTRACT

The future of the world's wildlife is often portrayed as bleak - optimism in conservation is increasingly considered pivotal to survival of threatened species to galvanise action against an array of threats. Indeed, extraordinary and wide-ranging efforts within the conservation arena do exist. Against many odds, conservation partnerships can form across boundaries of all types - national, cultural and sectoral. However for many threatened species, cohesive effort is lacking. Taking a case study based on a subsection of the conservation actors working to conserve the snow leopard and their extraordinary partnerships, I undertake qualitative data collection to explore and identify, using the concept of social capital, the human-related mechanisms by which diverse, successful, visionary conservation partnerships and their aggregates form to aid threatened species. I derive 12 themes to underpin social capital creation during the process of building links between conservation partners, namely; Recognising Need, Convening Conversations, Respect, Context, Empathy, Common Ground and Common Values, Empowerment, Innovation, Proactivity, Examples, Time, and Pride. By concomitantly considering a social capital framework in relation to other factors considered important to building of networks, I also identify six overarching themes key to partnership building - Critical Unique Individuals, Diversity Positivity, Capacity Building, Joint Envisioning and Mapping of Hopes, Arena for Interaction, and Structure - that embody the key social capital-creating themes. These results are enhanced by comparison with findings of quantitative social network analysis pertaining to the overall snow leopard conservation actor network. This study provides a unique perspective on how human-related drivers influence the building of cross-sector, multi-background, multi-party partnerships in the field of threatened species conservation. This is the first known study to identify mechanisms by which social capital is created in such conservation partnerships, and concomitantly to uncover how social capital is harnessed to reinforce other important partnership-building factors. Societal capacity and human capacity are both aided by social capital. This study places the links between individual actors in the larger ecological and socio-political context in which the threatened species conservation movement operates. I have developed a framework for understanding the human dimensions of people's interactions within the overall conservation arena; a social capital-informed model that integrates multiple domains and analysis levels. This model can accommodate multiple backgrounds, cultures and sectors, thus making it pertinent to the ecological, social and political aspects of building conservation partnerships. Understanding in this regard can both strengthen existing conservation partnerships and provide transferable knowledge - to aid species currently passing 'under the radar' in this respect, and to wider arenas.

Keywords: *social capital creation, collaboration, trust, reciprocity, norms, bonding, bridging, bracing, key actors, diversity, strategy development; capacity building; interaction arena; network structure, empowerment*

4.2 INTRODUCTION

In light of the bleak outlook often portrayed for the world's wildlife (Ceballos & Ehrlich, 2002; Wake & Vredenburg, 2008; Ceballos, García, & Ehrlich, 2010), optimism in conservation is increasingly considered pivotal to galvanising action to aid threatened species (Watters, 2016) against the array of threats and challenges they face (WWF, 2016). Chapter 3 illustrates the existence of extraordinary and wide-ranging efforts within the threatened species conservation movement. The fact that conservation partnerships and efforts can form and mature across boundaries of all types - national, cultural, sectoral - is remarkable; however for certain species they do, and for others, cohesive effort is lacking, as also highlighted by Chapter 3. This study seeks to explore and identify the human-related mechanisms by which diverse, successful conservation partnerships and their aggregates form to aid threatened species. Understanding in this regard can both further strengthen existing partnerships for species already in receipt of attention and provide transferable knowledge to aid species currently passing 'under the radar' in this respect.

The need to focus on human-related dimensions when trying to conserve threatened species is increasingly recognised (Pretty & Smith, 2004; Borgerhoff Mulder, 2007; Chan et al., 2007; Mishra, 2016; Reddy et al., 2016). Concomitantly, in many spheres, including organisational arenas, the benefits of cooperation and uniting in collaborative partnerships or as a network, rather than working independently, are recognised (Lin, 2001; Schneider et al., 2003). One such field is that of natural resource management.

Studies have shown that sustainable management of natural resources demands multi-stakeholder involvement across boundaries, cultures and backgrounds (e.g. Rydin & Falleth, 2006) - and highlight the difficulties involved in building the necessary inter-party, cross-sector linkages (e.g. Saglie, 2006). Literature also depicts certain successful, intricate natural resource management networks as underpinned by trust, mutual interdependence, common interests and reciprocity (Pretty & Smith, 2004, Rydin & Falleth, 2006). These networks can be viewed as having developed social capital; essentially, collective benefits derived from cooperation (see Chapter 1). Increasingly, positive outcomes across a growing theatre of natural resource management are credited to social capital aiding the building of such linkages and subsequent collaborative action (e.g. Cramb 2005; Westerman, Ashby & Pretty, 2005; Roberts & Jones, 2013).

Thus, the concept of social capital is proving highly valuable to networks managing natural resources; to help create and strengthen collaborative networks - and to provide means to conceptualise and understand the workings of networks (Pretty, 2003; Rydin & Holman, 2004; Roberts & Jones, 2013). Though the intangible, non-physical, 'ethereal' nature of networks - partnerships and their aggregates - renders them hard to conceptualise and, therefore, to evaluate (Borgatti et al., 2009; Breiger, 2009).

By regarding threatened species populations as priceless natural resources (see Section 1.1.2 for more details), the concept of social capital can be utilised in the context of conservation partnerships and their aggregates working to conserve these species, as a framework by which to study the human dimensions of collaboration - Pretty and Smith (2004), in particular, note the value of social capital to biodiversity conservation.

Scholars of natural resource management recognise the formation and associated benefits of bonds between actors (e.g. Rydin & Holman, 2004; Rydin & Falleth, 2006). Though such benefits are acknowledged, the complexities of building and sustaining conservation partnerships and their aggregates (which may be viewed as conservation networks) is a little-studied

field; the intricacies of how these inter-human bonds are formed remains a novel arena. Yet, it is essential to understand the complexities of inter-party relationships when trying to improve conservation outcomes. Indeed, the mechanisms by which social capital is created, in general, remain an unanswered scholarly question (e.g. Woolcock & Narayan, 2000; Rydin & Holman, 2004).

Chapter 3 has proposed the assemblage of actors and effort that comprise the threatened species conservation movement. The complexities of inter-party relationships at play when trying to improve conservation outcomes via collective action is addressed in Chapter 5. Prior to implementing collective action, linkages of some kind must be formed - this chapter addresses the processes of linkage-formation between conservation parties. It is necessary to employ an appropriate context to study the inter-party relationships:

Social capital is a multifaceted concept (detailed in Section 1); it may be considered to be the embodiment of four central aspects; 1) interpersonal trust, 2) reciprocity and mutual exchanges, 3) agreed community rules (formal or informal), norms of behaviour, and 4) connectedness. Social capital has been studied in a variety of contexts, such as political science, economics and sociology (see Chapter 1). However, social capital cannot, alone, be credited for the building of partnerships and their aggregates (see Rydin, 2006). Other factors have also been variously linked to building effective linkages and networks, for example; key actors (Purdue, 2001; Cramb, 2005; Bodin & Crona, 2008; Fraser et al., 2010; Napleton-King, 2016), the range of actors in the network (Schneider et al., 2003; Rydin and Matar, 2006a; Hyatt & Berente, 2011; Napleton-King, 2016), joint strategy development (Rydin, 2006; Roberts & Jones, 2013), information and knowledge exchange (Pretty & Smith, 2004; Crona & Bodin, 2006; Rydin, 2006), and places to meet (Rydin & Pennington, 2000; Ostrom, 2000; Napleton-King, 2016). Purposeful assemblages of aggregated actors may be considered as embodiments of norms and acknowledgements that enable and shape behaviour (e.g. Scott, 2008; Campbell, 2004; Richerson & Henrich, 2012), systems of embedded and recognised social rules (Hodgson, 2006; Morgan 2010). Examination shows synergies between the above factors and facets of social capital. Thus, the concept of social capital provides a, novel, yet appropriate framework for this study.

Due to these important resonances, and the significant influences that they may exert on formation of conservation partnerships and, thereby, on the outcomes of these partnerships, this study takes a novel angle in studying the associated human-related complexities. The aim is to look at human-related drivers to determine how social capital may influence the building of cross-sector, multi-background, multi-actor conservation partnerships and their aggregates. The objectives are to:

1. Identify key themes related to the creation of social capital in the context of building cross-sector, multi-background, multi-actor conservation partnerships and their aggregates,

2. Explore these potential themes to identify how, in cross-sector, multi-background, multi-actor conservation partnerships, they relate to other factors considered important in building effective networks.

Although myriad factors, biological and social, influence conservation outcomes (e.g. Chan et al., 2006; Hilton Taylor et al., 2009; Ceballos, García, & Ehrlich, 2010; WWF, 2016), I focus on the formation of linkages between conservation actors for a threatened felid as an entry point to understanding the complexity of the human-related dimensions of conservation collaboration, such that my subsequent research can build on these findings to look at the human-related dimensions of collective conservation action and its influence on conservation outcomes. I employ a qualitative approach to data collection - due to benefits, previously described (Chapter 2), to research focussing on complex human-related issues. It is acknowledged

that qualitative data collection generates results that are not intended for extrapolation to other scenarios, but which can provision the generation of themes that can enlighten them. I undertake a mixed-methods, multiple-methods approach overall to this study, to give added rigour, as highlighted in Chapter 2.

4.3 METHODS

4.3.1 Study Focus/Area

As mentioned in Chapters 1 and 3, the conservation effort that surrounds threatened felids (species of wild cats) forms an excellent focus for study of the human dimensions associated with conservation partnerships and their aggregates - largely due to the emblematic status attached to many cat species. Additionally, the particular survival challenges faced by felids due to their array of biological traits (Nowell & Jackson, 1996; Purvis et al, 2000; Cardillo et al., 2004; Macdonald, Loveridge & Nowell, 2010; Ripple et al., 2014) renders a wide array of conservation strategies necessary within the felid conservation arena.

This study focuses on a subsection of the conservation actors working to conserve the snow leopard *Panthera uncia*; in particular the building of inter-personal bonds, partnerships and aggregates. The snow leopard is a charismatic, iconic large-bodied felid (Macdonald, Loveridge & Nowell, 2010). At the time of data-gathering it was classified as Endangered on the IUCN Red List of Threatened Species (IUCN, 2015). During the course of the study the species was downlisted to Vulnerable (IUCN, 2017); though this represents a positive descriptor for the cat in some aspects - and testament to the conservation effort on its behalf - grave threats to the cat persist (Mishra, 2016). The wild population is estimated to comprise 4,000-10,000 adult individuals (McCarthy et al., 2016), though the species' elusive nature and harsh, wide-spread range make it extremely challenging to survey - quantifying snow leopard population numbers is a subject of debate (International Snow Leopard Trust, 2017). The range of the snow leopard spans 12 or 13 countries and just under two million square kilometres of South and Central Asia, namely Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan, Uzbekistan and possibly also Myanmar (McCarthy et al., 2016; Jackson et al., 2010; Fox, 1994; Nowell & Jackson, 1996).

Conservation challenges with respect to snow leopards are vast: The cats face an array of anthropogenic threats; their habitat is subject to extensive agro-pastoral land use and is degraded and fragmented in some areas, causing competition with livestock; the cats also face declining or low prey base, retribution killing in retaliation for livestock depredation (or perceived depradation) and poaching for illegal trade (hides, bones and other body parts) (Breitenmoser et al., 2016).

Snow leopards inhabit mountainous rangelands; 3000-over 5000m in the Himalayan and Tibetan Plateau (Sunquist & Sunquist, 2002). Due to low temperatures, high aridity and harsh climactic conditions, snow leopard habitat is amongst the least productive of the world's rangelands (Mishra, 2001). In snow leopard habitat, traditional pastoralism and agro-pastoralism are the principal land uses and sources of livelihood. Seven range countries have over 25% of land to permanent pasture with over 50% of their human population involved in agro-pastoralism and over 40% living below national poverty levels (Mishra et al., 2003). The rural communities are dependent on livestock for their livelihoods; ever-more pervasive use of land results in human-wildlife conflict. The survival of snow leopards depends on a fragile co-existence with rural pastoralists and farmers.

Conservation effort for the snow leopard is diverse, innovative and remarkable - all the more so, considering the facts above. Though an iconic cat, the snow leopard does not quite receive the high profile of other emblematic big cats, such as the tiger *Panthera tigris* or the lion *Panthera leo*. Despite this fact, the snow leopard generates extensive conservation attention and

support, as shown in Chapter 3. As also evinced in Chapter 3, conservation support for the snow leopard is high across all types of conservation efforts and sectors. Linkages exist between many actors, cross-sector, cross-culture, trans-boundary - and numerous aggregates of partnerships have formed, including various multilateral initiatives with high-level governmental support. Conservation actors for snow leopard include: Community-led organisations, including secular and religious organisations in snow leopard range countries (such as range country rural herder community organisations) and non-range country community organisations; international and range country Non-Governmental Organisations (NGOs); local, regional, national and international governmental organisations; academic organisations; zoos; private sector organisations; and conservation-minded individuals not acting under the auspices of any organisation (professional and laypersons of all ages and backgrounds). Effort for snow leopard includes: Raising or donating of funds for conservation purposes; research activities, both academic and community-based, of biological and social nature; conservation education and awareness-raising in person (such as zoo conservation education, community conservation education); conservation education and awareness-raising via the Internet; biological/technical conservation effort and/or expertise, including field operations, project design and implementation, *ex situ* operations (e.g. captive breeding), and veterinary effort; social or community-related conservation effort and/or expertise, including conflict resolution, work with landowners/hunters (incorporating community protection of the cat, livestock insurance, livestock vaccination), and community conservation enterprises (handicrafts enterprises, ecotourism). Many actors span biological and social initiatives. Notably, conservation effort for the snow leopard includes numerous innovative, visionary initiatives and considerable linkages to actors from outside the usual conservation arena.

Due to these facts, and the wide variety of scenarios afforded by its twelve range countries, conservation actors, partnerships and aggregates working to conserve the snow leopard were chosen as the focal species for this case study. These actors have formed collaborations which achieve many successful outcomes, though the collective action aspect is addressed in Chapter 5.

4.3.2 Data Collection

4.3.2.1 Documentary data collection

Documentary evidence pertaining to snow leopard conservation and the overall snow leopard conservation network, detailed within Section 3B, was used to provide background information to guide the case study research detailed hereon in this chapter and in Chapter 5. It was used to inform subsequent narrative data gathering, in particular to identify interview participants - the sampling strategy is explained in Section 4.3.3, and to inform the thematic interview guide (Appendix B), particularly with respect to conservation scenarios where actors were involved in collaborative initiatives.

4.3.2.2 Narrative data collection

Qualitative interviews were conducted between October 2016 and July 2017, with the majority being undertaken by March 2017. Interviews spanned a subsection of actors working to conserve the snow leopard: 53 participants, taken from a cross-section of sectors involved in snow leopard conservation, spanning varied backgrounds and levels of role and encompassing all types of effort, as identified in Section 4.3.2.1. A Participant Summary Table is given in Appendix C, see also Section 4.3.3, which explains the sampling strategy in detail.

Interviews were conducted via Skype: Due to the wide geographical area spanned by the actors (12 range countries and associated effort from numerous other countries, spanning Asia, Africa, North America, Europe and Australia), Skype was deemed the most practicable means to gather narrative data. It was a particularly appropriate method in this case, since I had a

lengthy career as a broadcaster with the BBC and BBC World Service and am well-versed in interviewing far-flung participants via audio link. Interviews were carried out in a relaxed, semi-structured manner. Thorough training and years of senior-level experience enabled me to put participants at ease and to guide the interviews.

A novel set of interview thematic questions (Appendix B) was designed to guide the process of seeking evidence of the core elements and types of social capital in operation in cross-sector, cross-culture, multi-actor conservation partnerships and their aggregates; of its effects, of the conditions that led to its creation within the partnerships, and of associated factors recognised as important to building effective networks (see Section 4.2). The novel thematic guide for this study was developed by examining the growing body of social capital literature and literature pertaining to associated network factors - as described in Section 4.1 and Chapter 1 (see also Section 4.3.2.1). Relevant literature is deemed appropriate to guide interview questions in such studies (Strauss and Corbin, 1990).

Drawing on broad theoretical approaches from related arenas, with the questions as a baseline, a predominantly inductive approach was employed for the data collection, allowing scope to explore the breadth and depth of this relatively-uncharted topic and related underlying issues as they arose (Sarker, Lau & Sahay, 2001). A focus encompassing wide-ranging aspects associated with collaboration facilitated breadth of responses for later analysis. Had questions focused specifically on aspects of social capital, for example, a cycle of positive affirmation may have occurred (Newing, 2011a).

Responses were sought from the viewpoint of each participant in their own particular working position. Themes for questions posed to participants included (see also Section 4.3.3. and Appendix B):

- conservation-related interactions, exchanges and working effort with partners and other bodies;
- conservation working practices;
- human behaviours and characteristics with respect to partnerships in various conservation settings, and the impact of these behaviours and qualities on collective action and conservation outcomes;
- factors driving collaborations;
- trust; various aspects (e.g. processes that help build it and bestow confidence to partners);
- knowledge and information flow;
- joint strategy-related matters;
- other relevant aspects of partnership working across different sectors/backgrounds.

The thematic interview guide, based on professional experience and drawing on diverse sources of associated research from various relevant fields, enabled wide-ranging sub-pathways to be followed, depending on previous responses and to cross-check various themes. Icebreaker questions were used at the beginning of the interview to enable participants to relax, with subsequent questions designed to elicit increasing levels of expansion and depth. Navigation of the questions and themes followed the interviewee's natural flow of thoughts so as not to interrupt vital information, using professional expertise to prompt where necessary and ensure coverage of all required aspects and emerging themes. Where appropriate, questions were posed in both a positive and negative valence, to avoid leading the participant.

Due to the human-related question-focus, certain themes may have been perceived by participants as sensitive in nature. Participants adopted a private location for interview to enable them to speak freely. They were assured that their responses were in confidence and would remain anonymous. Questions of more sensitive nature were asked later in the interview, at a point when interviewees were likely to be at greater ease (Newing, 2011a). Such questions were asked in a neutral, non-judgemental manner. During the interviews, memos were recorded when pertinent. Interviewees were told the broad area of questions prior the interview, but not given the thematic questions themselves; this was to ensure gut responses and to guard against prepared answers.

All participants gave free, prior, informed consent in advance of interviews (Puri, 2011; also see Chapter 2 and below). With respect to comments given within interviews, interviewees were reassured that their comments would only be used in the following ways:

- reproduced anonymously and in a manner which would not permit identification of the person;
- drawn upon to be analysed within the body of narrative data;
- only in unusual circumstances - and with further expressed permission - would comments be personally attributed.

Interviews were conducted in English, apart from part of two with a Kyrgyz translator and part of two with a Mongolian translator. Participants interviewed in English either held the language as a first language or used it at proficient level and were thus comfortable speaking and listening in English.

Interviews were recorded using Evaer software 2015 (Evaer Technology, Minnesota, US), with a digital recorder running concurrently as back-up. Prior to recording, a summary of study purpose and reassurance of conditions of anonymity were given. Interviewees were then asked if they were happy to commence. Interviews lasted approximately 2 hours, on average. The methodology was conducted as per approved guidelines from the University of Kent Ethics Committee.

Data validity was increased by employing a high degree of triangulation (Newing, 2011a). Within-subject triangulation was used to corroborate data during an interview; similar aspects were addressed in modified form, from different angles at different stages, to allow later comparison of results. This also helped guard against potential order bias. By selecting participants who were party to various collective endeavours and scenarios, between-subject triangulation was utilised on the questions, comparing answers to further increase data validity (see Section 4.3.3).

To further increase validity of results, an additional element of between-subject triangulation was employed: Certain of the participants, selected according to protocol in Section 4.3.3, were also involved in conservation of other felids and other species (Cheetah *Acinonyx jubatus*; Sand cat *Felis margarita*; Black-footed cat *Felis negripes*; Eurasian lynx *Lynx lynx*; Iberian lynx *Lynx pardinus*; Pallas' cat *Otocolobus manul*; Lion *Panthera leo*; Amur leopard *Panthera pardus orientalis;* Arabian leopard *Panthera pardus nimr*; Tiger *Panthera tigris*; Fishing cat *Prionailurus* viverrinus - and African wild dog *Lycaon pictus* and Black-footed ferret *Mustela negripes*). In addition to the snow leopard-related data, using the same thematic guide, supplementary interview data was gathered from these participants on pertinent scenarios involving the species listed in this paragraph, in order to triangulate and compliment main findings. The scenarios were selected from the findings of Chapter 3, for their comparability (diverse, successful, cross-sector transboundary conservation partnerships) and from professional experience. During the course of, and prior to, this research, as a conservation practitioner myself, I have been able to observe and be party to all types of scenario covered, thus increasing theoretical sensitivity.

The interview process was iterative, in that any new themes arising were incorporated into questions within later interviews to validate findings. Data collection took an adapted grounded theory approach, whereby earlier data underwent preliminary analysis to uncover significant themes, thus informing subsequent data collection (Strauss & Corbin, 1990; Sarker, Lau & Sahay, 2001; Bulawa, 2014).

4.3.3 Sampling for Interviews

The Social Network Analysis (SNA) of the overall snow leopard conservation network (detailed in Section 3B) facilitated identification of 770 actors involved in snow leopard conservation. As Section 3B and Section 4.3.1 describe, snow leopard conservation actors hail from all societal sectors identified in Chapter 3 (Governmental, Non-Governmental, Private, Community, Academic, Zoo, Individual) and conservation effort contributed by these actors is wide-ranging and includes all categories of conservation effort as categorised in Chapter 3 (Funds-related effort , Research, Awareness-raising in person, Awareness-raising via the Internet, Biological or technical effort, Socially-focussed effort, Strategic or policy-related effort).

The qualitative SNA of the 770 actors comprising the overall snow leopard conservation network enabled identification of collaborative conservation-related initiatives, programs and scenarios involving aggregates containing linkages between multiple actors and multiple sectors and backgrounds - which may be considered as 'collaborative mini-networks' - within the overall snow leopard conservation network. From these identified collaborative mini-networks, a subsection embracing as wide a variety as possible was selected. Factors considered when selecting included: working purpose or goal of the collaboration; types of effort used and manner of use; assemblage of conservation actors involved; geographical location(s) of work; whether the program and/or its actors was/were of a type commonly found in conservation or that which was/were more unusual within the conservation arena.

For the selected collaborative mini-networks, information gathered in Section 3B2.1 was then read to identify interview participants for narrative data gathering - such that participants who were co-involved in these scenarios could be interviewed, in order that between-subject triangulation of responses could be undertaken. Participants were selected to represent a cross-section of sectors involved in these collaborative mini-networks, and varied backgrounds, levels of role and all types of effort. Since inter-party interactions were a pivotal focus of the research, it was particularly important to choose participants who shared involvement in various scenarios of collective endeavours, to gain differing perspectives of the same situation.

Since the purpose of the study was to explore people's views in depth, to gain specialist insight and specific viewpoints - a non-probability sampling strategy was deemed appropriate: Targeted sampling was used (Newing, 2011b), purposefully selecting the most relevant individuals to interview - as described in the preceding paragraph. Individuals identified as potential participants were contacted individually by email, introducing myself and summarising my research, and invited to participate. A high response rate was achieved (Witkin & Altschuld, 1995); 93% of those invited chose to participate - giving their written consent - and were interviewed.

Participants were informed of the sectors and types of effort from which people had been sourced, but names of contributors were kept in confidence to ensure that respondents felt comfortable to speak openly. New interviewees were ongoingly sourced, according to the manner described in this section, until reaching the point of theoretical saturation, whereby the data was yielding no new themes (Glaser & Strauss, 1967).

4.3.4 Analysis

Interviews and memos were transcribed in NVivo 10 (QSR International Limited, Cheshire, UK), at the earliest opportunity following each interview. Each participant was given a copy of their interview transcript and asked to check that it was a true representation of their interview. Each transcript was labelled solely by a unique code attributed to each contributor (A summary of participants, identified by contributor code only and effort contributed is given in Appendix C). Quotes used within the thesis are attributed to participants via their contributor code, to preserve anonymity (See also Section 2.6). As per Strauss and Corbin (1990), review of related literature (see Chapter 1 and this chapter) guided understanding of pertinent broad categories on which to focus. Theoretical sensitivity was enhanced by literature studies and underpinned by 35 years' professional experience - enhancing insight into meaning of research findings (Strauss & Corbin, 1990). From established literature (see Chapter 1 and this chapter), a set of indicator concepts was derived (see also Section 1.2.2.5), pertaining to social capital and factors considered important to building effective partnerships and networks, as follows:

Aspects of social capital

- Trust
- Reciprocity
- Norms of behaviour

Types of social capital

- Bonding social capital
- Bridging social capital
- Bracing social capital

Factors considered to impact partnership-building

- Influential actors
- Range of actors
- Joint strategy development
- Information and knowledge exchange
- Places to meet

Narrative evidence was coded using an adapted grounded theory approach; undergoing initial examination for emergent themes, including pertaining to recognised and new concepts. Each theme was coded, under an over-arching coding framework, which altered as data collection progressed. The interview process was iterative, in that any new themes arising were incorporated into questions within later interviews to investigate issues more deeply and to validate findings. Theoretical sensitivity was enhanced by comparing and contrasting emergent themes and their inter-relations with those pertinent from published literature. For each theme, specific codes were then generated within Nvivo (Auerbach & Silverstein, 2003). Open coding was employed first, followed by axial coding - to establish relationships between themes, applying theoretical sensitivity (e.g. MacMillan & Han, 2011). Finally, selective coding was applied to refine findings and validate the theory and coding framework (Charmaz, 2006; Saldaña, 2010). (Codes used in the Nvivo analysis are given in Appendix D.) The narrative data was also used to generate quotes that typically illustrated the identified emergent themes.

To answer objective 1, data were analysed to search for common themes in relation to the creation of social capital in the process of building of cross-sector, multi-background, multi-actor conservation partnerships and their aggregates.

To answer objective 2, further data analysis utilising open and axial coding explored emergent themes to identify how, in cross-sector, multi-background, multi-actor conservation partnerships, they related to other factors considered important to building effective networks.

Findings from narrative analysis were compared with the social network analysis results from Section 3B to provide cross-method triangulation.

4.4 RESULTS

In this study, I show 12 themes to underpin social capital creation during the process of building conservation partnerships. I have derived these emergent themes from the data by employing an adapted grounded theory approach (as detailed in Chapter 2 and Section 4.3.4); by harnessing aspects and types of social capital as indicator concepts, I have been able to identify themes associated with social capital creation (see Section 1.2.2.5). Thus, I have stepped beyond the recognised social capital typology detailed in Chapter 1, to identify the antecedents of social capital. By concomitantly considering a social capital framework in relation to other factors considered important to building of partnerships and networks, I also identify six overarching themes key to partnership building (Figure 4), variously embodying and harnessing the key social capital-creating themes. The themes and associated conduits by which social capital is created and operated during the building of the conservation partnerships are detailed hereon.

For clarity, I make the following terminological note:
The following results contain quotes from participants who have used varied terminology. Therefore, to avoid confusion, within all text within the remainder of this chapter (other than participants' quotes) I draw attention to my use of the words detailed below as follows (reiterating Section 1.2.1):

- As defined in Section 1.2.1, an actor may be an indiidual person or an organisation. However, to avoid confusion in the remainder of this chapter, I avoid use of the term 'actor' (other than in section headings and participant labels). For clarity, therefore, in the text, I refer to 'individuals' or 'organisations', in order to more closely follow terminology used by interviewees.

- As defined in Section 1.2.1, I use the term 'parties' in the sense of involvement - to be those individuals or organisations who are involved in a conservation-related activity, arrangement, situation or interchange together.

4.4.1 Themes Related to the Creation of Social Capital in the Context of Building Cross-Sector, Multi-Background, Multi-Actor Conservation Partnerships

With respect to building conservation partnerships, I encapsulate the key themes that I have derived from the data, in relation to creation of social capital, as: Recognising Need; Convening Conversations; Respect; Context; Empathy; Common Ground, Common Values; Empowerment; Innovation; Proactivity; Showing Examples; Time; Pride. These themes are now addressed in detail.

4.4.1.1 Recognising Need

The building of partnerships was enhanced by a pervasive norm of proactively identifying pivotal situations - needs - that would benefit from forming collaborations. Common motivations for building linkages included improving outreach and scale, and profile-raising: “We collaborate with other institutions, we try to fill knowledge gaps; taking a bird's eye view to see how all snow leopard countries can work together and scale up successful models to benefit snow leopard conservation. It's important to take everyone on board - at high level and grass-roots level as well - and ensure efforts are not duplicated” - NGO conservation actor, SL10; “This is the first long-term study on this highly interesting little cat species. It lives on farmland; we liaise regarding farmers' management. We also need veterinary research looking at viral diseases. Also, via semen collection and sperm freezing, we can import new bloodlines from the wild into captivity. We ensure people realise this is a very rare cat” - zoo conservation actor, SL18.

The need to make links often had ecological and human drivers. The linkages were commonly incentivised by the recognition that reciprocity could bestow greater good than by the actor merely meeting their own goal in an isolated manner: “Ultimately from an organisational standpoint, we want to expand our influence and our impact - but we want to do so in a way that's beneficial to all our partners” - NGO conservation actor, SL11.

This norm regularly identified the reciprocal, wider benefits to humans, beyond the focal area of species conservation, “We realised that local people needed some kind of program that mitigated wildlife conflict. So, we started thinking of this handicraft income generation project. Communities welcomed us and our thoughts.” - NGO conservation actor, SL21. For parties in need, recognition of their need sowed the seeds of the trust bond.

4.4.1.2 Convening Conversations

A norm ubiquitous amongst the data was that of reaching out to create linkages by convening conversations to establish rapport: “Whether with interns, volunteers, organisations, I start off with actual conversations - not just email - to get a feel for values, preferred modes of working, what they’re hoping to achieve” - independent collaborative conservation actor, SL07.

Where potential partners were concerned, the communications acted as valuable conduits for bridging social capital; this was recognised as a pivotal need: “I like to make conversations with any kind of organisation, NGOs or local communities, I am an open person, I want to absorb knowledge. Then, when I think it is a good idea to do something, I am very supportive of other organisations in their work to protect wildlife” - governmental conservation actor, SL27.

Communication was key to reach wider audiences and allow reciprocal exchanges: “Many local people know about their own wildlife and practice conservation - but there are still those who hunt illegally. So, I always communicate with local people, to ensure they have good knowledge on conservation issues. They are very interested and ask, ‘What's the main problem in nature conservation?’ I organised field courses of nature conservation lectures for local people and decision makers from local government; they were all very happy learn how to improve things for conservation” - academic conservation actor, SL28.

The manner of communication was important: it was an important norm for the communications to be made in a transparent and open way, whether within-group or between-group. Participants overwhelmingly reported the importance of the reciprocity of communication; to them true communication entailing speaking *and* listening - and it was this reciprocity that helped to build trust. Creating the space to communicate - by way of time and means - also helped build trust: “You have to learn how to listen... and be open... and hold the space... and wait for that trust - on your side and on the other side. Know that

that trust is continually being evaluated - and that reciprocity is incredibly important; that you're both giving and receiving, and being very aware of that exchange"- independent collaborative conservation actor, SL07.

Within organisations and groups, convening conversations provided pathways for bonding social capital, strengthening cohesion between members: "My primary way is to have these meetings, committees or efforts with colleagues; a lot of it isn't the product necessarily, it's building human relationships, so when things are challenging, or we really got to get down to something concrete, you got the relationship and the trust" - zoo conservation actor, SL12.

Informality in communications was particularly seen as an accessible way of building inter-group bonds; team members commonly credited such conveyances (of bonding social capital) with the building of trust between members: "Every three months, we would have lunch together. Sometimes, we wouldn't even talk about the project, we would talk about whatever. They understood that I was serious - we wanted to develop something deeper and new within the project" - NGO & zoo conservation actor, SL35.

4.4.1.3 Respect

Interviewees expressed importance for the norm of conducting themselves in a manner showing courtesy and due regard for others in the course of their link-building encounters. Behaving respectfully to others was reported as an important precursor to development of trust between parties: "The way we approach these relationships with every partner - there's a huge amount of mutual respect and trust. To me, fundamental to any collaboration are these two things - that's what makes these partnerships grow and work" - NGO conservation actor, SL03.

Participants felt respectful behaviour demonstrated acknowledgement of the worth of the other party and engendered reciprocal behaviour: "To me, what really matters is acknowledgement and respect. Not respect to me, but that I should respect whoever is doing whatever - that helps the relationship to build. Then it reciprocates; I don't to have to expect respect, it comes on its own. I respect everybody who's working with us, because it's a huge field they're doing" - NGO conservation actor, SL17.

Respect was a form of mutual exchange that interviewees reported they felt entirely comfortable with and ethically correct to adopt, and as such formed one of the most fundamental forms of reciprocal exchange, irrespective of whether other commonalities were shared: "You should be humble, understanding and not blunder culturally. I think you should be socially educated to work with people - if you don't know how to behave, your chances of influencing people are not good, unless you are untouchable at the top, but that will alienate a lot of people. I certainly cherish the people who are genuine; even if I don't agree with them, I admire them" - zoo conservation actor, SL18.

Identifying opportunities for reciprocity was seen as a way of showing respect to potential partners: "Mutual respect - by being able to make it a two-way relationship; they're able to offer me something, in return I'm able to offer something. They're willing to say, 'We have this opportunity - come take advantage of it' - and we say, 'We're going for this opportunity, is there a way we can use your skillset?' We look for those opportunities" - zoo conservation actor, SL31.

4.4.1.4 Context

Taking measures to learn and understand the context - for example, the background, current circumstances, or perspective - of a person when trying to build linkages was a norm expressed throughout the data: "It's true partnership: As the conservation organisation on grass-roots, we value their willingness to support us. From the beginning, they really wanted to hear about local

needs - we really value that. It's not an organisation that's trying to impose an agenda - instead, they listen to local people's voices" - NGO conservation actor, SL21.

Making effort to gain insight about personal context contributed to building very effective bridging social capital between people from different organisations, especially when crafting links with potential partners from other sectors during challenging situations: "I look at the leopard skin on the wall, and I look at the guy - he's driving a Mercedes Benz - you're aware it's really saving face, the cultural thing... It's just being so careful to accomodate and respect a historic culture, really, truly, trying to respect where that came from. Even respect the 'big man syndrome' that gets somebody you find really creepy, into a position of power - and understand what that is for them" - NGO conservation actor, SL09.

Making efforts towards contextual understanding was pivotal to crafting links with potential partners from other backgrounds who were facing difficulties: "Snow leopard were killing many sheep - so herdsmen tracked down a snow leopard in her den with her babies, set fires outside and asphyxiated them - they all died. We went into the community to understand why it happened: They were losing sixty percent of their livestock to predators - sometimes, fair or not, the snow leopard are blamed. It reached a tipping point - it wasn't for poaching or to sell it for money for traditional medicine, it was purely retaliatory. So, we take a step back, look at what's happening, how we got there and how can we begin to ameliorate the issue" - NGO conservation actor, SL11.

Interviewees found that making space to invite potential, and new, partners to learn about their context greatly aided bridging social capital - this was especially beneficial when embracing partners from outside the conservation arena, such as industry and private sector: "It's very important while we engage with industry and business - and also with donors and different institutions - to clearly state why snow leopard conservation is important and why interventions we make are different from the de facto 'Protected Area model' of conservation. It makes a lot of other things much easier - because partners understand the finer nuances. Also, if you take a donor to the field and help them experience the conservation issues that helps build the partnership" - NGO conservation actor, SL10.

Pervasively, the norm of wishing to understand the context of others was associated with an open-mindedness that was universally valued at the link-making stage. People from all sectors felt that when efforts to recognise context were made, it contributed highly to building trust into the bridging links between partners. "To establish trust with new partners, it's important to listen and understand where they're coming from and who they are. Give them space to express themselves - be welcoming, warm and open to hearing their points of view" - academic and NGO conservation actor, SL30. This was particularly so when the backgrounds or cultures of the partners were considerably different. Showing openness to acknowledge the context of those from different cultures allowed flow of bridging social capital: "People from our partner NGO are open and nice; they listen to us well and understand our local situation well" - community conservation actor, SL48. Understanding context allowed people to see other's needs - when these needs were understood it contributed to the feelings of trust between new partners. Deep trust bonds were evident between interacting participants who independently reported viewing understanding of context as an essential part of communications.

Interviewees found that making effort to understand the personal situations and professional challenges of other team members strongly built bonding social capital: "Building bonds is a constant practice. You've got to think outside of this particular thing that's bothering you. That's so for anyone that's tackling difficult issues. No project, however small it may seem, is necessarily easy - it might be a major undertaking for the person doing it" - NGO conservation actor, SL17.

4.4.1.5 Empathy

Linked to the desire to understand fellow conservation parties' contexts, another strong theme to emerge from the data at the link-building stage was a norm of empathy. Interviewees felt emphatically that it was important to go beyond the act of learning about their fellows' backgrounds when trying to establish links - and to demonstrate understanding and compassion to other conservation actors, whatever the sector: "I often feel that conservationists could do with more empathy - that is one of the most critical things to help build relationships; everything else is helpful, but as conservationists, we often lack empathy, or we don't have enough empathy - in terms of trying to understand the mind-sets, values, aspirations, goals, of others" - NGO conservation actor, SL03.

Interviewees felt that where empathy was shown between different partners, especially from the start of partnerships, it created a 'common culture of empathy' - this formed resilient bridging social capital that facilitated further bridging: "It's about people who can align with, not just our mission, but importantly, our cultures. Even though they might be from different countries, one really critical thing - and it's not really tangible - is that sharing of our common culture; we strongly believe it's not just the end result, but how we start and the way we do conservation that is really important" - NGO conservation actor, SL43. This common culture was especially seen in NGOs bonding to other NGOs and to communities.

The common culture of empathy was cited as being omni-present, independent of religious, societal or national cultures: "There's a lot of variation in the communities we've established working links with; from a South Gobi community, to more conservative community in Pakistan, to a Buddhist community in Ladakh, for example. So, that very basic component of humanity - empathy - helps build relationships and trust" - academic and NGO conservation actor, SL39.

The culture of empathy was thus present within, as well as between organisations, forming bridging and bonding social capital and promoting trust. Empathy required actors to be in each other's' physical presence for it to be fully demonstrated.

4.4.1.6 Common Ground, Common Values

Acknowledging the existence of common ground and the holding of shared values was acknowledged by many interviewees as facilitating common behaviours that encouraged the formation of inter-party linkages: "We have these high mountains - this high mountain culture integrates us. There is a lot of tension in this area, a lot of conflicts, but the snow leopard issue cuts across all these conflicts and gives opportunity to unite" - governmental conservation actor, SL50.

Parties were attracted to other parties by common ground - often employing an open-minded, vision-led approach to link-making and actively seeking a common goal: "When we look for partners, we think about values, the core project and our synergies with that project. It's not that a partner needs to provide funding, or have so many peer-reviewed publications - we don't have baseline assumptions - but we look for the shared goal that we're able to see" - zoo conservation actor, SL31.

Seeking - and finding - common ground, such as an overlap in working interests or foci, was reported as an accessible way to craft links between different parties, especially across sectors: "Whether governmental people, NGO people, communities - when I seek to make a working link I look for common ground, something similar that we work, or have worked, on - something we have in common" - independent collaborative conservation actor, SL53. Recognising this commonality allowed bridging social capital to begin flow, prior to formation of deeper linkages.

Identifying common values facilitated deeper linkages, since the values tended to be held within the person, as personal beliefs, as opposed to the physical focus of common 'working ground': "We find that they, the Kempos, just see kindred spirits; they're very interested in the habitats and animals around the monasteries. Some of them, before they knew us, already had organised conservation efforts, survey work. We were an obvious partner to help provide, maybe, better equipment, better training - and work as kindred spirits towards the same goal. It was seamless and easy - we were interested in those same things" - NGO conservation actor, SL11. Many actors noted that the tenet of certain religions particularly offered common ground and common values, thereby people of those religions were particularly receptive to conservation link-making: "In places devoutly following Buddhist tenets, they provide ready partners - interaction with them is easy, because you're starting from a point of agreement - that snow leopards are a valuable commodity" - NGO & academic conservation actor, SL45. Interviewees reported alignment of common values as contributing to build strong links with people within and outside their organisations - thus they acted as conduits for bonding and bridging social capital.

Interviewees felt trusting of parties that held shared values, whether within or outside their organisation; since the values were seen as personally-embedded in nature, respondents felt that the other parties were likely to treat them more ethically, the common value acting as a type of unspoken norm; this in turn helped to build trust: "The reason both of these organisations are our partners is because of the alignment in values and the way they regard our core partners, the communities. In simple terms; respect, empathy, acknowledgement of knowledge, skills and abilities - these core, deeply-held values help build trust" - NGO conservation actor, SL17. The common ethos could help build trust between parties of highly varied backgrounds: "It's a multidisciplinary, multi-background partnership - plenty of skills to pool, bound with a core overlap of ethos's and trust - they help it to keep its equilibrium" - private sector conservation actor, SL51.

4.4.1.7 Empowerment

The norm of empowerment ran throughout the data as a recurrent theme that helped to build linkages, for example: "This is the main organisation coordinating all organisations involved in conservation of snow leopards in my country; we establish connections with all other organisations, so we can work well together. We are supportive of all other organisations that are helpful in protection of wildlife and snow leopards" - governmental conservation actor, SL52.

Respondents indicated that they felt valued by others when empowering behaviour was shown to them: "They make me feel like I am part of their team; they visit me and call me on the phone to talk about work or life. It is team of people who are passionate about their work - it is rare to meet team like this. They build good relationships with local people. When my products are made nicely, they say good things about my work - and I like it. Also, I like when local fellow participants help each other - I feel part of something good" - community conservation actor, SL49.

The concept of empowerment featured strongly amongst team members when describing what helped them bond strongly with others in their organisation - demonstrating that empowering actions helped build resilient bonding social capital: "There's a balancing effect that the whole team, jointly, puts across. I often relate our organisation to an organism; where each organ has its own strengths and weaknesses, and the other organs within the body take care of the weakness of one part - collectively, the strength is enormous! " - NGO conservation actor, SL17.

Interviewees from all sectors indicated that they felt it was important to act in an empowering manner towards other conservation parties; as such empowerment formed one of the most commonly occurring reciprocal behaviours at the link-making stage.

4.4.1.8 Innovation

Linked to the concept of empowerment at the link-making stage was a pervasive theme centering on varied innovation, such that innovation emerged from the data as a behavioural norm. People felt that it was necessary to think and act innovatively to achieve their conservation aims - and this filtered through to the links they made, the empowerment they derived from others bestowed confidence to trust novel ideas. Where innovation occurred within a team, people felt particularly empowered because colleagues supported them in taking risks - putting forward and enacting new plans. In the case of forming links between organisations, innovation contributed to resilient bridging social capital: "Our philosophy on partnerships is looking for innovation; what people, groups, organisations are looking at these eternal problems - the issues that snow leopards face - but addressing them differently. Whether it's different types of research, different conservation interventions - finding those partners that bring a new perspective. We'll never progress without experimentation; looking for innovation and new ideas is a big thing - we expand geographically - and intellectually - by addressing those" - NGO conservation actor, SL11.

Allied to this was a norm of courage to 'push the boundaries': "Our task was to go there and say, 'Yes, it is better that you do something, than if you don't, even if you risk failure" - academic and NGO conservation actor, SL06. Since, in the majority of instances, the innovative ideas - often described as 'thinking outside the box' - were underpinned by support from others, innovation represented a key route for reciprocity and mutuality.

Where innovative ideas were put forward as an acknowledgement of a previously-unfulfilled need, interviewees indicated it helped to build trust between potential partners: "Local families have sheep and camels - the wools are their main income. These people were at the mercy of passing traders, who didn't offer a fair price for the livestock materials. The families were also burdened by the impact of snow leopard, or other predators, on their livelihoods. That gave us an idea for how we could make the livestock products value-added to local herders. We could build their skills and then sell their value-added products - their wool handicrafts - through our NGO to help increase their livelihoods. The scheme is much-liked by local people. We didn't go there and try to introduce the program - it came from local peoples' requests. I think what they like most is the relationship we build together - based on our mutual trust" - NGO conservation actor, SL21.

4.4.1.9 Proactivity

"We launched an initiative to save animals from extinction - where we are coronating, asking people to come together and to include us in their conversations. We have been very outgoing with our goals - we've done a lot of the initial contact work" - zoo conservation actor, SL31.

Participants often talked of their proactive approach to link-making: "Collaborating, seeking partners, was always there - but it has a very, very strong emphasis now" - NGO conservation actor, SL10. Such proactive behaviour helped make bridging links and build trust: "I like the proactive person that comes forward, gives us information and is open, friendly and welcoming. That's important. So we try to do likewise - and see what develops. You don't know your next need might be - you might just find an answer for it together" - zoo conservation actor, SL34.

Interviewees commonly mentioned that they felt encouraged to make working links with others who demonstrated proactive behaviour towards them or their work: "When we look for partners, we look for people who are committed to conservation, who are actually practicing good conservation work" - NGO conservation actor, SL32.

The theme of proactivity resonated across sectors: “Whatever sector people are from, that openness to collaboration, willingness to trust and share - being proactive; it's really important that all sides of a relationship hold up their end of the deal” - independent collaborative conservation actor, SL07.

In the cases where a need had been acknowledged between parties, action by either party helped to build bridging social capital: “We recognise they are one of the oldest institutions, with tremendous experience in snow leopard conservation. They have done really good work - there's a lot to learn and gain from collaboration, both ways” - NGO conservation actor, SL10. Where members of a team took practical measures in response to a colleague’s need, it allowed flow of bonding social capital. In both scenarios, practical measures from one party to another tended to lead to reciprocal action in return. Participants commonly reported they began to feel trusting of another party when that party carried out a practical step that addressed their needs: “When doing field research, I formed a close collaboration with a new NGO person within our project group. Most of the time, we did things together to help one another: I focussed on the natural science part and she on the social and conservation part, but she would help me do basic field work and I helped her to do the community work. Working together, helping each other, we developed a close friendship and trust and discussed our project - everything” - academic conservation actor, SL15.

4.4.1.10 Showing Examples

Leading on from the theme of proactivity, another action-related theme emerged as important in building social capital - a strong norm of sharing and showing examples. This manifest itself in numerous ways:

People at all working levels, not just in senior roles, felt that embodying a set of behaviours such as those described in the preceding sections, would positively influence those around them to do likewise: “I want our organisation to be seen as the best NGO working on snow leopard conservation. ‘Professional’ is an important concept for me - it's something I work hard to demonstrate in my own work; to ensure that everyone that works for me always acts in a professional way, that we do the best research, the best conservation work - and we're out there on the cutting edge of conservation. Many people have said this NGO is well-respected - I just have to keep it going!” - NGO conservation actor, SL33. This emerged as a strong way that senior figures in organisations could bond with their teams. Such leaders were often called ‘inspirational’ by those around them. Sharing examples and experiences was valued by team members as a way to build strong links between each other - thus to build bonding social capital.

When crafting relations between organisations, showing examples and sharing experiences served to encourage bridging links, encouraged reciprocity and helped to build trust: “It's heartening to see that organisations repeatedly express their interest in engaging with the global program. It could be because there is enough momentum here already now, that they see a value in joining the cause” - NGO conservation actor, SL17.

Across sectors, parties’ track records bestowed confidence to prospective partners: “The biggest confidence boost is their track record. That's important to help us build partnerships, especially in places like Nepal where everyone talks about corruption and misuse of funding - we really need to have a track record of really clean, committed institutions” - NGO conservation actor, SL23.

Where examples were presented as a ‘track record’ endorsing the calibre of a party’s work, they formed a type of 'non-human' existing trust relationship, since they bestowed confidence, paving the way for new trust relationships between parties. Amongst trust-building practices between new partners, described by interviewees, giving examples with a tangible nature

featured strongly. The act of giving then encouraged reciprocity: “I send new partners something; a publication, some pictures, or information. I make sure they see I have something to bring to the table, that I appreciate their involvement and that they're respected. It’s important people know you will respect them, and that you just don't want something from them - you're also going to give something to them” - zoo conservation actor, SL18.

4.4.1.11 Time

Time was related to the building of social capital - interviewees reported various nuances of its effect:

The most fundamental, and obvious, relation between time and social capital is that it took time to solidify links between parties: “To build trust we need to spend time with each other; often, we don't spend enough time to break down the barrier - we all have a kind of shawl around our true selves that we have to let go. I'm worried about the way certain organisations build partnerships; they're in, not a panic exactly, but these things take time and careful thinking, they take quiet behind-the-scenes work before you start throwing together meetings” - zoo conservation actor, SL46.

Participants acknowledged that time and effort was needed in order to cohese with new partners. There was, therefore, a norm of persistence associated with all efforts to build links, whether intra- or inter-group: “This meeting I'm having with these fifty leaders; I worked behind the scenes for two years before - to get everybody comfortable with idea of coming together and talking. The rub is, were losing a species every hour, or whatever - but we have to take the time to craft the relationships carefully” - NGO and zoo conservation actor, SL35.

Respondents frequently stated that when members of other organisations gave time to them, whatever the reason, especially on a regular basis, it greatly helped the building of bridging links between them. The regularity, in particular, contributed to a sense of solidarity, whilst the time itself contributed to a sense of empowerment and acknowledgement of their worth: “I took regular opportunities and time to door-knock people from lots of organisations. You sit and have coffee and talk about things, then in the end they even invite you stay in their home, with their families. Then you feel validated, part of a team - and trust has an ability to grow” - independent collaborative conservation actor, SL04.

Lack of patience was often cited as a hindrance to relationship building, particularly across sectors: “Individuals have to be open to patient relationship-building - and recognising and respecting differences across sectors. If not, at lot of people get grumpy, 'Why won't they see it my way?’ People have to hold that space long enough to make the relationship” independent collaborative conservation actor, SL07.

Within groups, participants felt more closely linked to those who gave time to them. Time - and the bridging and bonding social capital that it helped create and gave space to flow - was fundamental to the formation of trust and feelings of cohesion: “They take time to visit me and my family - to sit and listen and share a meal together. I feel that they care about my life - and that helps me trust them. This team of people care about their work and the people too. They take time to build good relationships with local people” - community conservation actor, SL48.

“What really works there is as much presence as possible, to begin with. The communities are partners, local field partners. It’s like a very sensitive relationship in many ways; because, it's not one person, it's a team of persons - and the bigger the team is, the more variation you have within it. So the nuances may be different. So presence is really important - providing them constant access to you. That builds respect... that builds faith... that builds trust... that builds confidence... that builds the willingness to help” - NGO conservation actor, SL17.

4.4.1.12 Pride

Generation of pride emerged as important to building social capital. It was often a highly desirable result - and in some cases, driver - of the aforementioned key partnership-building, social-capital-creating themes:

Production of pride proved bonding within organisations: I'm very proud of our specialist group - all the members. It's a lot of fun to sit together and discuss very broad issues from husbandry problems to conservation project research. I think all the members feel proud to be part of it. I think it's part of what makes people want to collaborate with us"- zoo conservation actor, SL18 - it also underpinned bridging bonds between organisations: "When our NGO partner does fundraising, they bring their major donors to our zoo, and we give them a 'behind the scenes' special tour of the snow leopards - so our animals become motivation for their fundraising. The zoo is a platform to help build more linkages - this pride is infectious. Our staff from every area bring their friends and connections" - zoo conservation actor, SL12.

"With regard to fundraising, we're most successful with Eurasian lynx, including the Balkan lynx - basically because this is our 'house cat' - from our region, so donors feel proud to be associated" - academic and NGO conservation actor, SL06.

Becoming linked to a recognised body built a sense of unity - and pride; the recognition of being part of the movement gave a sense of achievement - engendering pride - and a sense of belonging: "For us it is about the accreditation standards and what it means to receive the accreditation; it means that you are part of a collective that has attained certain standards - that is valuable to us" zoo conservation actor, SL31.

Pride was a ubiquitous theme, being associated with behavioural norms, reciprocity and trust. In partnership aggregates with cross-sector, cross-culture, horizontal and vertical links, pride was undoubtedly the most recurrent theme - it appeared that pride offered a type of 'bracing mist' that could envelope and bind partners in such aggregates.

Pride could motivate behaviour change, thus offering a conduit to reach out to disadvantaged parties, embracing them within a partnership: "The driving force behind starting this entire ranger empowerment program was a basic understanding; that communities are, in a way, supporting some legal and illegal hunting. The rangers are one of the least paid of the government machinery here - hunters could try to bribe a ranger or tweak facts. At the core, it turned out that something as simple as incentivising a good act - not by money, but more by the sense of pride given to them by the program - can be really beneficial towards the larger cause' - NGO conservation actor, SL17.

Engendering pride through sense of values was a particularly valuable and empowering manner in which to link communities into conservation collaboration. Pride resulted as a norm of such initiatives; however, its benefits often rippled wider, adding value to more than the conservation focus: "In Nepal there are a lot of people within a conservation area. Without working with them, there's no way you can do conservation at all - you cannot relocate them all! But unless local people have full buy-in to conservation, it is not going to be sustainable. Once they see the value of it - say, eco-tourism developed more sustainably, rather than polluting the whole land - then conservation can be done cost-effectively, inviting communities to be local partners. They know the land where the snow leopard's moving; we rely on them for tracking, logistics and monitoring - they are there all year. Recognising this contribution generates pride" - NGO conservation actor, SL20

Generation of pride was a norm of practice which was also especially beneficial to link into collaborative effort actors from outside the conservation space: "To engage industry, it works well to help industry be more sustainable itself, and have

more environment-friendly or snow leopard-friendly, business model or practices that they can feel proud of" - NGO conservation actor, SL13.

4.4.2 Relationships Between the Identified Social Capital-Creating Themes and Other Factors Considered Important to Building of Partnerships and their Aggregates

With respect to this research aspect, I have derived six overarching themes, emergent from the data, key to building conservation partnerships and their aggregates (Figure 4). I encapsulate these themes as; Critical Unique Individuals, Diversity Positivity, Capacity Building, Joint Envisioning and Mapping of Hopes, Arena for Interaction, and Structure. These over-arching themes variously embody the key social capital-creating themes identified in 4.4.1. These themes and their interrelationships are now addressed in detail.

4.4.2.1 Critical Unique Individuals

The data showed that critical roles were played, at numerous points of partnership-building, by individuals. These individuals were pivotal to the building of the partnerships for a variety of reasons. I have termed these individuals 'Critical Unique Individuals', hereon referred to as 'CUIs' - to denote them from the term 'Key Actor', which can apply to an individual or organisation. From this point on, I reserve the term 'Key Actor' to be used in an organisational sense.

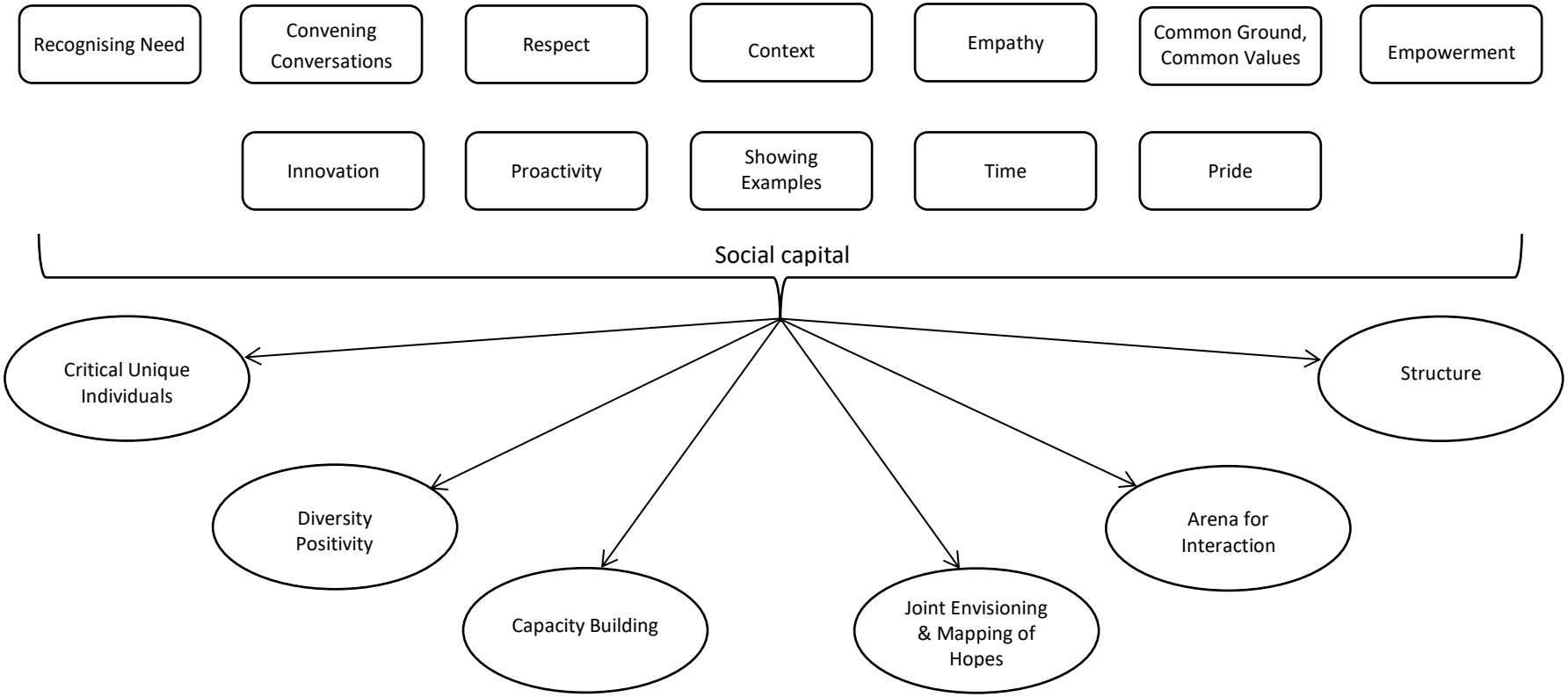
Participants almost always felt that, in conservation scenarios, it was not organisations that were pivotal, but the individuals within it: "When building our collaborations, we looked more for people than for organisations. We came to our India partner through its inspirational Founder/Director. In Pakistan, we connected to another great guy - we worked with him to create an independent NGO and run all our programmes through that as our Pakistan in-country partner organisation. It's the people - and the relationships with the people - that have driven the relationships with the organisations, much more than the other way around" - NGO conservation actor, SL08.

Respondents emphasised the fundamental importance of individuals: "The personal relationship between actors is of utmost importance - then everything else can be managed or accepted. If a personal relationship doesn't work, the whole thing doesn't work well, because the chemistry doesn't work" - academic and NGO conservation actor, SL06.

"Many times, face-to-face meetings start the partnerships. We have a set of species that we focus on. So, you look at other organisations working for them, and you see who you know. Personal contacts are valuable to start the collaborations" - zoo conservation actor, SL14.

"Early partners were brought along through the personal relationship that our Founder had with them - there's something emotional about it, a personal element to it" - NGO conservation actor, SL32.

Figure 4. Representation of themes associated with social capital creation during the process of building links between conservation partners



Interviewees' data indicated that CUIs commonly embodied certain attributes. These characteristics are now addressed in detail:

The ability to be a CUI was not dependent on position or role. CUIs hailed from all walks of life associated with conservation and all organisational levels - but they held in common the ability to build strong interpersonal links: "Many people inspire me; my field team, our staff from local communities - people who have come from extremely difficult situations: One of our staff members used to break rocks with a hammer for road building in the high mountains - then he became a truck driver. We've now worked together for many years. He has an incredible way with people, and especially the communities in Ladakh. That inspires me, someone who's risen from such a difficult position, and yet who is so effective in building community relations" - NGO conservation actor, SL03.

CUIs had a fundamental ability to act as a bridge between organisations - the data indicated this very strongly: "She created a bridge for conservation conversations amongst groups where there had not been much conversation before - between members of the public, between scientists. I know she feels really proud of having had that role; behind the scenes, facilitating conversations - encouraging key players to see new ways of collaborating towards our shared goal" academic conservation actor, SL16.

It was often not within a CUIs official role to be a go-between, however, they intuitively built bridges: "It's not their job to broker between organisations, we just interact so well because they have these nice qualities. Their qualities are helping their conservation effort, above and beyond their role" - independent collaborative conservation actor, SL53.

Many participants felt that it behoved all who were involved in conservation to be bridges, regardless of whether it was formally required by their role: "To be successful in conserving snow leopards, we have to all be brokers, whether it's specified in our job description or not. If you're not doing that, then you're not doing your job to the best of your ability" - academic and NGO conservation actor, SL45.

CUIs reached out to new parties and made ongoing effort to maintain existing partnerships, thus sustaining trust - as such they acted as a valuable channel for bridging social capital. Since CUIs were closely associated with building linkages, they were also strongly associated with facilitating reciprocity between parties: "I admire this organisation - one man has created this visionary network: He identified that conservationists working with different animals - they share similar problems, yet they never talk to each other. So, he gets them together - old partners and new - connecting people so they can help each other" - independent collaborative conservation actor, SL04.

The fundamental role of CUIs rendered them as hubs to partnerships. However, this pivotal role meant that when a CUI changed position, trust bonds towards their organisation could waver, since trust was vested in the individual and not the organisation: "Until recently, I would have said that NGO was a hub, the key player for snow leopards. I am saying, 'until recently', because of the CEO change. Because of what the previous CEO did - and also what he inspired - that NGO was pivotal. I think it will continue as hub once the new CEO has been able to communicate, make connections, gain trust and support" - independent collaborative conservation actor, SL04.

CUIs played key roles in reaching out, in an open-minded manner, to embrace bodies from diverse backgrounds, and commonly held the belief that diversity in partnerships brought strength to the alliances, valuing all potential partners and all

partners 'potential: "I'm deeply aware there's a lot more that needs to be done, that I don't know how to do personally. So, I work with university researchers, NGO scientists, very large NGOs, tiny ones, one-man shows. Our range-country partners encompass advocacy-type people, field researchers, dyed-in-the-wool activists. In the US, we have different types of members - many different professions and skills. It's so important - you can't be one-sided in your work" - independent collaborative conservation actor, SL07.

In situations where parties were in dissent, CUIs proved to be valuable facilitators to bring parties together: "Sometimes personalities chafed up against one another - but one person in particular sees the bigger picture of the work and didn't make an issue of it - and helped bring people on the same page" - independent collaborative conservation actor, SL04.

The intrinsic ability of CUIs to act as a conduit for social capital rendered them valuable to team cohesion - channelling bonding social capital. The CUIs then helped transmit the attributes of the bonded team to wider parties, as they bridged outward: "The staff in my team are so committed, they're so smart and they're really bonded. We have great scientists - and they're pretty social too. This one guy, for example; he is so charismatic and so engaging - everyone loves working with him, across sectors people can't say enough nice things about him. That helps build relationships! People like us, they trust us. That builds confidence, respect - and people are willing to work with us" - NGO conservation actor, SL33.

Clear connections were identifiable between the attributes of CUIs and the social capital-creating themes identified in Section 4.4.1, further reinforcing the value of CUIs to building conservation partnerships. The quote above also illustrates a commonly-occurring characteristic of CUIs - that they embodied a sense of acknowledgement to people around them, recognising that everyone was important in their own way. This facet of CUIs was greatly valued by those who had contact with them. They acted in a respectful manner to all with whom they interacted, which in turn, respondents said, generated mutuality of respect - and gained parties' confidence and trust.

Efforts to recognise and understand the context of others were recurrently exhibited by CUIs, as they strived to build relationships with new partners: "We need solidarity in teams - but we also need diverse viewpoints: I was born in snow leopard habitat; the cat was my enemy while I was young, killing my yak, sheep and goats. Then I tried to understand what was happening. Now, my NGO has been the key institution working with local people to protect the snow leopard. This Conservation Area in Nepal was the first people-managed conservation area - we piloted bringing people participation into conservation" - NGO conservation actor, SL20.

This recognition of context was frequently built upon, extending empathy to build links with partners and co-workers: "When I think of individuals who are key to building partnerships, they are, not only rigorous scientists but also, fantastic empathisers and communicators - little bit of David Attenborough, with political skills; 'Renaissance-type' people, understanding the empathic and psychological needs of their profession" - NGO conservation actor, SL02.

The multi-faceted communication skills of CUIs were greatly valued by their co-workers and partners. These skills were often evinced operating diplomatically, to enable bridging between parties that were experiencing difficulties with respect to interaction: "When the Iberian lynx had to be uplisted to Critically Endangered, we held an international symposium in southern Spain to discuss Iberian lynx conservation. At that time, the relationship between the different GOs and stakeholders was not very good - and our role as a facilitator was not only accepted, but actually welcomed - that made us visit Spain often" - academic and NGO conservation actor, SL06.

CUIs invested in regular advocacy and communication: “She’s an important figure in snow leopard conservation, for her advocacy and communications - building links; she sees a broad audience - members of the public, school children - and members of the snow leopard community” - independent collaborative conservation actor, SL53.

CUIs were very commonly empowering, giving freely to help build bonds: “Offering help and guidance is a great way to build relationships. Having people like that around makes all the difference. You never know when reciprocation might happen - and how that will benefit yourself and the programmes. I always say, ‘Come back to me anytime - always happy to help. If you think I can help, let me’. That’s helped me build a lot of good relationships among groups that haven't previously had a great relationship with our NGO” - NGO conservation actor, SL11.

Empowerment given by CUIs to others could enable them to develop into CUIs also - and, in turn empower others: “The project we had in Serbia worked to strengthen civil society - that sector didn't exist there due to the country’s history - it allowed us to build relationships and partnerships. We gave the whole range of capacity building support, including grants and having managers who worked with each partner and developed a special bond - supporting local champions of change” - NGO conservation actor, SL33.

The empowering ethos of CUIs allied to well-honed communication skills often contributed to them being notable teachers: “He’s core to enabling people in different parts of the world, who do not have the knowledge and experience that he has, to fulfil their duties. If he can help somebody do that - in Kyrgyzstan, or in Botswana, or in India or wherever he’s working - then that's what he likes to do” - governmental and independent conservation actor, SL19.

Interviewees highlighted that CUIs had a strong tendency to be innovative and to value innovation as a tool in their work. Within a team, CUIs were likely to give ‘room to grow’ to others, in a supportive way. They displayed vision and creativity - which was valued by their co-workers: “These key folks are curious - wanting to learn more and grow. They are open, inclusive - perhaps a little bit idiosyncratic, eccentric! They’re willing to engage with me, with my ideas - being interested in a different perspective” - independent collaborative conservation actor, SL04.

The trait of innovation was often accompanied by resilience and courage - underpinned with passion for their cause: “Persistence, flexibility, a desire to be innovative - these qualities help her be so successful at building partnerships in those harsh conditions. Pioneering that project in Kyrgyzstan, there have been many uphills she had to go through! That spark to try, and push - not just because they’re getting two million dollars in USAID money!” - NGO conservation actor, SL09.

The above traits combined to feed another core trait of CUIs - their ability to influence and to inspire: “He’s very inspirational, straddling roles as a scientist and as a NGO leader, and a huge political element too - many different areas. He doesn’t have a lot of experience in some of those, but he’s such a willing person to engage at all levels, so sincere and open. I very much admire him” - independent collaborative conservation actor, SL04.

In addition to resonances with the previously-identified social capital-creating themes, other traits were regularly associated with CUIs: They exhibited humility, lack of obstructive ego, and altruism - including those at senior level: “I think my organisation - I - specifically, excel in building bridges. While recognition is nice, I don't feel I need to micro-manage those relationships. I'm happy to make those connections and support them as necessary - but I'm also happy and thrilled to see

collaborations take a life of their own. I think willingness to invest when there's not necessarily going to be any kind of return is pivotal to partnerships" - independent collaborative conservation actor, SL07.

Allied to the altruistic traits, interviewees often referred to people who were pivotal as mission- rather than ego-driven: "We see some egos getting involved, and things being pushed forward that we don't believe are in the best interest of snow leopard conservation. For me, those people are not being driven by the mission, the core reason we're doing this work. We're trying to make the world better, to conserve snow leopards, to improve lives for communities. With the people who turn out to actually be key, it's a true, authentic commitment to that ideal and working in a way that puts that first and foremost. It's about true partnerships - for me, then, everything else drives from there" - NGO conservation actor, SL33.

Altruism in CUIs was very commonly linked to empowerment: "I like to think I'm making a difference. As I become more experienced, I try to serve as a coach for the younger leaders - for things that it took my whole career to start to understand! Sometimes I feel like a talent scout; when I find these folks, I spend time with them. It's not that hard to be nice! An hour invested here and there - it's not that hard actually to make a difference" - NGO and zoo organisation conservation actor, SL35.

Interviewees felt that the intrinsic skills of CUIs should be valued: "There's a fundamental gut-feeling approach of how to deal with people. If you have somebody who, just based on her or his common sense, actually can deal with human nature and interactions, you may provide some training and this adds to their working possibilities" - academic and NGO conservation actor, SL06.

4.4.2.2 Diversity Positivity

The diversity of backgrounds and skills within partnership aggregates underpinned the building of the collaborative partnership links in numerous ways and variously linked to the key social capital-creating themes identified in 4.4.1.

Respondents' positive viewpoints with respect to diversity of partners' backgrounds and skills ran through the data as a norm - and ethos. This openness to diversity was expressed as a strong tendency to acknowledge the value and importance of each party: "One person can't have all the skills that are needed for conservation - the sooner we realise that, the better. We need to learn to rely on other people for our sources of knowledge and not feel threatened by it. It has to be collaborative. The most important skills a person should have are willingness, ability and openness to collaborate with other people" - academic conservation actor, SL39.

Interviewees commonly shared examples whereby they reached out to maximise opportunities to build linkages with bodies and people from wide-ranging demographics, embracing many arenas and working foci: "We interact with the Prime Minister's Office, Ministries of forests, finance, land reform, irrigation, agriculture and hydropower, Social Welfare Council - the gatekeeper of the INGOs, and with all important government agencies, including for health. With the academic institutions - Nepali and international universities - we provide scholarships and host economic discussion. With the private sector, we engage the Chamber of Commerce and Fair Trade. We engage with Development Agencies, like World Bank, Asian Development Bank - and all development sectors like hydropower, transmission lines, roads and railways. Also, we have a huge youth program called The Generation Green; we have five thousand Eco Clubs in schools and universities, and we have a huge anti-poaching youth engagement in the field. So, we engage with all the multi-sector areas to have an impact on conservation!" - NGO conservation actor, SL23.

Partnership aggregates that spanned multiple sectors commonly formed, partners' sectorial situation being strategically considered each as a distinct complement to an overall picture: "We have collaborations across multiple sectors: We work very closely with rural communities, they are our most important partners. We work very closely with range country governments, including the global snow leopard program, and have very good working relationships with government line departments which are active in snow leopard habitats. Sometimes, conservation institutions ignore them, thinking they don't have much to do with conservation. But, in most of these snow leopard habitats - especially where there are no hard boundaries between what you define as a snow leopard habitat and what you define as a human-use area - it's very important to take everyone on board, ensure efforts are not duplicated, and help different bodies align their objectives toward conservation objectives" - NGO conservation actor, SL10.

It was perceived that the different professional skills brought by other partners would be beneficial to the alliance, in terms of complementing existing skills, thus boosting potential to respond to situations: "The Working Group comprises veterinarians, biologists, reproductive biologists - from the US, Germany, South Africa, Britain and Namibia. I'm the Project Leader, we also have a Project Manager - and we need veterinarians to anaesthetise and catch the animals. I also serve the web page, answering questions from the public - and also as the main authority on the species. It's an all-encompassing perspective; if we can't cover something, we seek collaboration" - zoo conservation actor, SL18.

Clear connections were identifiable between the social capital-creating themes identified in Section 4.4.1, and the positive attitude to the diversity of partners within the alliances, further reinforcing the value of actor diversity to building conservation partnerships:

In making linkages, trust and respect were clearly built by the provision of examples (e.g. a track record) - and responsive communications that freely acknowledged other parties: "We wanted her for the position because of her experience, and her personality - very communicative, bringing in outside help. She brought in a lot of specialists to help different aspects. She was quick to react and not shy to contact people. I think that's an outstanding ability; to basically admit that you don't know it all, but you're happy to learn and involve people - and acknowledge them also. There were joint publications, she acknowledged everybody. Everybody was extremely happy with her coordinating the program" - zoo conservation actor, SL18.

Parties' abilities to give varied social perspectives were valued, particularly to aid understanding of context of potential partners from different backgrounds and cultures: "One of the aspects of snow leopard conservation knowledge which has really lagged far behind is having more socio-ecological knowledge about snow leopard communities. We definitely need different bodies of knowledge - from fields like political ecology, social dimensions of conservation, human dimensions of conservation - to come together to help understand conservation issues in snow leopards" - NGO conservation actor, SL03.

Acknowledging the existence of shared values, or a common ethos, provided a channel to help build robust links between parties from different backgrounds. The existence of known non-shared values was acknowledged as a hindrance to partnership building, even when parties were open to diverse partners: "I would like a bit of everybody in there - NGOs, academia, governments, communities. There are limits; I will not work with animal rights people, because of my profession at the zoo. A lot of animal rights people are often very emotional - and against certain practices. If somebody says, 'Radio-collaring is too invasive!' then I cannot collaborate with them - that's a basic part of my research. Obviously, if somebody's open-minded and willing to discuss, I will try to work with everyone" - zoo conservation actor, SL18.

Between organisations, diversity incentivised the building of bridging links. The themes of Recognising Need and Proactivity were exemplified by bodies identifying the potential benefits of, and actively seeking to build, collaborations with partners from different and wide-ranging backgrounds and sectors, often with a view to innovative future work. Embracing cross-sectoral diversity in partners was seen as bringing diverse gifts that could fill existing gaps in the partnerships and there was a norm of desire to have mutually beneficial exchanges: "We understand that State Agencies need to do certain things. We also have priorities that we need space, resources and commitment for - that are of concern at global or national level. So we bring in a perspective of, 'How can we do this together, so that it's a little bit easier for everybody and has all the resources it needs" - zoo conservation actor, SL31. There was a norm of wishing to be reciprocal with partners and this contributing to the building of trust between parties: "We're always poised to take advantage of opportunities: Utilising that wide network out there to meet challenges, putting out the word that we're looking for collaboration, we're looking for partners. I think that works best when we look for those who can bring something to us and that we can also offer something to - then it can develop into a really nice, trusting collaboration" - zoo conservation actor, SL34.

Within teams, diverse skills, including those brought from past careers, especially human-related skills, encouraged bonding between co-workers, particularly via empathy: "The human development background jives well with the snow leopard work - that perspective and relevance brings confidence to the organisation. Also, I used to be a counsellor; I'm a good listener, very empathetic, I think people feel I create a safe space, if they have a problem, they feel comfortable to come and see me. Also, I do think I instil confidence in people, in that I demonstrate that I am very competent in what I do" NGO conservation actor, SL33.

4.4.2.3 Capacity Building

Key processes relating variously and broadly to capacity building were important to the building of partnerships. These capacity building themes variously embodied the key social capital-creating themes identified in 4.4.1.

It was very much a norm for capacity building to occur via a number of key social processes such as training, information exchange and common learning. Parties involved often spanned sectors. Capacity building processes took varied forms, for example, ranging from knowledge exchange and learning for professional skills development and public outreach: "Our national snow leopard NGO wanted to cooperate with a scientific institution here in Mongolia. The NGO we chose had much work planned; biodiversity Summer Schools for communities, and conservation activities not only for snow leopard but also Pallas' cat and prey animals. They needed university students to help them with their study. That's how our partnership started and why we are cooperating so well" - academic conservation actor, SL28; to livelihood enhancement: "We created a NGO in Papua New Guinea - twenty people work there now, all Papua New Guinean, except one. We raise the money for all of that - six hundred thousand dollars a year. We think of our zoo like a modern urban hub for conservation and a resource centre; there's all these incredible people and things happening here that can be leveraged out to the field. This year, one of our education instructors went to help the person who does education efforts there; they developed a curriculum for a Junior Ranger Program, where kids get environmental education. We also sent a grant writer over there to teach staff about writing grants" - NGO and zoo conservation actor, SL35.

Developing and strengthening skills and expertise together was an important channel for reciprocity - which helped to build trust between new partners: "Our main capacity building is an annual week of training workshops. We ask conservationists what topics they would like to cover - and bring them and external trainers together. It's staggering to see the experience in the

room - everyone's excited. We also ask conservationists to share and lead sessions. We have about six hours of formal sessions per day. We build pretty long breaks and have informal dinner evenings - those occasions really generate richness of exchange - people bond, and then trust grows between them. Over the whole week there's a lot of bonding amongst conservationists, core partners, guest speakers. There's always new blood; we encourage senior partners to bring others from their organisation, so they can build organisational capacity" - NGO conservation actor, SL32.

Recognising and respecting ownership of knowledge, during information exchange helped establish trust bonds: "To build mutual trust, it's important to respect the other person's opinion and knowledge. To be genuinely collaborative, people need to have true ownership of some part. It's important to respect those areas that a person does best. For example, if the veterinary team is good at doing something, leave them to do it completely from A to Z - that really helps build trust, because people see it as completely their baby" - NGO conservation actor, SL10.

Within organisations, learning together helped build bonds between people: "Our veterinarians, board members, other staff learn together. I'm a big believer in learning theories and empowering learning. Learning is often non-threatening; you can frame things around it - if we're all just learning together, all setting questions about what we want to learn, it can take away some of the arrogance and help us cohese" - NGO conservation actor, SL08.

Between different organisations, training, capacity building and common learning helped build bridging social capital, as illustrated by this example of cross sector training for wildlife rangers: "The first morning is introductions and getting to know each other: I tell them about myself, then I ask each one of them about themselves; where they work, their duties, some of the experiences they've had on law enforcement or conservation issues. We know, from each other, where we're coming from - that helps build up a mutual rapport" - governmental and independent collaborative conservation actor, SL19.

The diverse backgrounds of partners was greatly valued by interviewees during capacity building, offering breadth of experiences to be shared - and breadth in variety of potential new partners: "People from different sectors are equally excited to be at the training weeks. There are events where conservationists can meet donors, slots during workshops where donors will participate in panels and share skills. Donors get an inside look at a conservationist's role and conservationists get to know donors on a more personal level" - NGO conservation actor, SL32.

Participants gained information from wide-ranging sources; for example, academic papers, conferences, the Internet. However, the vast majority of interviewees stated that being able to receive knowledge from and exchange it with other people - social learning, via an array of means - was their preferred manner of learning and that it helped to build and strengthen bonds between them: "My premier knowledge sources are colleagues. I send everybody things and I get things in return - it helps consolidate our links. I go deeper by looking at publications and on the Internet. But I'm lucky to be well-linked to specialists in the field; whenever I have a question, I know who to go to. That's how I learn" - zoo conservation actor, SL18.

"I learn a lot from talking to people - that's really important to me. I do also learn from reading via different Internet applications and social media" - governmental and independent conservation actor SL19.

"I learn everywhere I go; I talk to people - then I get their knowledge. I worked twenty-two years in the field: Talking to a community, going through the pains and happiness of conservation makes you much more resilient in terms of understanding. Google doesn't give you the experience you need to talk about more contextual matters. For context, you really need to talk to

people” - NGO conservation actor, SL23.

“You learn from experience - it’s very important. You learn from interactions with colleagues and friends. You learn from teaching to other people. Most often it's not public - it's a kind of personal experience” - NGO conservation actor, SL38.

“A lot of my learning is in the day, in the moment - in my engagement with staff and others. For the Board, I send them a bi-weekly update about what's going on with the organisation. I also do a lot of internal comms via email - it all helps us cohese” - NGO conservation actor, SL33.

Many interviewees commented on the value of learning from sources beyond the usual conservation arena; being innovative and visionary in this respect offered a way to cement links to new partners from varied and novel arenas. In particular, respondents appreciated knowledge from less-utilised, human-related fields to enter, inform and benefit conservation work: “Psychology, socially-related skills, business skills - sometimes knowledge comes from a different direction, but we appreciate those new links and we share that information. In the development of our Felid Husbandry course, we added that human aspect. That started a ball rolling that you don't, traditionally, think about” - zoo conservation actor, SL34. Participants often talked of encouragement to attend conferences in varied fields: “I encourage putting yourself in places outside of your expertise. We encourage staff to go to conferences they would never think of going to - don't just keep going to the Society of Conservation Biology, try a new one! It’s a great way to make new bonds. Via the Internet, it's easier than ever to get yourself into areas that you don't normally go!” - zoo conservation actor, SL12.

Building capacity of indigenous communities allowed pivotal links to be made with the communities and showed them that they were valued partners (see also Section 5.3): “Snow leopards inhabit remote areas, there's hardly any state presence. The locals know much about cat habitat and cat behaviour - so we engaged together, trained communities as citizen scientists, so we can get scientifically-explainable data. Our approach is to believe in people and to build the links that help us all work to our goals” - NGO conservation actor, SL23.

Bridging linkages and reciprocity associated with exchanging knowledge with indigenous communities was valued by all interviewees not only for the community capacity built, but also for the intrinsic worth of the indigenous knowledge to build the recipients’ own capacities via learning of unique local, historical and ecological knowledge (see also Section 5.3): “Absolutely, I value local knowledge - about conservation issues, but also things about their culture. It's very bonding once you start learning about and discussing it. When we listen, people feel that you're connecting, that you want to help and that you're genuinely interested in them. It helps our work, though it might not be directly connected to it” - governmental and independent conservation actor, SL19.

Activities surrounding the processes of training, capacity building and knowledge exchange generated many arenas for interaction - and opportunities to meet - that were widely valued with respect to relationship-building, for example: “Here at the Zoo, we use endangered species conservation as an entry point for a larger dialogue about capacity building around sustainable living. We've been able to influence international NGOs - we bring specific strategic advice. We've brought our nine international projects together into an alliance; we bring everybody together annually - like a mini learning organisation. We bring them in to a network of others that are working on similar efforts, but with different species and in different geographic areas” - NGO and zoo conservation actor, SL35. This quote also exemplifies the ability of processes of training, capacity building and research knowledge exchange to bridge between sectors - an especially common synergy found between NGOs and zoo organisations.

“We share our knowledge and working outputs; direct contact with colleagues, discussion with colleagues, training of young colleagues - either in this country or overseas. I consider that to be a most important part of our work - things that you, looking from the outside, cannot see” - academic and NGO conservation actor, SL06.

Training and capacity building was valued by respondents to scope the possibilities of creating new bridging links, especially the opportunity to share the non-physical - feelings - at the partnership-building stage: “Bringing potential partners together in an expo gives us an opportunity to interact. People may look great on paper, then you bring them in and realise they don't quite click with the rest of the group - and it affects the dynamic. There are some intangible factors - so, we always bring people in and meet them in this forum” - NGO conservation actor, SL32.

The potential of information and knowledge exchange to provide a problem-solving conduit encouraged the building of links: “Zoos are perfect organisations to be 'Conveners of Conversations about Conservation'. We're seen as this neutral, moderate group. So we're starting to convene conversations about difficult subjects in various communities: How do we co-exist with potentially dangerous animals? How do we guide development? We’ve put together a coalition of organisations. If we all do more of this group conversation - then it brings all the different members from different groups together” - NGO and zoo conservation actor, SL35. This is addressed in detail Section 5.4.2.7.

The examples above illustrate how capacity building embodied empowerment. Clear connections were identifiable between other of the key social capital-creating themes identified in Section 4.4.1, and aspects of capacity building, emphasising the value of enhancing capacity to building conservation partnerships:

The relationship of proactivity to link-building was commonly evinced, as illustrated by the readiness of parties to share their knowledge. Capacity building provided a pathway by which people could be proactive about building links: “People want to actually do things that make a difference. This city’s big on technology, so we're reaching out to businesses to see how their people and their skills can link up with us to benefit conservation - they feel good about helping!” - zoo conservation actor, SL12.

Communication variously underpinned link-making during capacity building:
One-to-one conversation allowed links to form: “Say we're going to do a joint program with the Aquarium and I know nothing about Orca whales. I say to the Orca whale person, ‘I'm so damn busy, could you suggest the three best papers on Orca whales I should read?’ And that helps you to start your learning - and the relationship; they like that, because you're showing genuine interest in their subject” - zoo conservation actor, SL12.

Processes of awareness-raising and advocacy helped build links between parties as they united for a cause: “An important snow leopard habitat was at risk due to mining. We needed to protect that area. To do that job, we needed partners. We created this partnership with the media. They are really supportive and their communications are very valuable - influential, good advocacy that helps us deliver our messages to decision-makers” - NGO conservation actor, SL21. Mass media, thus, featured as way to reach out and make links - albeit not allowing reciprocal communication: “As I am a governmental representative, I can’t use social media. But I talk to others on mass media, by both radio and TV, I can spread news - and I can make a report or a speech in public” - governmental conservation actor, SL27.

It was noted that, to establish the links, the information should be shared in language that was accessible to the audience: “Very important for conservation is to write popular, public-oriented articles - and engage more with the public.

Scientific papers drive science and inform conservation actions - but if we are to influence and engage with public and policy-makers, then writing in newspapers and popular magazines is very important" - NGO conservation actor, SL10.

Positive connotations of pride recurrently connected to information and knowledge exchange:

Parties felt positive about giving information: "We pride ourselves in being good teachers: We don't just deliver training, we try and make the people part of the whole conservation world. If you show that they are part of a world-wide community protecting natural resources, you get more buy-in, other than just somebody doing a job. We build their pride in their position" - government and independent conservation actor, SL19.

The empowerment recipients felt due to receiving information, in turn, helped them feel pride in themselves and what they were doing. In this way, building capacity helped build new norms of behaviour, often via holistic practices that benefitted nature and people: "I first met the NGO staff in 1999, when they visited my village - I used to work as village doctor. Since then, I have worked as local coordinator for the handicrafts program and make camel wool products - yarn and scarves. I like their philosophy of saving environment with involvement of local people. Also, the opportunity to increase income was appealing for rural woman like me. Working on the handicrafts enterprise makes me feel proud to be part of such wonderful program. I am proud to talk about it to local people and officials" - community conservation actor, SL49.

4.4.2.4 Joint Envisioning and Mapping of Hopes

Key processes centering on making plans together formed another important partnership-building theme. The over-arching tenet of these processes, at the stage of link-building, was envisioning and mapping hopes together, as opposed to planning for collective action (which is addressed in Chapter 5). These joint envisioning and hope-mapping processes variously embodied the key social capital-creating themes identified in 4.4.1.

Within strategic processes, 'jointly envisioning and mapping hopes', prior to developing strategic plans and policies, was important to help build links both inter- and intra-organisation: Within organisations, the processes helped build bonding social capital. Interviewees described the value, including to inter-team bonding, of undertaking process of joint identification of working priorities and future plans within their organisations, prior to strategic work with conservation partners: "First, we, as an organisation - the staff - need to think what is important to us, what we value, our strategic priorities. This perspective is important - it helps reinforce the relationships within our organisation. Then, we need to engage our partners and get their perspective - and then come up with a strategy that works for everyone" NGO conservation actor, SL33.

Between organisations, joint envisioning in early strategic planning was commonly mentioned as helping to build bridging links; it provided a platform for all parties to air their hopes and share what they could offer to the collaboration. In this manner, it provided a platform to showcase potential reciprocity; parties valued the opportunity of being able to give - and seeing their gifts received: "Working on a strategy gives us opportunity to grow together. We all appreciate the chance to say what we can contribute, what we want to get, what our constraints are - that's definitely a huge part of that initial groundwork process" - independent collaborative conservation actor, SL07.

The 'joint envisioning and mapping of hopes' stage commonly resulted in the definition of goals that parties wished to achieve together. A specific purpose, or goal, sometimes gave a non-threatening purpose for parties to come together and provided a platform to allow wider scoping with respect to future plans: "Especially internationally, you can't just parachute into

a place and start telling people how to live. Going in first with an endangered species recovery project is a great way to build partnerships - not going in and telling people how to live sustainably, but going in with a very specific purpose. Then you build the relationships, you build trust, caring and empathy for each other. Eventually, you start to transform each other's values - hopefully towards a better world" - NGO and zoo conservation actor, SL35.

Where existing related goals were identified between parties it helped to fuel reciprocity: "The collaboration between our two NGOs is definitely driven by commitments towards the common goals of the global snow leopard program. There are many benefits to working together - for them and for our NGO also - they have much to share, that we value, from their successful snow leopard work" - NGO conservation actor, SL10.

Heterogeneity in partners' backgrounds was valuable to link-building during early strategic stages - diversity in partners built social capital through varied avenues for inter-party reciprocity: "Our zoo coordinates snow leopard captive breeding; their Zoological Society does the same for the Pallas' cat. The cats' wild habitat overlaps, so we thought it would be great to start a collaboration that supports both snow leopard conservation and the Pallas' cat - which is a small felid that doesn't get much attention. Our snow leopard NGO partner came on-board - and we made a tripartite agreement. During time, our project developed. Our Zoological Society partner had really good Pallas' cat working contacts, so we got additional support. Our snow leopard NGO partner got us support from all their range-country organisations" - zoo organisation conservation actor, SL14.

Joint envisioning and hope-mapping was valued for the bridges to wider networks that it offered: "The snow leopard NGO originated from our zoo - we've had a long partnership for years. The relationship's more than simply sending a cheque; it's about building a strategic partnership, where each partner can bring something to the table. We've developed a focused joint effort - the program in Kyrgyzstan. We work together, discussing strategy and direction, and loop in with the Program Leader on the ground in Kyrgyzstan. The zoo brings specific strategic advice to the NGO - also we bring them into a network of others that are working similarly around the world" - zoo organisation conservation actor, SL12.

"The reason we joined the global strategic snow leopard program was straightforward: Even with our other collaborative efforts, we are largely reaching out to, and preaching to, the converted - conservationists involved with snow leopards. We didn't have any forum to really engage governments, though we were interacting with individual politicians in the various countries. So through global strategic snow leopard program we could join our thoughts and plans with governments" - NGO conservation actor, SL03.

When joint envisioning and mapping of hopes together occurred within a capacity building process it was particularly beneficial to link-building; parties appreciated being able to share information which, in turn, built their collaborators' capacity: "We talk together about what we hope to accomplish during the training; 'When you leave here you need to know this and this. If you don't, you need to talk to me, because I want to ensure that when you go, you know how to do all this stuff.' It's a constant process - at coffee breaks, lunch breaks, sitting down talking to them - getting to know each other and building up mutual respect" - independent conservation actor, SL47.

Early strategic stages provided a natural arena for diverse parties to meet (see also Section 4.4.2.5): "In developing the global strategy, the main thing is that every kind of organisation - academies, NGOs and governmental organisations - they are coming together to make their inputs. All work and each organisation is important - they can give very valuable advice. The State is pragmatic and can contribute things connected with the law. NGOs have the aim to protect particular wildlife - they are

making direct support to that aspect. With academies, there are many very good professional scientists, valuable biologists and zoologists who can contribute advice" - governmental conservation actor, SL27.

"There were ongoing programs with governments, NGOs, communities before this - but the global snow leopard strategy created that converging platform for everybody to work together, pulling them together around an agreed set of goals" - NGO conservation actor, SL24.

In joint envisaging and mapping processes, differences could be worked through, via reciprocal exchanges: "The local government were fascinated, but had some concerns about grazing rights and so on. We were able to work through those thoughts together, saying, 'You'll not lose anything - you're going to plan it to happen in a way that it will be better for you" - NGO conservation actor, SL17.

Clear conduits were identifiable by which the social capital-creating themes identified in Section 4.4.1 could imbue joint envisaging and mapping processes, emphasising the value of these early strategic stages to building conservation partnerships:

A strong resonance was evinced between empowerment and joint envisioning - the process allowed partners to give to one another: "Snow leopards use far too much land to be protected by just Protected Areas, so we needed community conservation involvement to save the cats long-term. My work was to help build that strategy together and build a team to make it go. Our team needed to empower communities - work with them to see what they needed, sharing thoughts from the get-go. Our greatest contribution in terms of human bonds is proving that involving local communities as a partner, rather than an enemy, is great" - NGO conservation actor, SL08.

Empowerment through joint envisioning in times of crisis was particularly valuable to partnership building: "Trust is something that gets built over time. It's often sped up in times of crisis, when they realise, 'Oh wow! This organisation really has our back - we can trust them', or for us to realise that an organisation really came to us with a problem that they didn't want to admit to anybody else. We don't have a typical grantee-grantor relationship. Somebody might say, 'This happened in the field - I'd like some advice for how to deal with it', or 'This is terrifying us - we don't know that we can respond'. So we're tackling a problem together. Adversity is a great way to build trust" - NGO conservation actor, SL32.

The opportunity to jointly articulate visions and hopes for the future, including the joint envisioning or joint definition of goals that could be achieved, in due course, by working collectively**,** echoed the theme identified in 4.4.1 of recognising need: "When we joined the handicraft generation programme, we met with the ladies from the NGO and discussed our expectations together. We developed a working plan together. They want to find out what we want and what the local needs are. We women say how many products we would like to make" - community conservation actor, SL37.

Communication had a clear role to play in the building of links during early joint strategic matters**:** "We informed everyone what was going on. When they heard about it, everybody came together, got very excited. We took the leaf out of the global tiger programs - working together to envisage and develop similar to what we have for tiger recovery. All countries stated to think together about how to develop their own national snow leopard recovery programs" - alliance conservation actor, SL40.

The two-way nature of true communication, reciprocity in exchanges, was highly evinced by participants' responses regarding early strategic stages: "You sit together, introduce an idea, or ideas come from them - it's give and take. For instance, the community will try, understandably, to be focused on their welfare, whereas we are the advocates for wildlife. It's finding

that meeting ground about what the community could do and what we can do. Obviously we don't want to do things that would harm a community - so it's always a negotiation" - NGO conservation actor, SL03.

Another recurrent theme that channelled social capital through joint envisioning and planning was that of innovation: "They were interviewing herders, who told them they got totally ripped off on their raw wool - their only source of cash income. A thousand kilometres from the nearest market, the herders were being, literally, taken advantage of: A truck would come by, offer them a terrible price for the raw wool - but would drive off if they didn't take the terrible price. That was the genesis for our partnership with the communities and this programme. Together, they came up with the idea of converting that raw wool into a value-added product. It was a very new idea at the time - and we didn't know how we were going to market these unusual products!" - NGO conservation actor, SL08.

"We had fallen into a pattern where we were just sending a cheque to our NGO partner - we'd lost that true partnership. It was a reality check that times are changing, but that it wasn't necessarily a sad thing. It was like a new beginning; an opportunity to do something exciting and novel and strengthen this whole alliance among our projects. So we developed our project together" - zoo organisation conservation actor, SL12.

Time featured as a recurrent theme; many interviewees noted the time and persistence needed to even to arrive at a point where parties could begin a strategic process together: "If a country is even talking about snow leopard conservation, it is a huge thing! Even that takes time - the Bishkek declaration between all the country parties was achieved in 2013 after two years of preparation. Even then, it took us a number of meetings; for the different parties, it took time to get clarity to understand the processes" - NGO conservation actor, SL17.

4.4.2.5 Arena for Interaction

The data showed the pivotal - and multi-faceted - importance of a place or space to host the partnership-building processes. The key social capital-creating themes identified in 4.4.1 were intertwined with the interaction place-space themes in various ways. The most pertinent aspects of the aforementioned are detailed below:

As previously noted within Section 4.4.2.3, participants greatly valued the link-making opportunities afforded by training, capacity building and knowledge exchange. Responses showed that this was the most valued and commonly-utilised arena for interaction when relationship-building. Capacity building processes connected with collective action also provided key arenas for interaction, and are addressed in Section 5.4.2.3. As previously noted within Section 4.4.2.4, strategic processes also provided numerous interaction opportunities for parties to develop linkages. Further strategic processes connected with collective action also provided key arenas for interaction, as addressed in 5.4.2.4 and 5.4.2.5.

Interviewees recognised that there was a need to create an arena for interactions to occur: "We feel that it's really important that we bring all these projects together into a coalition. We organise regular meetings so everybody can get together and share" - zoo conservation actor, SL12. In certain cases, the interaction arenas were created or held specifically for that purpose - for example, conferences: "I had an interesting discussion in South Africa at a cheetah conservation conference. Nineteen NGOs came and presented. It was a chance to understand them and look at different aspects of where they are. It was real interesting to hear people talk" - zoo organisation conservation actor, SL34. However, the data overwhelmingly showed that arenas naturally arose during certain key social capital-related processes, or in association with certain key social capital-related platforms, utilised in conservation:

Having partners from diverse backgrounds provided wide-ranging places for interaction - offering varied opportunities for link-building: “We meet our multiple partners in many situations: With a high-level governmental collaboration, for example, the global snow leopard program, we come together to work on policy to be able to impact snow leopard conservation. But, working at grass-roots, our long-term field presence with local communities in all these countries helps us build good relationships across cultures” - NGO conservation actor, SL10.

The wide-ranging interaction arenas often allowed flow of bridging social capital to help build cross-sector partnerships: “We initiated this project working with local businesses and communities - we can generate revenues using eco-tourism. So, we established an eco-tourism company in Pakistan” - private sector conservation actor, SL51.

“The Balkan Lynx Recovery Strategy gave us a platform with the Balkan Lynx Partnership; four NGOs, from Germany, Switzerland, Albania and Macedonia - and our multilateral connections and good governmental connections in Albania and in Macedonia. We held a common workshop to develop a common strategy: It was very interesting because we had a lot of people sitting around the table who said, 'Well it's the first time that we meet these others!” - academic and NGO conservation actor, SL06.

Interviewees particularly noted that collaborations embracing zoos offered wide-ranging spaces and occasions to build links: “We have a strong relationship with zoos; our engagement gives us opportunities to do education programs for zoo visitors and we also participate in the Zoological Society. Through our work with zoos, in Nepal, we do lots with veterinary and wildlife services. We also celebrate Environment Day, Wildlife Day in partnership with zoos - NGO conservation actor SL23

“Our NGO partner, when they do their annual fundraising, they bring their major donors to our zoo; we give them a 'behind the scenes' tour of the snow leopards - so our animals become motivation for their fundraising” - zoo organisation conservation actor, SL12.

“We provide support, both financial support, but also, for snow leopards, we're providing an arena. We invite people from range countries here, pay for their stay - and we have courses here at the park” - zoo organisation conservation actor, SL14.

Respondents valued informal times and spaces for link-building: “The endangered species projects - we sit on the recovery teams. It's through these teams that we meet people - and it's often the between-the-meeting conversations, the coffee breaks, where we bond - the informal times that give a way to get to know each other - NGO and zoo organisation conservation actor, SL35.

Many respondents commented on the benefit of informal times, to making new relationships - and of maximising informal times associated with formal occasions: “It's valuable to go to conferences to meet people. To get the facts is one thing, but to learn how to actually implement things - you get that best from being face-to-face, when you can bond and talk, when the atmosphere is more informal - over lunch or coffee” - zoo organisation conservation actor, SL14.

“Often we function as facilitators or organise conferences, but we also have informal meetings - roundtables, brainstorming. Formal and informal meeting situations both have their values. It depends on the situation which works better - drinking a beer is very important!” - NGO conservation actor, SL38.

Informal settings could help create bridges between parties of differing cultures whose pathways did not usually cross: “I've been able to spend time with a lot of Buddhist monks. There are rules about how to interact with them - I can't provide any formal presentations to them or organise them in any way. But I'm free to go to the monasteries and hang out with them and just chat” - NGO conservation actor, SL11.

Informality - being non-dictatorial - engendered reciprocity, making a pathway by which new partners could be embraced into cooperative working and trust could grow: “Before we work with new partners, we don’t necessarily go to the formality of an MOU - it is very informal in some respects. Trust comes with sitting down and talking in a small group, or one-on-one, maybe a side-bar conversation or something. Sometimes, when we invite guest speakers we find out new things - then, all of a sudden, they become a resource and a collaborator” - zoo conservation actor, SL34.

Allied to this, many participants commented that being in the field together had helped to build and strengthen links: “Four months of the year I’m in the field helping to conduct research work. We layer all of our efforts: We involve local officials, students from in-country and international academic institutions, staff from other partner organisations - to give them more experience, to get to know each other better. While I'm in the field, it's networking of a sort; we're getting to know each other, hanging out in a confined setting in camp - we're talking about our philosophies about conservation, best practices and training on various techniques” - NGO and academic conservation actor, SL45.

Responses highlighted that interchanges between parties were enhanced if the arena for interchange felt ‘natural’ to those involved. For example, governmental parties felt comfortable at policy unions where strategic matters were the focus. Communities felt most comfortable to establish links in their rural settings: “When we go to new places, we don't have community meetings and workshops right away. In the communities, we can visit households easily, local people are very hospitable. You can just get to know each other - and then talk about all kinds of topics. That's how we start building relationships with people, we listen to what the needs are” - NGO conservation actor, SL21.

The arena for interaction gave a platform to show examples, which respondents indicated greatly aided partnership-building; sharing examples could be seen as reciprocity in return for effort**:** “I give my academic papers and books to the communities - just to have something tangible in their hands. I explain to them, ‘This is based on knowledge that I acquired from you, so I owe it to you to return it in some way’. Although they may not understand what's written, people really appreciate it. They feel I consider them worthy of sharing - they feel confident and happy. It makes me happy that I have done something that they admire - and they realise that. To me it is reciprocity, but also equality; we are partners in the true sense that we both give something to each other and it is recognised as such. Also, we develop pictures from our remote cameras and give them to the villagers and school kids. Again, they absolutely love it - just to have this thought that the snow leopard is roaming around somewhere in their valleys and mountains!” - academic and NGO conservation actor, SL29.

The narrative data showed that parties who offered innovative input to conservation offered innovative arenas to spread a message - and to make bridging links. An example here from an NGO that trains dogs to help collaborative carnivore conservation in the field in multiple ways, particularly to help combat wildlife crime: “If we bring dogs to a country to do a pilot project, we work with whomever in-country to raise awareness there: We took dogs to Cameroon; one of our donors had connections with schools for the deaf there, so we did demonstrations for the kids. Or with governments, for example; in Africa, the German government supports one of the projects, so, we went to their embassy, supporting the scouts and dogs who were

there doing a demonstration. In the US, we use the dogs for fundraising. Everything else is online - we've got this info, 'How we select dogs for our conservation work from shelters'. I also teach a veterinary class at university and an anthrozoology programme - I'll take a dog for that too" - NGO conservation actor, SL09.

It seemed that recognising a need often created a novel arena for interaction - the theme of informality was often allied to this: "We're trying to involve the public through citizen science. We just held four panel discussions at the local pub - with a hundred people and they could order food and beer. We covered co-existing with carnivores, toxics, wildlife and the idea of One Health, and wildfires. Just informal conversations among the experts and then bringing in the audience" - zoo conservation actor, SL12.

"I have two great Russian friends. I meet them, we sing together and drink a lot of vodka - meantime, we're discussing the intricacies of the systems, what can be done" - governmental conservation actor, SL52.

Communication had a multi-faceted importance within the interaction space - often allied to informal spaces, as illustrated by the preceding quotes. Respondents recounted the fundamental function of communication, as a platform itself, to communicate the conservation message; written and spoken words were highly valued by participants - platforms by which to communicate to professional audiences and general public: "Our NGO partner holds their annual fundraising event at the zoo every year. We're a great showcase to spread the message"- zoo organisation conservation actor, SL12.

"I do public speaking; I have used a film about indigenous issues as a venue for sharing; I appear on panels when it's relevant; I speak in schools and here in my local community" - independent collaborative conservation actor, SL07.

"I think that one of the key members of any conservation initiative is a communications manager. Whatever we're doing, we have to communicate - and in so many different ways across as many platforms as we can to make those bonds" - independent collaborative conservation actor, SL53.

Regardless of sector or arena, clarity of communication was viewed as a vital component to build trust between parties: "In any place where we connect between any kind of organisation - governmental organisation, NGOs, academic or private sector - the main thing is trust between each other - transparency in work and clear open communications, so all will know what is being done together" - governmental conservation actor, SL27.

Mass media - radio, television, printed media - was valued by interviewees as an arena that allowed communication and sharing of conservation messages and knowledge with the public; it provided a pathway to bridge and broker to wider audiences and engender reciprocity: "We have a lot of environmental days; National Conservation Day, Wildlife Day, Earth Day. We take each opportunity to talk to radio stations and TV shows - immediately people come to you. Also I write at least one popular article every year in one of the magazines which circulates six thousand copies" - NGO conservation actor, SL23.

Spaces for interaction could be virtual. The importance to conservation of the online arena - the Internet - was widely acknowledged by participants, as a way of sharing between parties and outreach: "We document knowledge in our knowledge centre - that is shared through our website and other websites, internally and externally; it is within our NGO and for outside colleagues also" - SL26.

The Internet provided a platform for actors to interact across sectors and for reciprocity between parties from diverse backgrounds, often making bridging arenas that linked parties cross-sector, cross-culture. It increased outreach and the sense of connectedness between parties and the cause: “My project is a sort of a hub; I get enquiries from across the world - about pretty much everything that's happened in the region, requests for advice and connections. I don't need to be the expert that does it all, I'm more than happy to refer out to someone else. People from all sectors come to me, including government entities - I get a little bit of everything” independent collaborative conservation actor, SL07.

Online spaces could raise awareness, connecting parties within and beyond the conservation theatre and providing a platform for reciprocity, as illustrated by this example from a well-regarded independent collaborative conservation actor: “I linked Facebook to my snow leopard information website - Facebook has a high element of people who just love pictures. On the other hand, Twitter is more of a direct audience niche around other NGOs, with authors, researchers, government officials, people in environmental investigation - direct, relevant linkages for meaningful conversations, news and sharing of skills. Also, people will write and say, 'I’ve done a student paper about snow leopards and put it on my school blog, here it is for you” - independent collaborative conservation actor, SL04.

Respondents valued social media online spaces as conservation tools that could engender reciprocity via interactive communication between conservation personnel and people outside the conservation theatre - a link-forming platform that transcended boundaries: “Social media has really become a very powerful tool to spread the word and build links: We can have professional colleagues who follow us - and also people who just love wildlife. Recently, conventional media - a newspaper or a media house - have picked up and published six stories following a social media lead!” - NGO conservation actor, SL17.

“I spend a lot of time working with our Communications Director. I'm not very active myself on social media, but I understand the value of it. Thanks to our Comms Director, it’s brilliant, the way our public outreach is increasing” - NGO conservation actor, SL33.

The time investment required to build social capital via non-physical arenas was evident in many participants’ responses: “I'm communicating all day; answering questions from people by email, phone, WhatsApp - people can phone me anytime, but Facebook - I'm still not daring to tap into that, because I'm feeling that I'm overwhelmed” - zoo organisation conservation actor, SL18.

“Internet is an important medium to engage and collaborate. I use Twitter and I share a personal blog. Most of my interactions with the wider conservation network are over the internet - meetings and conferences don’t happen very often, which is fine because there are different costs involved in them. A lot of interactions happen over Skype with different range country teams. All these arenas have different roles, but they are all important” - NGO conservation actor, SL10.

Continuing the non-physical aspects of arena, interviewees’ responses highlighted that creating a common culture, by way of set of behaviours encapsulating the key social capital-creating themes identified in Section 4.4.1, created an arena, a non-physical space where people felt comfortable to interact.

4.4.2.6 Structure

A Structure-related theme was linked to the building of conservation partnerships - it variously embodied the key social capital-creating themes identified in 4.4.1. Structure emerged as a multi-faceted concept with resonances with other over-arching partnership-building themes.

Interviewees regularly commented on the pattern of relational ties between different organisations and sectors: Responses highlighted that the pattern of the ties comprised many links between existing partnerships and also provided numerous bridging points that allowed outreach to new parties. To best facilitate partnerships between organisations, interviewees favoured an open structure, with each party being variously-connected to others, rather than linked only via one central hub (which, thus, created a hierarchy): "It's not that there is a central body connecting all the parties in snow leopard conservation. I'd describe it as a loose framework by which we link to one another- there's no real obstructive hierarchy. Sure, there are certain organisations that are more connected than others, perform more of a linking role to new folks than others, but it's pretty collaborative overall. If you take an example of any one organisation that's involved in snow leopard conservation, from whatever sector, I think you'll find that it's partnering with several others" - independent collaborative conservation actor, SL53. This theme is, thus, strongly linked to the building of bridging social capital - and reciprocity, since the bridging links were necessary for mutual exchanges.

The structure of the links between collaborative parties had a strong bearing on the places and spaces for interaction that were available to the parties. Since participants commonly felt that it was not organisations, but individuals that were pivotal to building partnerships in their working scenarios (See Section 4.4.2.1), an open structural framework of partnerships maximised the potential opportunities available for the social capital-building abilities of Critical Unique Individuals.

The structure of the network allowed linkages that not only spanned parties from differing backgrounds, but differing countries also: "The way things are structured between us and our partners, we have a very strong ongoing presence in snow leopard habitats, in most of the range countries. We have field offices inside snow leopard habitats, where we have close collaboration with local communities and different government departments. We have very high level commitments with the twelve range country governments, via the global snow leopard collaborative program. We - as an organisation - have very close collaboration with one of the biggest snow leopard NGOs in the world. That's all very important; that's how we are going to make a real difference for snow leopard conservation" - NGO conservation actor, SL10.

However, participants did consider that in some cases a hub was beneficial - there was a strong consensus that, in these cases, it should operate with as little hierarchy as possible, reaching out with non-distinct boundaries and that it should have influence across sectors - and been seen as working for the greater good: "The NGO I'm describing I do see as a bit of a hub; they are trustworthy, very giving and non-egotistical. They have strengths in negotiating and strategic matters - with governments as well as communities. They form a bridge between a lot of parties. This organisation is pivotal - meeting people, gaining trust, communicating, working out where the support is, working out the major issues" - independent collaborative conservation actor, SL04. Examples of various types of hub and their contribution to collective conservation action are addressed in Section 5.4.2.8.

Many participants indicated the value of existing partnerships to building wider linkages, especially across sectors; the trust within the existing linkages meant that parties were more likely to feel confident in build links with bodies recommended by the known party: "We have built up confidence and trust in our partners; track record is important to us when selecting

partners. If our partners recommend some new party or other that can help our work, we are likely to feel confident in taking their recommendation and to branch out" - governmental conservation actor, SL52.

Respondents felt the pattern of the links between the aggregates of partners was key to the flow and reciprocity of information and knowledge exchange at the partnership-building stage: "That network is one of the key institutions that brings all people working on snow leopard together as members - they exchange a bit, they know what's going on. That brings all and binds all together, sharing all the research and everything - it is a hub for information and it is very valuable" - NGO conservation actor, SL23.

4.5 DISCUSSION

This study provides a unique perspective on how human-related drivers, under the framework of social capital, influence the building of cross-sector, multi-background, multi-party partnerships and their aggregates in the field of threatened species conservation. This is the first known study to identify mechanisms by which social capital is created - the antecedents of social capital - in such conservation partnerships and concomitantly to uncover how, in these partnerships, the themes associated with these mechanisms relate to other factors considered important to building effective networks.

I this study, I derive and show the following themes to underpin social capital creation; Recognising Need, Convening Conversations, Respect, Context, Empathy, Common Ground and Common Values, Empowerment, Innovation, Proactivity, Showing Examples, Time, and Pride. Trust, reciprocity and behavioural norms have been identified as core aspects of social capital (e.g. Pretty & Ward, 2001). This study highlights how the identified themes create and channel trust, reciprocity and behavioural norms during the process of building links between conservation partners - and therefore how the types and facets of social capital are fashioned and harnessed to build conservation partnerships.

In accordance with others looking at behaviour choice (e.g. Keller et al., 2011), this study finds these social behaviours to have high adherence amongst individuals. The themes are all embedded positive, recurring behavioural choices - and therefore constitute norms of behaviour (Taylor, 1982; Coleman, 1990; Collins & Chippendale, 1991) that are core to creating social capital in the process of building conservation partnerships. The behaviours are not achieved by sanctions, not under threat, but congruence and effectiveness achieved by positively affecting both personal choice of behaviour and attitude, as described for example by Albarracín et al. (2005). The current study therefore concurs with that of Pretty & Ward (2001), in that social capital creation can influence attitude in the conservation arena.

This study shows forms of linkage can occur without trust, for example, during informal chats. Reciprocity was often present without trust, such as to service mutual needs, or within mutual communication. Thus, in this study, reciprocal exchange (giving and receiving) is evinced as a highly important precursor - and fuel - of trust, providing a conduit for mutual exchanges whereby trust could be evaluated. Buunk & Schaufeli (1999) postulated reciprocity to be a fundamental aspect of human social relationships, a basic psychological mechanism rooted in evolution. This is a likely explanation of the ubiquity and fore-running nature of reciprocity identified by the current study.

In the anthropological concept of the 'gift and the gift economy' (e.g. Mauss, 1970; Cheal, 1988), the above situation is recognised. A pillar of the gift economy is that something considered valuable is given without specific agreement for a return. A notable finding of this study is that reciprocity does not have to be in terms of items of physical nature; it is commonly vested in

valuable human gifts (the themes) bestowed to partners - reciprocity in human dimensions strongly helps build links. The thematic norms can, themselves, be seen as a type of reciprocity, a habitual behaviour given between partners. Thus a beneficial norm of behaviour can constitute a gift between partners - reciprocity embodied. The aspects of reciprocity within this study, thus, illustrate the operation of the gift economy in partnership building. Since gratitude can encourage relationship-formation and reciprocity (Algoe et al., 2008), it would seem that operating such a gift economy within the conservation movement may bestow exponential potential to form partnerships. This concurs with the findings of Kranton (1996), who describes the power of reciprocity to sustain relationships. Another finding of the current study is the prevalence of the two types of reciprocity, specific and diffuse, as described by Coleman (1990) and Putnam (1993) - conservation exchanges are sometimes of similar types and concurrent, and sometimes of different types, given at different times.

The social capital-creating themes identified in this study are all capable of building and channelling trust. Fukuyama (1995, 1999) highlights the deeply embedded, and fragile, nature of trust - it is not easily gained and takes time to build; the current study finds similarly. Trust seems to operate at a deeper level of social capital, and cannot operate - or be built - without some form of reciprocity, for example in the form of listening, investment of time, or other of the key norms identified. It has also been recognised that, though trust grows over time, the beginning of partnerships is a critical period for trust formation (Harrison McKnight, Cummings & Chervany, 1998). Trust in societies - social trust - has been used as a predictor of growth potential, more powerful than skill levels (Esmer & Pettersson, 2015). It is reasonable to predict, therefore, that the level of trust vested in conservation partnership linkages is a portent of the potential achievements of their future collaborative effort. This study bears powerful testament to the need of the conservation arena to pay due regard to the basic trust-building human processes, in light of what they can catalyse.

The efficacy of certain of the underpinning social capital-creating themes to relationship-building has previously been acknowledged. However, in other cases, this study highlights a contribution to relationship-building not previously acknowledged, let alone in context of building social capital.

4.5.1 Discussion of Core Themes

Recognition of need is identified as a catalyst in certain social arenas, for example, as a core part of change management theory and processes (Hayes, 2014; Pollack, 2015). However, this study is novel in recognising it as a key part of linkage (and social capital) building. It is likely that the trust germane from the recognition of need stemmed from associated acknowledgment.

The efficacy of communication via varied platforms - for example online, face-to-face, and on the telephone - to the crafting of relationships is widely recognised (Baym et al., 2004). This study finds conservation communication across sectors and backgrounds to be highly valuable. Especially, it finds that the manner of communication should be suitable for the audience and that interchanges be two-way, transparent and involve speaking and listening. To date, within the conservation context, the value of communication in community-based partnerships has been the most extensively addressed area. For example, Zahler & Paley (2016) also stated the value of two-way interchanges, and Redpath et al. (2014) highlighted the value of dialogue to development of solutions mitigating community and conservation goals. Mishra (2016), with extensive experience of community-based conservation partnerships, noted the value of transparent, personal discussions and negotiations to develop mutual trust. Within the science-policy conservation arena, Young et al. (2014) also stated the value of interactive interchanges, and Blackstock et al. (2007) the need for appropriate language. The current study echoes previous findings - however, it is novel in demonstrating the intrinsic value of convening conversations to conservation partnership-building, whatever the sector or

background of involved parties. Convening conversations offers a vital conduit to create and channel social capital; a proactive behaviour by which to identify need, show respect, understand context, show empathy, discover common ground and common values, be empowering, share examples and give time.

Respect has long been acknowledged as fundamental to building relationships (e.g. Becker, 1974). Respect is manifest in external behaviour and internal attitudes - the psychological perspective taken of another person (Cohen, 2001). This external-internal nature of respect is likely one reason that it acted as an important precursor to trust; this study finds it to be one of the fundamental elements associated with social capital building and that it constitutes a universally comfortable, ethical form of mutual exchange - one of the most fundamental forms of reciprocal exchange, irrespective of sector, background or other commonalities. Within the context of conservation, respect has only been extensively studied in the frame of community-based conservation - where its pivotal importance has been made clear (e.g. Mishra 2016; Jackson & Brewer Lama, 2016). These studies illustrate that respect is of multifaceted importance, underpinning the building of, and sustaining wide-ranging conservation relationships. It is also clear that respect plays another, less-direct role - though one pivotal to social capital flow; figures acting as an interface between groups and organisations can only act effectively in that role if they have the respect of their community, group, or organisation (e.g. Zahler & Paley, 2016). Respectful behaviour and attitude constitute a core manner to link all within the conservation movement, bestowing acknowledgement, irrespective of other commonalities or behaviours.

Contextual understanding is recognised by Segal (2011) as a key support to inter-personal interactions - and, in combination with empathy, as a core component of 'social empathy', which is especially valuable to give insight to social situations and systems. The impact of context has been considered by social capital scholars; Pennington & Rydin (2000) consider how historic policy-related patterns can affect the development of social capital and Woolcock and Narayan (2000) look back to its sources, considering institutional and historical contexts that imbue social interactions. With respect to conservation, the importance of consideration of partners' context is highlighted within the Partners Principles for community-based conservation (Mishra, 2016).The author also details the costs and challenges involved in such considerations, for example, by way of time and innovative-thinking needed, to address complex situations. The current study finds in common with these authors - however, this study is novel in demonstrating the fundamental ability of contextual understanding to social capital generation regardless of sector and background. Thus, such understanding is particularly apt - and indeed, vital - to build multi-actor, multi-sector conservation partnerships that may go on to address the 'wicked' problems (Ludwig et al, 2001; Balint et al., 2011; Sharman & Mlambo, 2012) besetting biodiversity conservation. To propose an analogy between ecology and context; there are parallels between the value of ecological study to conservation biology and of contextual study to social interactions; appreciation of a person's social ecosystem, whatever the sector, seems imperative to creation of social capital.

Empathy is a type of understanding of a deeply personal nature, since it requires emotional resonance; it is recognised to facilitate trust, have beneficial effects to those to whom it is shown, provide a pathway for improved communication - and thereby benefit all involved parties (Halpern, 2003). As such, its link to social capital is implicit - and its ability to create it understandable. Promotion of positive social interactions, such as cooperation and altruism, has been attributed to empathy (Van Lange et al., 2007). Empathy can attune to verbal and non-verbal communication (Halpern, 2003). This is one explanation for the this study's identification of empathy as a type of common culture that crosses other cultural boundaries, helping to build and sustain social capital across backgrounds, countries and cultures. Segal (2011), however, shows the considerable challenges of having empathy for people with different perspectives and cultural frameworks, or during crisis situations - scenarios which are frequently found in conservation. Notably then, this study's finding of empathy as a norm amongst the multi-background,

multi-culture, multi-sector conservation movement for the snow leopard - across religious, societal and national cultures - is remarkable, considering the many challenges faced in conserving threatened species. This study, thus, emphasises the need for renaissance-type people (those talented in many areas) in conservation, who can understand the empathic and the psychological needs of their profession and their discipline.

The contribution and benefits of common ground, of varied types, to social interactions have been comprehensively reviewed (e.g. Enfield, 2006). The current study concurs, finding that common ground - a non-physical concept - provides an accessible way to build links. This also echoes findings of Manzo & Perkins (2006) study in environmental psychology, recognising the uniting capabilities to societies and communities of non-physical commonalities in a physical world. The current study indicates common ground to be another vehicle to transcend multiple-backgrounds, sectors and cultures during link-making. Other scholars, however, have shown crafting cohesion, common ground and common values between parties in diverse and multi-cultural situations to be problematic (McGhee, 2003). In view of this, the link-building achievements of the parties involved in snow leopard conservation in the current study is notable - and likely attributable to social capital creation by numerous of the identified themes.

The ability of common values to bridge diverse backgrounds and skills is also highlighted by this study. There are growing movements to harness common spiritual values to aid biodiversity conservation from bodies hailing from varied sectors (e.g. Dudley et al., 2005). The interaction between faith and conservation is a particular area of focus; faiths have ability to influence and impact biodiversity conservation via values, attitudes, philosophies and teachings (Dudley et al., 2009), This study, in congruence with Bhatia et al. (2016), shows a positive link between conservation and religiosity - as well as the importance of contextually-relevant religious understanding to conservation. However, this study emphasises that religiosity can be both an incentive and facilitator to build conservation partnerships, via the social capital vested in common values. Religious solidarity can be an embodiment of social capital, allowing varied groups to resonate with conservation goals and thus build links, though conservation personnel likely need help in traversing this area (Dudley et al., 2009). Those within the conservation movement are largely underpinned by a common goal, regardless of the pathway chosen for its realisation. In terms of outreach, it behoves us to look carefully and deeply at one another - those that don't at first glance appear to share a common goal may be embraced by uncovering common ground and acknowledging common values.

In their studies of community situations, Perkins & Long (2002) recognise empowerment to be a key attribute to building cohesion. In the conservation arena, the effect of empowerment has been acknowledged with respect to community-based conservation (e.g. Bajracharya et al. 2005; Baral & Stern, 2009). This study concurs; however, it goes further, to show the power of empowerment to build social capital amongst any who are involved in conservation, regardless of sector. A notable finding of this study is the ability of empowerment to generate pride - and thus reciprocity towards the conservation cause. This link has been recognised within the community conservation context (e.g. McShane & Wells, 2004; Mishra et al., 2003; Mishra, 2016, and especially the Rare Pride campaigns (Rare, 2018) - however, this study is novel in highlighting its benefits across sectors and backgrounds. The empowering nature of behaviour from leaders and, indeed, any individuals in positions of power, governance or responsibility indicates strong resonance with servant leadership philosophy and practices - which aim to enrich individuals, benefit organisations and bring holistic benefits to the world around via nurturing ethical and caring behaviour (Greenleaf, 1982). The pertinence of servant leader theory to institutions, organisations and purposeful societies is advocated by Paris & Peachey (2013). The current study concurs and emphasises the particular importance of this social capital theme to the conservation movement as a whole; it is crucial that the conservation arena nurtures such empowering leadership. A parallel

exists between ecological coexistence and empowerment: In the snow leopard landscape there is a landscape of co-existence, cats with communities; the conservation movement would benefit from cultivating an analogous paradigm to this landscape of co-existence, a where individuals co-exist, support one another and recognise reciprocal benefits - to each other and wildlife.

The contribution of innovation to building successful partnerships is acknowledged by Deakin & Allwinkle (2007), in the context of urban regeneration. Proactivity has been urged with respect to partnerships in environmental field (e.g. Hyatt & Berente, 2011). Gong et al. (2012) find a link between proactivity, information exchange, trust and innovation in the workplace; proactive individuals seek information from others - this mutual exchange fosters relations of trust which provides a safety-net for innovative work. Though not specifically written to this end, certain studies show the powerful contribution of innovation to conservation partnership building, for example, in terms of community-based conservation (e.g. Mishra, 2016), and connecting multiple stakeholders within an environmental project (Roberts & Jones, 2013). Prior to this study, direct scholarly link between innovation and building conservation partnerships is lacking. The concept of psychological safety, bestowed by trust bonds, is clearly important prior to creative endeavours (e.g. Gong et al., 2012). Scenarios investigated by this study show the fundamental importance of innovation and proactivity to conservation partnership-building in terms of social capital creation, highlighting the efficacy of innovation as a conduit for, and catalyst of, trust.

The contribution of showing examples as a way of making links is largely unrecognised within scholarly thought - and previously unrecognised in association with social capital-building. One exception to this, again, occurs within the community-based conservation arena, where, for example, Mishra (2016) details the value of sharing examples with potential community conservation partners when designing collaborative solutions. Personally embodying behaviour as an exemplar has been recognised as contributory to trust-building (Whitener et al., 1998), thus a link between social capital creation and showing examples is inferred.

Time is widely-acknowledged to variously affect building of working partnerships, from investment costs thereof to temporal identity changes (e.g. Brinkerhoff, 2002). This study finds that time has many nuances related to the creation of social capital and the formation of partnerships. Certain findings of this study concur with other conservation scholars, for example, that presence and persistence are key to build trust with rural community partners (e.g. Ming'ate et al., 2014; Zahler & Paley, 2016). However, this study highlights that investment of time is key to social capital creation with partners, whatever the background. As with communication, time is intrinsically linked to most of the identified social capital-creating themes. For example, giving time contributes to a sense of empowerment and acknowledgement - and it is an underpinning gift during reciprocal exchanges and when bestowing respect, likely explaining its key role in the creation of social capital in these scenarios.

The positive effect of pride in the workplace has received attention (Kandel & Lazear, 1992), however pride has not generally been connected with incentivising linkages. A notable exception to this is within the human development and conservation context described by Mishra (2016), in studies of community-based conservation enterprise programs, and the Rare Pride campaigns (Rare, 2018). Via multifaceted empowerment, such initiatives instil a sense of pride - in natural assets and within the participants themselves, thus driving change in behaviour. These programs are exemplars of social capital generation - and, indeed, the power of pride, and respect, to this end. When people are shown respect for who they are, they feel proud to be who they are. A sense of ownership is almost ubiquitously associated with pride in the current study; Baral & Stern (2009) and Mishra (2016) similarly note this vital component in connection with community-based conservation partnerships. It is a particularly notable output of this study that engendering pride played a key role when building cross-sector links - generation of

pride appears to generate the 'bracing mist' or bracing social capital necessary to provide support to wide-ranging horizontal and vertical linkages.

4.5.2 Discussion of Overarching Themes

By concomitantly considering a social capital framework in relation to other factors considered important to building of partnerships and their aggregates, this study provides added rigour to its findings and, in this aspect of the research, I derive six overarching themes key to partnership building: Critical Unique Individuals, Diversity Positivity, Capacity Building, Joint Envisioning and Mapping of Hopes, Arena to Interact, and Structure. These overarching themes variously embody the key social capital-creating themes described above; this continuity illustrates the conduits by which social capital permeates and reinforces other important partnership-building factors - and how social capital is commonly harnessed in building conservation partnerships. The resonances between social capital and areas recognised as important to partnership building could indicate that these areas have been identified as important to partnership-building, indeed, because they allow social capital to grow and thrive - however, to date, the resonances remained unidentified.

It is noteworthy that a number of the overarching social capital-related themes identified by this study - discussed below - are recognised within scholarly thinking in context of change management, leadership, psychology, institution and social organisation theory (Cohen & Prusak, 2001) and political science (e.g. Halpern, 2015). This study is novel in demonstrating the fundamental importance of these elements, recognised as key in other fields, to the threatened species conservation process and movement.

Critical Unique Individuals

It is common in conservation literature, to find reference to 'key actors' in terms of organisational bodies (e.g. Fraser et al., 2010). A core finding of this study is that, in terms of building links, it is not organisations, but individuals that are key. Certain conservation scholars have recognised the pivotal facilitatory role of individuals, for example, the value of well-regarded leader to head a stable, bonded community is acknowledged (e.g. Cramb, 2005; Zahler & Paley, 2016). The value of a well-connected leader to the development of the trust relationships associated with social capital in a community is also noted (Purdue, 2001; Bodin & Crona, 2008). However, past studies mainly concentrate on individuals in positions of leadership - be it community leaders or those holding more formal status. For example, Rydin (2003, 2006) notes that individuals such as political and policy champions can be key to forging links; this study does find similar. However, this study undeniably shows that Critical Unique Individuals (CUIs) can occur in any role and hail from any background. There is resonance in this respect with the previous author; the cultural context must be acknowledged in order to ascertain where a key individual may be found. Those in positions of influence, in terms of building social capital, are not just those in positions of governance, but many and diverse individuals - often those not seemingly in a position of recognised power. This is a highly important finding for the conservation arena, since it urges that all players be valued for the key part they can play in link-making. It also shows the importance of employing, utilising, and sourcing 'personable' people - who embody the key attributes of CUIs, as identified by this study - since people in all positions can be pivotal to the partnership-making process. That being said, senior leaders will undoubtedly always be CUIs - in a position to empower and support their teams, lead by example, allow innovation, show empathy and aid problem-solving. It is clearly vital that such individuals, regardless of the nature of their work, embody the identified key CUI traits, to maximise the building of enduring relationships and social capital within partnerships, such that it can be harnessed within their work.

Since the trust vested in the individual is often more fundamental to a partnership link than the trust vested in the individual's organisation, the need to uphold trust bonds within inter-organisation partnerships as individuals change working position is highlighted - and is particularly pertinent for groups with few, or single, link points. NGOs often act as bridges (e.g. Fraser et al, 2010), with staff interacting at diverse points of a project or aggregate - thus they have great link-building and -sustaining potential.

The bridging role of the CUI is an onerous one; outreach is vital. Perhaps one of the most vital aspects of the bridging roles of the CUI is to convene conversations - particularly among groups where such conversation is lacking. Conservation CUIs are particularly important to the building of partnerships with bodies that are novel to the conservation arena, since these bodies likely do not have connections to a conservation aggregate. CUIs have agency to encourage recruitment of partners of collaborative nature - donors are in a particularly strong position to empower and incentivise this. Members of an organisation likely share ethos's, vision, values and goals, in part due to selection at the recruitment stage. The potential power of this strongly-bonded team can be channelled by a CUI bridge, thus empowering and capacity-building partners.

The CUI's array of core traits promotes positive social interactions and cooperation, and is frequently underpinned by altruism. Studies have linked empathy with such abilities (Bunk & Schaufeli, 1999; Van Lange et al., 2007); it seems highly likely that the ability to be empathic lies at the heart of a CUI's personal skill-set; the 'human' traits are viewed as vital to partnership making. It behoves the conservation arena to actively scope for individuals who can be CUIs, both those new to the arena and those who skills in this respect may currently be passing under the radar.

Diversity Positivity

This study finds a positive attitude to a multi-faceted conservation movement - and one that actively crafts links to parties from wide-ranging backgrounds. It finds that social capital can incentivise connections to loosely connected arenas; a finding noted by Montgomery (2000) in the political arena. Though diversity in collaborative partners is often encouraged (e.g. Dyer, 2000; Lasker, Weiss & Miller, 2001), scholarly thinking also recognises significant challenges in crafting links with partners from diverse collaborations (Vangen, 2017), therefore this study's results are extremely encouraging. This study shows a similar positive attitude to building links for future cooperative work with multiple actors from varied backgrounds as that of Rydin and Matar (2006a); this is a particular congruence, since these authors considered natural resource networks in context of a social capital framework.

The array of core social capital-creating themes identified by this study facilitated embracing of parties from diverse and unusual backgrounds. Scholars have linked variation to the ability to adapt and survive. National stability increases with diversity of connection (Gartzke et al., 2001). There are ecological-human parallels also; ecosystems are likely stabilised by diversity of their species (McCann, 2000). Thus, the positive attitude to connection to diverse parties encourages variation into the conservation movement, which likely enhances its adaptability and persistence.

The Diversity Positivity theme in link-building is a heartening acknowledgement of a bigger picture, and that, in this once-biologically-dominated field (Chan et al., 2007), in accordance with Borgerhoff Mulder (2007) and Chan et al. (2007), ecological expertise alone cannot save a species - especially one as transboundary, in so many senses, as the snow leopard. This study shows the benefit and need to recognise a tremendous breadth of skills, many previously unrecognised within the conservation arena. A similar message is voiced, in part, by Hyatt & Berente (2011) , who encourage the environmental arena to adopt cross-sector branching to organisations outside the field. However, the current study is novel in highlighting the enormity

of actions required to achieve this; it involves both embracing novel parties - and harnessing latent skills of existing members of the aggregates, such as those from individuals' past careers and their backgrounds, which in turn can provide bridges to other actors. The case study shows how links with people offering skills as varied as from counselling, conflict zones, animal welfare and psychology are embraced to enrich the conservation movement.

Embracing parties from diverse backgrounds gives more 'languages' with which to engage with a wider array of parties. Endangered species conservation requires multifaceted actions (Mishra, 2016). CUIs clearly play a key role in encouraging diversity positivity, embodying open-minded outreach, valuing all partners' potential and all potential partners. Crisis and need are catalysts that often galvanise reaching out to diverse parties and skills in conservation (e.g. Hart & Hart, 2003). In an era where the level of public interest and awareness of conservation issues is decreasing (Proulx et al., 2014) - it behoves us to recognise the need for skills from outside the conservation arena, to harness a wider skill range - and to look for knowledge in fields and arenas that are commonly ignored.

Capacity Building

Numerous studies have highlighted the role of diverse information and knowledge exchange as an incentive to partnership-building within collaborative networks; for example, in the natural resource arena, Schusler and Decker (2003), Crona and Bodin (2006) and Isaac et al. (2007). Cramb (2006) linked its processes to social capital, showing how the desire for training acted to incentivise building of bridging links - bridging social capital - within the conservation arena. In a study of environmental governance, Ishihara and Pascual (2009) linked social capital theory to collective action, proposing that it is creation of common knowledge garnered by social capital which can incentivise future collective action, with social capital forming an important conduit by which knowledge is effectively shared amongst the community. This scenario is found in the current study (see also Chapter 5). This study also concurs with Rydin (2006) who describes knowledge resources to be a key factor in building natural resource management networks.

However, this study is novel in showing a more holistic link between information exchange and link-making, by showing the rounded nature of the information exchanged within the human capacity building processes associated with building social capital. This study shows that it is not just formal or professional training that is key, but empowering in a rounded human-developmental way also; building human capacity outside of a 'skills' capacity.

Building capacity - sharing knowledge and information - is an intrinsically empowering process, within and between groups and organisations. Cramb (2005) shows that social capital plays a key part in building capacity of community groups involved in conservation. The current study shows that, at the link-building stage, the primary route for information and knowledge exchange, whatever the background of the party, is through capacity building and advocacy. Information and knowledge exchange are agents of influence (as seen by Prager, 2012) - being used to effect empowerment and as a tool for advocacy. This study shows them operate widely (across sectors and backgrounds, including those novel to conservation) and variously (e.g. formally and informally) to influence, in varied arenas (physical and virtual) - affected by the other core social capital-forming themes, such as time and context.

The empowering nature of the capacity building seen by this study resonates with learning organisation theory (Senge, 2006). Notably, by investing in its members via information and knowledge exchange in this manner, the conservation movement requires individuals to engage in dialogue and discussion - such interactions can be costly (e.g. Dayton-Johnson 2000). O'Keefe (2002) described how the shared learning of the learning organisation can be beneficial, offsetting the costs of

learning and expediting personal growth. In highlighting holistic capacity building as key to partnership-building, this study shows how associated social capital reduces interactional costs; building social capital within the capacity building process alters the balance of benefits and costs to parties, raising incentives, thus encouraging greater cooperation (sensu Fukuyama 1999).

Learning and capacity building provide a social system in themselves - one that can be distinct from actual organisations (Wenger, 1998). Pretty and Smith (2004) refer to the necessity of social learning across all sectors in order to create social capital to aid biodiversity conservation. This study illustrates the cohering nature of knowledge to individuals; in that people can exchange and mutually interpret it, it can be put into action and attuned to practice - thus, in the manner of Wenger (1998), it shows conservation parties who learn together form a 'community of practice'. This study highlights the potential of mobilising such empowerment across the diverse parties within the conservation movement.

The ability of learning as a positive way to facilitate the building of new behavioural norms between people has been highlighted by Albarracín et al. (2005). The authors found that congruence of behaviour was strongly facilitated by putting forward educational information including perspectives on attitudes and behaviours and skills training - far more than could be achieved by sanction or dictate. Thus, this norm constitutes a powerful way to build new norms and cohese partners - a finding strongly indicated by this study.

Joint Envisioning and Mapping of Hopes

In exploring joint strategic development within this study's social capital framework, a key envisioning and hope-mapping stage, prior to a stage of planning actual action is evident. In a strategic context, this 'joint envisioning and hope-mapping' stage proves fundamental to generating and channelling social capital at the partnership-building stage.

Participation in conservation planning has been variously considered: In their study of building community governance structures and institutions for snow leopard conservation, Zahler & Paley (2016) highlight that NGOs, governmental organisations and community groups share a need and desire for good governance in matters relating to the habitats and ecosystems where people and wildlife cohabit - which forms an intrinsic link and goal between the parties. The need for conservation planning to include all stakeholders, particularly those who live alongside wildlife has been highlighted (e.g. Thirgood & Redpath, 2008; Voinov & Gaddis, 2008). Moreover, mere involvement in participatory planning, where all views were not embedded within decision making, or similarly recognised, has not proved effective (O'Riordan & Stoll-Kleeman, 2002; Pretty, 2003). Appreciative enquiry has been acknowledged as a mechanism for developing community social systems, encouraging innovation and collaboration and changing community norms (Boyd & Bright, 2007).The current study shows positive commonalities with the processes of Appreciative Participatory Planning Action (APPA), an empowering processes focussing positively on skills, strengths and including all parties (Jackson & Wangchuk, 2004) and Participatory Scenario Planning (e.g. Palomo et al., 2011), both of which harness appreciative enquiry in conservation. Joint scoping, envisioning and mapping, involving all parties, are core to these decision-making processes; the conversations convened are viewed as strengths of the processes and as conduits to the production of a common vision of the future and a plan by which to achieve it (Andersen and Jaeger, 1999, Brown et al., 2001). These processes are recognised as fostering cohesion between varied parties (Andersen and Jaeger, 1999, Wollenberg et al., 2000, Biggs et al., 2007). The current study finds similarly. Moreover, by highlighting the use of envisioning and hope-mapping to create social capital to nourish partnerships, it urges similar use across sectors and backgrounds towards positive outcomes for biodiversity.

Rydin (2006) proposes joint strategy development to be a pillar on which effective networks and partnerships are built. Pretty and Smith (2004), find that knowledge sought during conservation planning stages can build and sustain long-term links between partners; this study finds in agreement. Furthermore, the 'joint envisioning and mapping of hopes' theme highlights a further resonance of this study's findings, in addition to communal learning, with learning organisation theory. Senge (2006) showed the value to a purposeful aggregate of integrating processes addressing mental models and shared vision within its framework - sharing and developing ideas that hail from science and spirituality proved bonding. This study also shows that such joint envisioning processes contribute to link-making and social capital creation.

Providing parties who are unusual within the conservation arena with space for their hopes, dreams and visions to be acknowledged is an important channel to legitimising them as part of the conservation community - excitement and hopes for the future are important. This study finds that providing a platform for identification of visions, for all to air what they can contribute as well as their needs - thus declaring their part in the reciprocal process, as in the gift economy (Mauss, 1970) - recognises the psychological importance of feeling able to give and seeing gifts received (e.g Algoe, 2008). Optimism in conservation is considered pivotal to acknowledging hope for survival of wildlife species (Watters, 2016) against the array of threats and challenges they face (WWF, 2016). This study highlights the importance to conservation partnership-building of visionary, hopeful, forward-looking elements during early strategic stages.

Arena for Interaction

If interaction is the embodiment of sociality, the arena is a fundamental pillar of the social institution (Schegloff, 2006). The value of shared space to collaboration, for interaction and mutual exchange and influence, has been recognised - in particular, in the environmental and conservation arenas (Ostrom, 1992; Rydin & Pennington, 2000; Napleton-King, 2016). Platforms to allow interaction are needed between sectors and levels (local, regional, national, international) and within sectors and levels. The importance of this is implicit at the partnership-building stage, however, it is also particularly key where there has been a history of conflict (e.g. Roberts & Jones, 2013). Within the environmental arena, Röling and Woodhill (2001) highlight the need for appropriate platform for dialogue where multiple stakeholders are involved. Within the conservation arena, an increasing number of organisations urge cross-party working; for example the subject has seen particular focus with overarching zoo organisations when trying to unite with the wider conservation community (WAZA, 2013; IUCN/SSC, 2014; AZA, 2016). The current study is in clear agreement with these studies; moreover, it highlights further notable findings.

This study shows the efficacy of varied platforms and spaces to conservation partnership-building and their close association to social capital creation. It shows that the arena for interaction needs to 'feel' comfortable for the parties involved, for example, field operations provide a natural space for communities and NGOs to interact, whereas the policy-making environment is conducive for the formation of links with governmental parties; the latter scenario echoes the findings of Hyatt & Berente (2011).

This study highlights a multitude of arenas for interaction that embrace people from varied backgrounds. One of the most notable findings of this aspect of the study is the value of varied non-physical arenas to the building of conservation partnerships. This study shows that simple embodiment of the social capital-creating norms of behaviour can create an arena. This resonates with the theory of 'agency of absence'; which explores the sociological value of non-physical arenas, an idea also commonly also acknowledged in the field of architecture in terms of there being 'significance in the absence of material' (Meyer and Woodthorpe, 2008). In common with these authors, this study finds that the conservation arena has considerable social

capital-mediated mechanisms to transcend physical absence.

This study also highlights the importance to conservation link-making of the other notable non-physical arena, the online arena. It has been proposed (Halpern, 1997) that social capital can be vested in such communication technologies. However, the current study finds that, rather than the technology embodying social capital, it is a conduit for it to flow between parties. Various studies propose that online media offer key pathways for conservation issues to reach the general public, other interested parties - and decision makers (Barua, 2010; Jacobson et al., 2012; Proulx, Massicotte & Pépino, 2014; Bombaci et al., 2015). This study concurs with these authors and highlights the potential of the Internet and social media to achieve broad outreach, to convey the conservation message and to extend the conservation movement itself.

Clayman (2004) describes how arenas in the public sphere can evolve their own norms and practices. This study finds similarly: It demonstrates that mass media platforms give breadth of outreach for information-dissemination. However reciprocity is limited in these media. Social media, by its very nature, offers greater interactive possibilities - this study shows it to be a potent medium by which to engender considerable social capital. This study emphasises the value of social media in spreading social capital to a digital public that is part of the conservation movement. Thus, it concurs with Castells' study (1996), which proposes a 'networked society', whereby digitally-communicating populations have increasing mobility across social groups and arenas, thus rendering physical social structures less influential than in a physical group. This study shows that social media transcends many boundaries, embracing conservation professionals from varied sectors and general public of all ages and backgrounds in a common cause or fascination.

The findings of this study portray a message urging those in conservation to share experiences at wider fora than those only for conservation professionals, and for CUIs and leaders to encourage forays outside the traditional conservation field, such that those with skills novel to the conservation movement may be embraced within it.

Structure

Manzo & Perkins (2006) proposed that social capital operates on multiple levels - from that driving individual behaviour to larger, informal and formal aggregates and across societies. By evaluation of narrative data, human dimensions at individual, organisation and overall network level, with respect to link-building, have been proffered for analysis within this study - evincing the value of this approach to display discrete and related criteria in relation to these aspects, in agreement with Proven & Millward (2001). Borgatti et al. (2009) described how social network theory explains diverse phenomena in the social sciences. This study does, indeed, find congruencies between structure-related findings yielded by narrative data - of this subsection of snow leopard actors - and those of the social network analysis (SNA) of the overall snow leopard network detailed in Section 3B.

The open structure described by the narrative evidence of the subsection of snow leopard parties that are the focus of this chapter is supported by the network statistics arising from the SNA of the overall snow leopard conservation network, which indicate a network which is not highly centralised. The SNA of the overall conservation network for the snow leopard described a multifaceted boundary-spanning network (sensu Schneider et al., 2003); vertical boundaries were spanned by local, regional, national and international actors; horizontal boundaries within geographical areas were also spanned; expertise networks were spanned (see also Chapters 3 and 5). The narrative data concurs. Value-based networks - such as those cohered by religious, cultural or socio-political values - were spanned also. Schneider et al. (2003) found that increasing connection to different types of parties via boundary-spanning networks had a positive effect on parties' confidence in future collaborative action. This study concurs, identifying a highly positive attitude to parties from diverse backgrounds - Diversity Positivity - and also a network

structure with many boundary spanners, or bridging ties. The narrative findings of this study highlight the generally non-hierarchical structure of partnerships and their aggregates - which grew from respect and depend on respect and reciprocity to function - to be a valuable aid to link-building. Additionally, Argyris (1999) has shown how learning organisations have structures that facilitate team learning with features such as boundary-crossing and openness. Narrative evidence from this study concurs; parties value the empowering, capacity building possibilities afforded by making links with others from diverse backgrounds.

The narrative data - and the SNA - describe a tendency of the network to have some 'mini-hubs' (sensu Breiger, 2009). For example, NGOs can be highly bridging - to the extent that certain are hubs to cohesive subgroups. Fraser et al. (2010) describe how conservation NGOs can be pivot-points between governmental and community organisations. The ability of a network to allow experiential exchanges has been seen as a predictor of the social capital it may generate (Barnes-Mauthe et al., 2015).The narrative evidence from this study shows that to support, or brace, a structure with mini-hubs, whist also allowing for expansion - such as where increasing numbers of range country community groups wish to join in partnership with NGOs and governmental and other partners - requires the effect of trust bonds to be able to permeate many levels of the network, for example, between communities, NGOs, governmental organisations, donors, private sector organisations and zoos. Such a scenario is often seen in the case study; underpinned by norms, trust permeates from chief executives throughout the staff of organisations and wider - an open culture, where individuals are intrinsically involved and invested in key processes. In this manner, the 'mini-hub' structure evinced in this study seems advantageous to the network, to facilitate flow of social capital to enable link-building and expansion of the network.

Bodin and Crona 's (2009) review of networks in natural resource management showed that though networks exhibiting structural differences with respect to key traits (density of relations, degree of cohesiveness, degree of network centralisation and subgroup interconnectivity) display significant differences in governance processes and outcomes, no one of these network attributes presents an ever-increasing positive effect on processes of importance for resource governance - and that the optimum mix of different network characteristics, to yield positive effects, is likely different from network to network. Whether the same can be inferred with respect to conservation network-building is the subject for another study. Whether, in this study, the structure described by the SNA findings aids the building of relationships, or the relationships craft the structure can only be conjecture. However, the extent of social capital creation and flow between snow leopard conservation partners, highlighted by the narrative findings, certainly indicates the ability of social capital to operate to efficiently in relationship-building within the structural pattern of relationships evinced as centering on snow leopard conservation.

Network analysis has been postulated as advantageous to understand policy processes (e.g. Bressers, O'Toole & Richardson, 1994), indeed, this study and Section 3B show it to have wider application. However, the methods of this study overcome the limitations of quantative SNA (e.g. Mizruchi, 1994 and see Section 2.4.2.3), to show how structural elements within a network of parties can relate to the roles of norms and culture, and the effects of human agency.

4.5.3 Other Notable Findings

This study finds bonding and bridging social capital to be connected to all themes. Bracing social capital seems less tangible than bridging and bonding social capital, which seem to be able to be originated even by a single person; bracing social capital is seen as more of a 'mist' effect - and particularly crafted by generation of pride. The narrative evidence shows that if bonding social capital is not strong within an organisation, it affects that organisation's ability to bridge to others. This urges ongoing attention within the conservation movement to nourishment of ties within and between organisations.

A number of idiosyncrasies arose within the findings of this study. For example, the norm itself, as a behaviour demonstrated to others, forms a type of example - thus the norm of sharing examples is tautology. Whereas, with the norm of innovation, there is a paradox - it represents a norm of breaking the norms. This study often highlights a curious link between altruism and reciprocity; a desire to give without expecting return tended to lead to people giving back in return anyway. Scholars have proposed that empathy is the result of the evolutionary process of benefitting from reciprocal altruism; though human nature is to expect reciprocity overall, intrinsic empathy does not expect anything in return (de Waal, 1996; Buunk & Schaufeli, 1999).

My professional experience contributed to theoretical sensitivity and was beneficial in this and other ways to the research, for example, in gaining the trust of participants. It was important to guard against preconceptions interfering with the interview process and data analysis. From my BBC career, I have much experience of remaining neutral, however - and so believe that I remained impartial, objective and accurate in my interpretation of the data. Different types of research structure have different strengths and weaknesses (Newing, 2011c); the case study format of this research bestows strength in contextual (or 'ecological') validity, and can be considered as representative of 'real life'. It does, however, raise certain issues of representativeness which are addressed in detail in Section 6.6. In light of the digitally-communicating population, or 'networked society' (Castells, 1996) with mobility across social groups and arenas, found within the conservation movement, in concurrence with Scott (1991) it is pertinent that narrative data has been complemented by and compared with social network analysis derived from an online-derived dataset, offering further insight to influential actors within the partnerships and their aggregates.

4.5.4 In Conclusion

This study identifies key social capital-creating themes, antecedents of social capital, with an underlying positivity - and that they underpin over-arching conservation partnership-building themes. It is novel in numerous cases, or extremely unusual, for the social capital-creating themes to be considered with respect to conservation of threatened species. Much of the theory behind building social capital appears, to date, not to have been associated with social capital at all, but with other fields. This study, thus, draws connections between core social capital theory (themes/elements that have association with building linkages), institutional and organisation theories, leadership theory, psychology literature on social interactions between parties and collaborative working - and the theory, research, and practice of human dimensions of threatened species conservation. This study is novel in highlighting the benefits that harnessing the synergies between these theoretical areas of inquiry can offer to each other.

Social skills are required for day-to-day operation of a purposeful assemblage of parties (Hodgson, 2006; Jackson, 2010). Understanding of practicalities of the psychological appears to underpin the success of conservation - an arena once considered only in terms of biology (Chan et al., 2007). This study's findings are in accord with a growing body in conservation who consider human processes as the underpinning of our work (e.g. Madden and McQuinn, 2014; Li, Wang, Yin, et al., 2014; Mishra, 2016; Jackson & Brewer Lama, 2016; Zahler & Paley, 2016). However, to date, the bulk of the literature considering the human dimensions of conservation concerns community-based conservation, human-wildlife conflict, or the science-policy field, with a few exceptions (e.g. Roberts & Jones, 2013). My study is the first to consider partnerships within the wide array of sectors and backgrounds involved in threatened species conservation, as detailed in Chapters 1, 3 and this chapter, Section 4.2 (though Hyatt & Berente (2011) recognise this in the environmental field, across a more limited array of sectoral parties). Another novel aspect of this study is that it takes a step back from conservation action and outcomes to consider the start of the collaborative process - the stage of partnership-building - and this study is novel in considering this stage within a social capital framework. In this

respect, it picks up the baton from Woolcock & Narayan (2000) and Rydin & Holman (2004), in exploring and proposing how to actually generate social capital in specific situations.

This study shows the existence of societal capacity and human capacity - both are aided by social capital. This study places the links between individuals in the larger ecological and socio-political context in which the threatened species conservation movement operates. It has developed a framework for understanding the human dimensions of personal interactions within the overall conservation movement. The social capital-informed model proposed integrates multiple domains and analysis levels and can accommodate multiple backgrounds, cultures and sectors, thus making it pertinent to the ecological, social and political aspects of building conservation partnerships.

It is clear that social skills and human sensitivities of individuals within conservation are vital in crafting the partnership bonds that will, subsequently, underpin whatever form of conservation action they will co-undertake. The importance, to conservation outcomes, of rigorous understanding of the human dimensions of crafting partnerships cannot be overemphasised. My study provides a novel theoretical framework by which to do so - and guidelines which can be practically applied across the threatened species conservation movement.

CHAPTER 5. THE OPERATION OF SOCIAL CAPITAL IN MULTI-ACTOR CONSERVATION COLLABORATIVE ACTION

5.1 ABSTRACT

This study relates research built on that detailed in Chapter 4, to consider the complexities of inter-party relationships in operation when trying to improve conservation outcomes via collective action. It makes novel contribution to social capital theory, by defining conduits by which social capital is harnessed in collaborative action. Conducting a case study based on conservation actors and their extraordinarily diverse, transboundary partnership efforts working to conserve the snow leopard, I undertake qualitative data collection to explore and identify the human-related mechanisms by which eclectic, successful, visionary conservation partnerships and their aggregates operate social capital within collaborations to aid threatened species. I derive 12 themes as underpinning such social capital operation, namely; Ongoing Communication, Respect, Context, Empathy, Common Ground and Common Values, Empowerment, Innovation, Proactivity and Passion, Showing and Sharing Examples, Investment of Time, Pride - and Amplification. By concomitantly considering a social capital framework in relation to other factors considered important to collective action, I also derive eight overarching themes key to conservation collaboration - Critical Unique Individuals, Diversity in Action, Capacity Building, Joint Action Planning, Human Factors Enhancing Strategic Implementation, Human Framework for Problem Resolution, The Three Commons - a Common Culture, and Structure - that embody the key social capital-operating themes. These results are enhanced by comparative quantitative social network analysis. This study supports a unique perspective on how human-related mechanisms influence collaborative working in the field of threatened species conservation. This study is novel in its identification of mechanisms by which social capital operates in conservation partnerships' action - and how, in these partnerships, social capital imbues other important collective action factors. This research evinces that social capital is a resource that, by virtue of its numerous 'human nature-rooted' and practical mechanisms, can be operated widely, by all who have agency to act, bestowing vital adaptability to address changing and 'wicked' scenarios, so often encountered in threatened species conservation. This study not only contributes a framework for practitioners of all sorts in conservation, particularly to aid threatened species for whom cohesive effort is lacking, but also transferable knowledge to aid globalised collective action embracing multiple backgrounds, cultures, sectors in any discipline and theatre.

Keywords: *social capital, multi-party collaboration; conservation, collective action, partnerships, trust, reciprocity, norms, key actors, diversity, capacity building, strategy, problem resolution, network structure*

5.2 INTRODUCTION

Interplay between individual and group interests is a key focus for the social sciences: Theories of collective action provide an underpinning by virtue of the broad perspectives and deep insight they offer to explain human behaviour in diverse scenarios (e.g. Olson, 1965; Hardin, 1982; Ostrom, 1990, 1997, 2000; Kahan, 2003; Bimber, 2005; Horne, 2009; Richerson & Henrich, 2012; Mutinda, 2017). Collective action problems pervade all aspects of life, from personal arenas to global issues such as

environmental degradation (Kollock, 1998). Across the broader social sciences, it is recognised that, though bodies may share common goals, collective interests and common incentives do not always result in collective action (e.g. Heckathorn, 1996); collective action is notoriously difficult to achieve (e.g. Putnam, 1993; Becker & Tausch, 2015).

This phenomenon has been exemplified in the environmental arena, for example, where collective action has been widely addressed in connection with natural resource management (e.g. Agrawal & Ostrom, 2001; Pretty, 2003; Rydin & Falleth, 2006; Bodin & Crona, 2009; Mutinda, 2017). Collective action is especially complicated in the case of natural resources, since these resources represent common pool resources; essentially, a large natural resource system the size of which renders high costs and difficulties in excluding parties from benefitting from its utilisation (Ostrom, 1990). Sustainable management of natural resources thus requires the investment of diverse effort from parties from many backgrounds and sectors (e.g. Singleton, 2000; Schneider, 2003; Cramb, 2005; Rydin & Falleth, 2006; Blackstock, 2007; Ishihara & Pascual, 2009; Hyatt & Berente, 2011; Fernández-Giménez et al., 2017). As postulated in Chapter 1, threatened species are priceless natural resources. Threatened species conservation, thus, also requires the investment of eclectic effort from multiple parties from many diverse sources across a global theatre (e.g. Kleiman & Rylands, 2002; Pretty & Smith, 2004; Dudley, Higgins-Zogib & Mansourian, 2005; Borgerhoff Mulder, 2007; Chan et al., 2007; IUCN/SSC, 2008, 2014; Jimenez, 2009; Lees & Wilcken, 2009; WAZA, 2012; Li et al., 2014; Mishra, 2016) - as also evinced by Chapter 3.

The driving forces and explanations of collective action are considered diverse (e.g. Olson, 1965; Knorr-Cetina, 1997; Ostrom, 1997, 2000; Rydin & Pennington, 2000; Ashman, 2001; Fritsche, Jonas & Kessler, 2011; Hyatt & Berente, 2011; Harrell & Simpson, 2015). In adverse circumstances, lack of cohesive action is understandable (e.g. Fritsche et al., 2017) - however, collective action can be successful under highly demanding conditions. Within the environmental arena, a growing body of scholars accredit successful collaborative endeavour and outcomes to social capital (in essence, the collective benefits of cooperation; detailed in Chapter 1), including scholars of natural resource management (e.g. Pretty & Ward, 2001; Pretty & Smith, 2004; Rydin & Falleth, 2006; Bodin & Crona, 2008; Compton & Beeton, 2012; García-Amado et al., 2012; Roberts & Jones, 2013). Social capital can operate across boundaries and horizontal and vertical linkages; the effects of micro level (inter-personal) interactions reaching out to meso and macro (aggregated) levels (Baerenholdt & Aarsaether, 2002; Hovik, 2003; Pretty & Ward, 2001; Bouwen & Taillieu, 2004; Rydin & Holman, 2004; Kolk, van Dolen & Vock, 2010). It is therefore, the interpersonal linkages that are of fundamental interest to social capital scholars.

A key line of enquiry that remains unanswered within social capital theory - a question posed by various scholars (e.g. Woolcock & Narayan , 2000; Bouwen & Taillieu, 2004; Rydin & Holman, 2004; García-Amado et al., 2012) - seeks to ascertain the behavioural mechanisms by which social capital can be harnessed to galvanise, enhance and empower collection action.

Chapter 4 describes how social capital can be created between individuals, to build partnerships and aggregates. Collective action operates within such a micro, meso and macro social order framework, thus its processes should be discernible (Falk & Kilpatrick, 2000). A driver for the current study has much in common with that of Kolk, van Dolen & Vock (2010); instead of focussing on cross-sector partnerships and their collective efforts and outcomes from the wider perspective, it explores the micro perspective. This study considers the mechanisms of interactions between individuals within collaborative co-working partnerships - and how these interactions can ripple out to benefit the wider picture.

Building on previous scholars' work in natural resource management, this study takes an analogous scenario to consider social capital in the framework of partnership action - yet is novel, since it considers it in the context of threatened species

conservation. Bearing many parallels with natural resource management, the theatre of threatened species conservation is multi-stakeholder and trans-boundary, involving local, regional, national and international actors (Pretty & Smith 2004). It faces many 'wicked' social and ecological complexities (Balint et al., 2011; Sharman & Mlambo, 2012; Jachowski et al., 2015) - thus successful collective action is remarkable, however Chapter 3 attests to the fact that, for certain threatened felids, collective conservation action, despite these multiple complexities, is thriving.

Though social capital is multifaceted, partnerships' collective action cannot be attributed to social capital alone (e.g. Rydin, 2006). This is abundantly clear both from social capital literature to date and the resonances with other collective action studies: Scholars have variously established the value, to cooperative working, of other factors - for example, influential actors (Purdue, 2001; Cramb, 2005; Bodin & Crona, 2008; Fraser et al., 2010; Harrell & Simpson, 2016; Napleton-King, 2016) and parties' backgrounds (Schneider et al., 2003; Rydin and Matar, 2006a; Hyatt & Berente, 2011; Napleton-King, 2016). Also, the principles of co-management are recognised as pertinent within the environmental arena (e.g. Carlsson & Berkes, 2005; Rydin, 2006; Roberts & Jones, 2013). Embracing varied parties within governance processes provides linkage between ecological complexities and associated sociological systems, thus, socio-ecological systems can be more appropriately addressed (Berkes & Folke, 1998, 2003) and adaptively so (Armitage et al., 2009). Thus, investment in joint strategic matters is also a key part of collective action enablement.

Building on the findings detailed in Chapter 4, to add rigour to this overall study, I concomitantly consider synergies between the above factors and the multiple facets of social capital. These important resonances, and the significant influence that they may exert on conservation partnerships' collective action, and thereby, on conservation outcomes, bestow a novel angle in studying the human-related complexities of conservation collaboration. The study aim is to look at human-related drivers to determine the operation and influence of social capital on collective action in cross-sector, multi-background, multi-actor conservation partnerships and their aggregates. The objectives are to:

1. identify key themes related to the operation of social capital in the context of collective action in cross-sector multi-actor conservation partnerships and their aggregates,

2. explore these potential themes to understand how, in cross-sector multi-actor conservation partnerships, they relate to other factors considered important to collective action.

Under the overall umbrella of understanding the complexity of the human-related dimensions of collaboration in threatened species conservation, in order that this study can most pertinently build on the previous study's findings (Chapter 4) in connection with the building of partnerships, this study also focuses on conservation actors for the same threatened felid, the snow leopard *Panthera uncia*.

As shown in Chapter 3, the threatened species conservation movement embraces actors from diverse backgrounds hailing from many social, geographic, political, professional, religious and secular domains; it is aided in no small part by the contemporary media environment of numerous information and communication technologies, underpinned by the Internet. Therefore, to account for these factors, in line with Bimber, Flanagin & Stohl (2005), this study considers collective action under traditional and reconceptualised theoretical frameworks. Barnes-Mauthe et al. (2015) have contributed to social capital understanding by taking a network perspective. Concomitantly this study considers social capital in collective action from

individual and network perspectives. This study aims to fill a gap in social capital knowledge and also contribute to partnership and collective action knowledge.

In common with the previous study (Chapter 4), I employ a qualitative approach to this data collection, due to the recognised benefits, previously described (Chapter 2), of qualitative methods to research focussing on complex human-related issues. Whilst acknowledging the specificity of results yielded by qualitative data collection, it is nevertheless posited that the thematic results of this study can provide transferable utility to enlighten similar theatres (issues of representativeness are addressed in Section 6.6). As highlighted in Chapter 2, I undertake a mixed-methods approach to this study, combining qualitative aspects with quantitative network analysis for added insight and internal and external validity (e.g. Drury et al. 2011), thus providing a novel, yet appropriate framework for this study.

5.3 METHODS

As previously mentioned, it is deemed most advantageous, to the overall contribution to understanding of social capital and the human-related dimensions of collaboration in conservation, that this study focus on the effort of conservation actors for the same threatened felid, the snow leopard *Panthera uncia*, as the previous study, Thus, this study can build on knowledge garnered with respect to building partnerships, extending it to understand the human-related dimensions of collaborative conservation action and its influence on conservation outcomes.

Due to the above facts and my extensive past working experience (noted in Chapter 4), it was most appropriate to gather data for the previous, and this, study concomitantly. In this manner, especially due to the adapted grounded theory approach taken, interviewees could be guided by thematic questions, but be able to expand their answers to cover aspects pertaining to both the building and resultant collaborative actions of partnerships, without interrupting natural flow. Past experience greatly shows that people often expand when speaking about a particular topic, thus volunteering information answering another line of enquiry also. In light of the above, therefore, all methodological details for this study are as those detailed in Section 4.3, with the exceptions noted below, due to the focus of this study addressing collective action aspects of conservation.

The novel set of interview thematic questions (Appendix B) designed to guide the process of seeking evidence of the core elements and types of social capital in operation in conservation partnerships was therefore designed to be appropriate for both this and the study detailed in Chapter 4; the aspects pertinent to this study being those relating to social capital operation within conservation partnerships' collective action and associated factors considered important to collective action in networks and partnerships.

With respect to data analysis: The set of indicator concepts (derived from established literature, see Chapter 1), for this chapter were as follows:

Aspects of social capital

- Trust
- Reciprocity
- Norms of behaviour

Types of social capital

- Bonding social capital
- Bridging social capital
- Bracing social capital

Factors considered important to collective action of partnerships and networks

- Key actors
- Diversity of the network
- Joint strategy-related matters

To answer objective 1, data were analysed to search for common themes in connection with the operation of social capital within collective action of cross-sector multi-actor conservation partnerships and their aggregates.

To answer objective 2, further data analysis utilising open and axial coding explored emergent themes to identify how, in cross-sector multi-actor conservation partnerships, they relate to other factors considered important to collective action in networks and partnerships.

Findings from narrative analysis were compared with those of social network analysis (Chapter 3B) to further support findings.

5.4 RESULTS

In this study, I show 12 themes to underpin social capital operation in conservation partners' collaborative action. I have derived these emergent themes from the data by employing an adapted grounded theory approach (as detailed in Chapter 2 and Section 4.3.4); by harnessing aspects and types of social capital as indicator concepts, I have been able to identify themes associated with social capital operation - thus, I have stepped beyond the recognised social capital typology detailed in Chapter 1 (see especially Section 1.2.2.5), to augment social capital understanding. By concomitantly considering a social capital framework in relation to other factors considered important to collective action, I also derive eight overarching themes key to collective endeavour (Figure 5), variously embodying the key social capital-operating themes. The themes and associated conduits by which social capital operates during collaborative conservation action are now detailed. Themes are common across sectors and backgrounds, however where particularly important to a particular sector or process, it is noted.

For clarity, as per Chapter 4, I make the following terminological note:
The following results contain quotes from participants who have used varied terminology. Therefore, to avoid confusion, within all text within the remainder of this chapter (other than participants' quotes) I draw attention to my use of the words detailed below as follows (reiterating Section 1.2.1):

- As defined in Section 1.2.1, an actor may be an individual person or an organisation. However, to avoid confusion in the remainder of this chapter, I avoid use of the term 'actor' (other than in section headings and participant labels). For clarity, therefore, in the text, I refer to 'individuals' or 'organisations', in order to more closely follow terminology used by interviewees.

- As defined in Section 1.2.1, I use the term 'parties' in the sense of involvement - to be those individuals or organisations who are involved in a conservation-related activity, arrangement, situation or interchange together.

5.4.1 Themes Identified as Key to Social Capital Operation in Cross-Sector, Multi-Actor Conservation Collaborative Partnerships

I have categorised the themes emergent from the data as key to social capital operation in collective action of cross-sector, multi-party conservation partnerships (and their aggregates) similarly as for Chapter 4, which addresses how social capital helps such partnerships build links, however the nuances of social capital manifest differently to achieve collective action. I therefore encapsulate the key themes emergent from the data in this study thus: Ongoing Communication, Respect, Context, Empathy, Common Ground Common Values, Empowerment, Innovation, Proactivity, Showing and Sharing Examples, Investment of Time, Pride - and Amplification. These themes are now addressed in detail, with full examples to guide practical application of the framework.

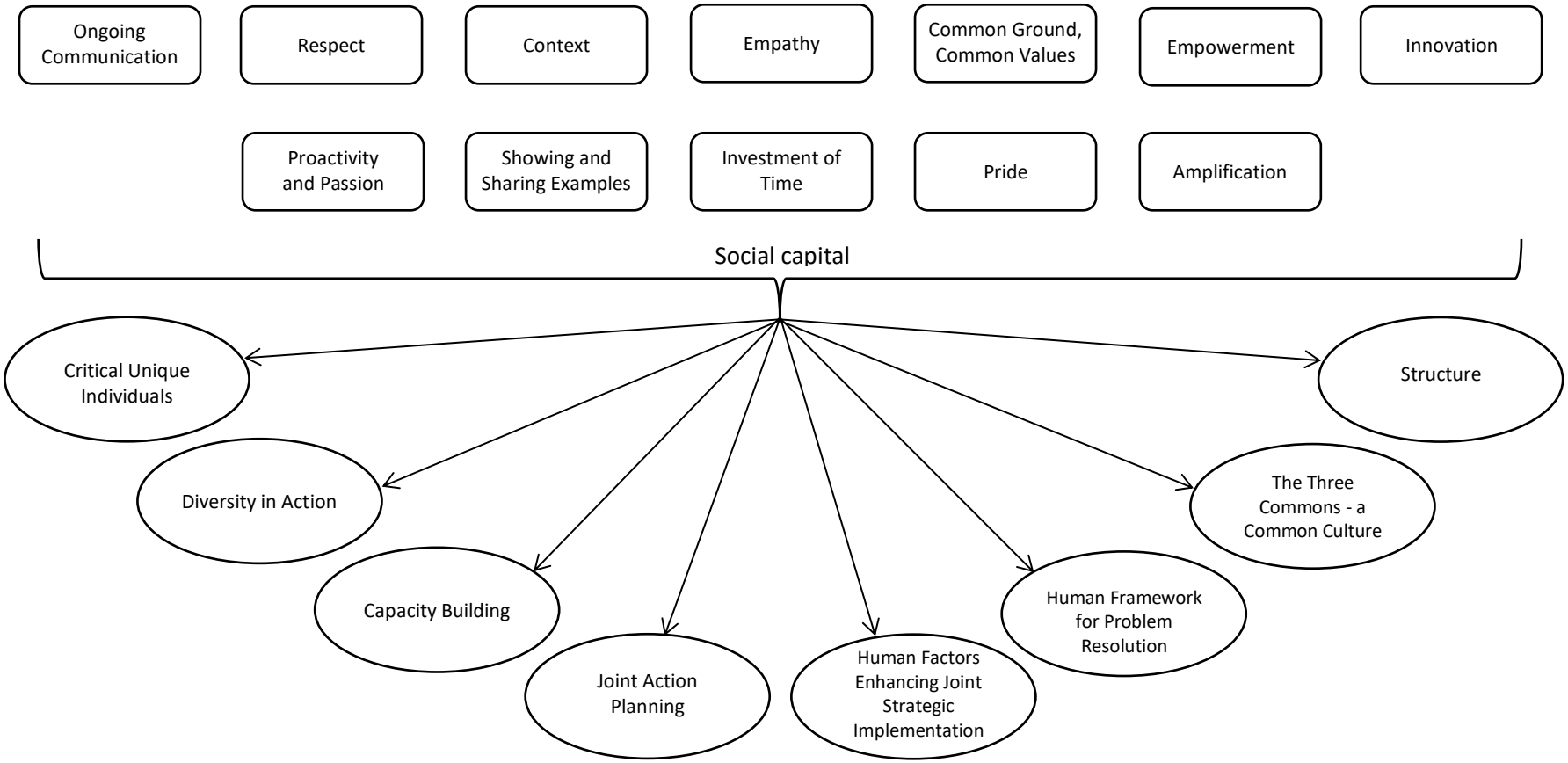
5.4.1.1 Ongoing Communication

With respect to collective conservation action, a norm ubiquitous amongst the data was that of maintaining open communication channels between partners - this allowed reciprocity in communication: "I think communication is important to keep our partnership close. When communication becomes rare, then there are gaps in understanding of each other's needs - then things can go wrong with our work together" - NGO conservation actor, SL21.

Open communication channels, across all sectors, helped bridging social capital enable collective endeavour between parties from different backgrounds. Proactive and responsive communication was commonly cited as fuelling partnership action - reciprocity of such communication helped to increase partner-to-partner confidence and trust: "Being willing to collaborate, to communicate - before we physically meet, I need everybody's input. I ruthlessly pursue people to give me responses to questions. If people don't communicate, they don't have a long perspective with our core group. To me, communication is key. The project has been so successful all these years because people know they will get an answer. I prioritise answering questions regarding this cat in my busy day. It's my vocation to ensure the cat comes first!" - zoo conservation actor, SL18.

Communications could be viewed as a gift; they could bestow on the recipient a feeling of being considered worthy to receive and that they were as valuable to the project as the sender - which engendered a feeling of pride and empowered outcomes. Two-way communications embodied mutuality. Ongoing communication channels helped maintain trust between collaborating parties, particularly those working remotely from each other: "I make camel wool products in the livelihood enhancement conservation program. Two young ladies from the NGO work closely with us. They have a good understanding of local women and listen well. We can be just friends. They have very good communication skills. They are open and respectful to us and always ready to listen. I am glad for that. Good communication makes things easier and the work between us go well" - community conservation actor, SL49.

Figure 5. Representation of themes associated with social capital operation in collective action of conservation partners



Ongoing bridging communication between partners was especially important to maintain trust in cases where collaborative outcomes may not be manifesting in the manner expected, or as quickly as expected. The reciprocity of exchanges did not need to take the same form in order for this to happen, for example one partner could give funds - the other could communicate reports: “It's difficult to tell a donor why there's no rapid conservation success, in terms of the snow leopard conservation goals that we set. The responsibility's on us - to help donors understand how conservation works and that it's not a simple 'give and take' sort of relationship, because conservation is complex and challenging, not only in terms of snow leopards, but also in terms of the wildlife that shares space with humans”- NGO conservation actor, SL10.

Regular communications helped maintain team cohesion and stocks of social capital, particularly where members hailed from different organisations - reciprocity boosted parties’ abilities to collectively bring work to good conclusions: “I tell them it's part of their job as a ranger to keep up good relationships with people they're working with; have coffee with the local Police Officer or the Prosecutor. Keep that contact frequently - so when you go to them with a case, they know who you are, that you're serious and you've done a good job” - governmental and independent conservation actor, SL19.

As with the link-building stage, interviewees stressed the value of the reciprocity of two-way, full communication; speaking and listening was vital to engender trust in collective action: “It's easier to work with individuals who can listen... listen to us. For those who can't listen, it takes some time for us to get into that boundary. Listening is vital to our partnership work” - academic conservation actor, SL15.

Interviewees commonly felt that communication was an in-built skill - one that affected partners’ ability to work effectively together, since effective communication underpinned a trustful working relationship: “How well we work comes down to that personal relationship - and, literally, their personality capacity for communicating. It's intuitive - what to push, what to expect from them, what we're going to have to shoulder ourselves. That sense of it - it's communication” - NGO conservation actor, SL09.

Interviewees particularly attributed the galvanising of conservation action to the spoken word. The following example highlights the lasting impact of spoken engagement to reach wider audiences, without and within the conservation arena, the impact even one person can make by doing so - and that reciprocal action for the conservation cause can arise: “I write scientific papers and popular articles and talk to colleagues too. But talking to audiences is a really powerful form of communication. I still cannot forget one of my youngest audiences - a class of four-year olds. I felt honoured to be asked to do it. I made a small presentation - showed them some pictures and made them talk about them and express their excitement and fascination. Now, they are all about fifteen - each of them remembers and still messages me. And from that level, to giving talks at conferences or to general public audiences - they make a lot of impact. Good effective presentations can be really powerful. In fact, I've had one person who listened - and changed career to Environmental Science! You get goose-bumps knowing you've caused something like that” - NGO conservation actor, SL17.

Spoken word was also almost unanimously recognised by participants as a potent pathway to provide cohesion between a group - a powerful conduit for bonding social capital that empowered outcomes: “When I open a conference I say, ‘You guys are very special. You are in these remote parts of the world, climbing mountains alone, in frigid cold, developing an understanding of snow leopards - and through the snow leopards, about threats of climate change and environmental vulnerability. There are two thousand or so of you - and there are seven billion people creating this disequilibrium.’ I applaud their passion and persistence - and that really powers them forwards” - NGO conservation actor, SL24.

There was a norm amongst participants of using varied forms of online communications with partners - and also to sustain outreach. Social media platforms allowed particular reciprocity of communications with wider audiences: “I share knowledge with different audiences and stakeholders in different fora through different media outlets. With academics, it's through email and academic journals. With general society, I use Facebook - I just posted some pictures from our remote camera traps a couple of days ago and people post back to me” - academic conservation actor, SL39.

5.4.1.2 Respect

Adopting respectful behaviour as a norm was ubiquitously recognised by interviewees as fundamental to successful partnership endeavours: “I think mutual respect and honesty are key in our collaborative work. Respect is one of the big things; respect for people, regardless of their background - especially if you work with communities in disadvantaged, remote areas. I have tonnes of examples where I’ve been impressed with how people have dealt with situations in a respectful way that didn't portray the other person badly - just bringing a different perspective. Those qualities are impressive to me for our partnership work” - NGO conservation actor, SL02.

“With collaborations, much more than the need, it's about trust and respect. If I respect somebody's work and we can trust each other, it's much easier to collaborate. Where collaborations haven’t worked, it's largely because either the respect wasn't there, or the trust wasn't there” - NGO conservation actor, SL03.

Showing respect could bridge cultures, backgrounds, sectors and countries - as a way of fuelling successful, impactful transboundary conservation partnerships: “The snow leopard conservation community has a clear understanding; given the species’ large range, it's very important to collaborate and work together. Respect helps our partnerships work; team spirit - respecting each other's opinion, working closely with each other for a common cause, at very high level, NGOs and governments. Also grass-roots work, building good relationships with local communities in all these countries and cultures - respecting varied attitudes. Snow leopard conservationists come from many backgrounds and engage with many different communities. Respect helps us to have empathy with communities. Snow leopard conservation cannot be done without understanding the needs and problems of the communities that share space with them - and trying to figure solutions together. While we negotiate with them as partners in our conservation interventions, it’s nice to see that communities and conservationists respect each other - and each other’s differences of opinion - and work together” - NGO conservation actor, SL10.

Reciprocity was viewed as a way of showing respect to partners, thus benefitting conservation outputs: “Mutual respect helps our partnership work; a relationship where we give and receive of our respective skillsets to benefit our outcomes. That’s a great relationship - we want to work together” - zoo conservation actor, SL31.

Where partnerships embraced governmental parties, acknowledgement of those parties’ efforts was viewed by many parties as particularly beneficial to collaborative working: “I think, broadly, principles of engagement are the same whoever we engage - but with governmental situations, you have to step up the acknowledgement. Because it’s the government who's doing whatever, who are allowing you to work there; acknowledging their space, time, effort, initiative - it’s really critical” - independent collaborative conservation actor, SL47.

Respectful behaviour provided a conduit for social capital to bridge between areas where certain parties had previously been marginalised: “Respectful community engagement and empowering communities to better be able to help in conservation is critical, in terms of the whole approach - because conservation has been very top-down” - NGO conservation actor, SL03.

Respect was seen as a key ingredient that maintained trust during partnership working. Parties described a culture, a norm, of viewing the trust and respect - the social capital created - as gifts bestowed on each other: “The team of NGO people are friendly and nice. They do not discriminate by age and gender. They treat each local person equally. Their kindness and respectfulness make me feel comfortable working with them” - community conservation actor, SL37.

Within teams, respect was a core ingredient of a culture that not only bonded the team, but imbued bridging social capital to empower the team’s partnership work. In some cases, as in this example, the culture of respect and bonds were so strong between partners originally bridging into a partnership from different organisations, that the constituent members bonded, in time, to be a unit - showing morphosity between bridging social capital and bonding social capital: “Some of our most successful collaborations are with the country programs; we've always been very clear that snow leopard conservation needs to be driven by people from those countries. We’ve invested in many of them to help set up national-level NGOs, they are not our NGO - they are our partners. Most of these collaborations are ten to twenty years old. So, on the one hand, when I'm talking to our team in India or Mongolia or whatever, it feels like we are the same organisation, but technically-speaking we are not the same organisation - these are our national partners. That to me is not easy - being able to collaborate so respectfully, so productively, in multiple countries amongst multiple cultures - and long-term. The nicest thing about those collaborations is that, if you talk to anyone in our field staff, you will see that dual identity: They are very proud of their national organisation and they are very proud to identify themselves as being part of our NGO as well” - NGO conservation actor, SL03.

5.4.1.3 Context

To create collective conservation action, as with the stage of establishing new links between parties, taking measures to learn and understand the context - the background, current circumstances, or perspective - of other parties, partners or colleagues was a norm expressed throughout the data, for example: “It's important to put yourself in the other person's shoes, whoever you're working with. So, for example; a zoo, they're worried about different things - the number of visitors through their gate, animal activists, their local press - and, then we share a worry about snow leopards in the wild. You have to understand their concerns. When you go into a community, if you just come in and say, 'Snow leopards are endangered, therefore you have to save them', I'm certain they care, but they have other concerns, too - about their livestock and pasture-lands. Whoever you're talking to and working with, it benefits you immensely if you listen to their concerns and find where those might overlap with your frame of reference” - NGO conservation actor, SL08.

Joint efforts, between collaborating parties, to understand the context and drivers behind each other’s situations and actions was a reciprocal action that was considered deeply empowering - and fundamental - to their collective action: “Everybody has their own set of limitations; you have to jointly figure out what they are for each other - and understand that people are operating within those restrictions. We can't do this collaborative work without recognising those things and having patience. People may not do exactly what you want them to do. But understanding that everybody's doing the best they can do in their circumstances - it’s vital to our partnership working” - independent collaborative conservation actor, SL07.

One party’s efforts to understand context could generate reciprocal willingness to learn - and reciprocity of relevant actions that could have benefits wider than the focal area: “We not only compensate people for losses, but do other kinds of works too. We have linked our project with one of the best environmental NGOs out there. We’ve attracted more money for locals than money for conservation! People ask, ‘What have schools for the kids got to do with snow leopard conservation?’ So I ask them, ‘What has snow leopard conservation got to do with the lives of the local people?’ This is not the villagers’ priority -

they are interested in schools, healthcare, communication, transport... Even if we have a community-based conservation project, it requires that we honour each other's requirements and commitments - and not impose our own goals and interests on the villagers" - academic and NGO conservation actor, SL29.

Reciprocity of contextual information empowered mutual working via increased feelings of trust between parties. Parties reported that if they felt that they had been well-listened to during the gathering of the contextual information it helped to maintain the trust that was fuelling their joint work: "The staff from our NGO partner visit often - we talk together and that gives us a better understanding of each other's issues and helps us trust each other. We share a close relationship and good understanding, so it is very easy to work with them. I enjoy working with this group of people" - community conservation actor, SL49.

In collaborative situations where residual tension may be present, reciprocity during the context-gathering process did not need to be via two-way conversation; reciprocal communication via one party speaking and the other listening could aid joint work through improved trust: "I love getting background. I have seen political tensions between snow leopard range countries; when you get people in the same room, those bigger political pictures always come to bear. So, in discussions on transboundary collaboration with bureaucrats or politicians with nations that may be perceived as being difficult, I get them to talk first. I give them breathing space to say how they feel about the collaboration" - independent collaborative conservation actor, SL04.

Respondents expressed that maintaining a norm of an open-minded nature when studying context aided collective working between partners: "It's important for us to be open-minded - to understand differences. Different countries have different cultures and ways of how things work. Maybe, trophy hunting is not, in the Western world, something that you would consider for conservation, but we've seen in countries like Pakistan that it's saving the markhor, for instance. I think being flexible and not too judgemental helps us work together' - zoo conservation actor, SL14.

"That sense of openness to alternative perspectives is critical at all levels and values - operational science versus traditional knowledge - everything. You have to be willing to open yourself up to consider - not accept, not change, just be open" - independent collaborative conservation actor, SL07.

The bonding social capital associated with listening and making efforts to understand the context between colleagues and team members was beneficial to team action. Empathy with contextual surroundings often highlighted parallels between human-wildlife co-existence and human-human co-existence: "I help people recognise we can protect nature through diversity of ideas - people's tolerance towards these other ideas is very important. My goal is to have a landscape of co-existence approach to conservation; co-existence means that we have to live with people encroaching on our territory; snow leopards encroaching on villages, villagers on high pastures encroaching in snow leopards' territory, social scientists thinking about snow leopard diet, conservation biologists thinking about communities' livelihood issues. It's a happy encroachment - and we have to be tolerant and propagate that" - academic and NGO conservation actor - SL29.

The bridging social capital vested between partners who listened and made efforts to gain insight to each other's contexts helped fuel their collective work and lead to impactful outcomes. In this example, making a pathway to learn indigenous knowledge built trust with communities, thus helping joint initiatives succeed - and building a joint knowledge-base. "Learning about their context, that's been really great - time spent in the field, interacting with local individuals. We can't

monitor camera traps year-round, so we hire young people from local communities. Just going out with them, we learn a lot - about the history of the areas, the way they see things. For our conservation interventions to be successful, we need support from local groups - but in order to get that, you really have to understand their way of thinking and know that it's not yours, necessarily" - NGO conservation actor, SL11.

In partnership conservation action, learning and understanding context with respect to the parties' socio-economic factors emerged as an especially important norm; acknowledging the impact of these factors was key to achieving ecological goals together. Perhaps the overriding gift of making efforts to gain contextual understanding to collective action was in situations where practices counter to conservation were occurring: "In snow leopard habitats, mostly these are impoverished communities. It's very important to understand the underlying socio-economic pressures that cause snow leopard killing. Once we do this, there becomes a real element of trust that communities have in you. Then a large percentage of these activities are curtailed by the community themselves. Working together as long-term partners, a lot of things start changing" - NGO conservation actor, SL10.

"Understanding context gives rise to jointly-derived solutions. That's how all these community conservation programs have evolved; snow leopards being killed in retaliation against livestock predation led to community conservation and handicraft programs, livestock insurance programs and corral improvement programs" - NGO conservation actor, SL03.

In situations of practices, including cultural practices - and consequences of practices - that may be counter to overall conservation goals, showing respectful, non-judgemental receptiveness whilst learning of the cultural differences was a norm adopted to enable forward movement together: "Cultural differences make a huge impact on how you can collaborate effectively. In Kyrgyzstan, our partners were telling me about these Nomad Games; where the locals cut a goat's head off and then fight on horseback, carrying the goat. I thought, 'I'm not so sure that's something I would instinctively enjoy.' It's a cultural thing in Kyrgyzstan - it's like a sport. It didn't prevent us from collaborating - I just listened, I nodded. They were obviously eager to share the story with me" - governmental and independent conservation actor, SL19.

There was also a norm of employing a comparative framework to enhance contextual understanding. The framework provided a way for parties to translate the benefits from a situation that was common-place to them, to one which was more unusual, thus, helping diverse linkages form: "We try to understand that cultures are different, and that people's needs and options are different - we might manage a US program very differently to one in Papua New Guinea. We're always balancing three ethical perspectives: One is the value of the zoo population; in our zoo-based conservation world, we're trying to save species and populations of animals. The second ethical framework is the individual animal; in a zoo, we're very concerned about welfare of individual animals. And third; in the field, we're concerned about the welfare of people. So we go to Papua New Guinea, we know that ethics is complicated, but we think similarly, 'What's the need of the population, what's right for the individual animal, what's right for the people'. What transpired was: A taboo area where there's no hunting - so the population thrives; and the hunting outside of it utilises the best ways to humanely harvest the animals, and people get their protein and use the tree kangaroo fur in cultural ceremonies. It's a balancing act. You have to be understanding: For my ethical belief, I wouldn't hunt the animals, but I'm flexible enough to realise that in PNG this is what they need to do" - NGO and zoo conservation actor, SL35.

5.4.1.4 Empathy

Interviewees felt that showing empathy was behavioural norm that underpinned successful partnership working: “When you’re working with and dealing with humans, it is always very complex - you must constantly address many issues in order for partnerships to be successful. It's extremely important to have this empathic understanding. It's definitely a challenging task!” - governmental conservation actor, SL44.

Participants commonly believed that showing empathy to other partners fostered a reciprocity that aided working outcomes. Empathy was a particularly important conduit for bridging social capital that aided collective action: “He was not even part of my organisation when I started working with him, we just happened to be working in the same space - in a in a tiger reserve. We started working together because we had overlapping research questions. Over time, we developed a huge amount of respect for each other’s qualities, especially empathy! I think empathy incorporates the ability to acknowledge other’s work and efforts. Empathy really encapsulates the human qualities that help us work well together” - academic conservation actor, SL42.

Many participants felt that embodying kindness and empathy to others could have wider benefits - as a norm, empathy could fuel expansion of conservation effort: “The momentum of the program is largely due to her full engagement and deep caring - for our goal, the people, the dogs. She literally kept dogs alive, which kept the programme alive. Also her empathy, caring for and understanding the scouts - down to a very specific, individual level - and that just translates to a larger level” - NGO conservation actor, SL09.

Human empathy as a norm could transcend the conservation arena as a common culture towards greater environmental and holistic benefits: “Being genuine and being humble in conservation is particularly important. We have a lot of the science now - but so much about conservation is really about showing a new kind of empathy and compassion that will leverage change - change people's values. People understanding that there are values that we could prioritise more - that not only would make the world healthier, but would make our lives more fun and meaningful!” - zoo conservation actor, SL12.

“Empathy is at the root of all of this: I spend a huge amount of time helping communities understand the importance of snow leopards; in controlling large herbivores, how that cascades down to plants, then to availability of water for many people in the plains of Asia. Often, local communities cannot think in those terms. You really need to empathise with them. I grew up in a small village, I've faced the same issues. Sharing sentiments helps us work together; we all try to understand the problems of snow leopard - like us, it's also trying to eke a living from a harsh environment. Empathising helps me educate people. That helps carry forward conservation programs that make a huge difference in conserving snow leopard. You wouldn't imagine the phenomenal way people's attitude changed in the last fifteen years. People who used kill snow leopard, today are trying to attract them close to their villages - that's really heartening” - NGO conservation actor, SL22.

A norm of human empathy - a common culture of empathy - could bridge across cultures, helping to engender and sustain trust and successful collaboration: “We're dealing with cross-cultural issues… an increasingly complicated political climate. Our partnerships are successful due to flexible, open natures - empathy. Having empathy keeps the trust there amongst a lot of moving parts - it helps a lot of relationships to be maintained”- independent collaborative conservation actor, SL07.

5.4.1.5 Common Ground, Common Values

Recognising common ground and shared values was widely regarded by interviewees as the root of behavioural norms that benefitted collective conservation action: “Some things are critical, so there has to be a minimum common factor there. We’re individuals; I love to interact with communities, whereas I have colleagues for whom it's not necessarily their forte. Our individual strengths vary, world views vary - but as long as you share some common values, that's what we need. Everyone does not have to, and should not actually, be thinking and doing things exactly like everyone else” - NGO conservation actor, SL03.

“Sharing similar values impacts our conservation outcomes - that's the basic, the first, the most important thing before you can collaborate. You have to admit each other’s value” - academic conservation actor, SL15.

Common values and ethos’s fostered reciprocal behaviour between parties: “I think shared values give us, as partners, confidence to invest time and effort together: We’re all much more likely to be collaborative and less territorial. They help us coordinate our efforts and try to stay on one page around major sensitive campaign issues” - independent collaborative conservation actor, SL07.

Creation or acknowledgement of common values was a very common reason cited for longevity and momentum in partnerships:

Common values were credited with being the glue - in the form of norms and bridging social capital - that gave collaborations of diverse parties momentum in their collective efforts: “'We share underlying values: One is that it has to be an alliance for conservation; working together, without losing our individuality. We value leadership in conservation. We value bringing communities into conservation. We share the value that you need to look out and not be insular; you’ve got to create a landscape alliance with other stakeholders from all areas. These values are fundamental, important drivers of our work together” - NGO conservation actor, SL24.

In certain cases, the common values were linked to a belief that it was ethically correct to support another organisation that held similar values - the shared values allowed reciprocity in support, thus empowering partnership efforts: “Our mission - as a zoological institution - is to work with endangered species, that's why we exist. We’re striving to connect all the species that we keep to conservation actions in the field. Snow leopard is an iconic species for us; we’ve had great breeding success. We feel a commonality - and that it's our obligation to support conservation in the field. We chose the NGO that we did because they're a fantastic organisation - we have the common ground, shared values and a really good relationship” - zoo conservation actor, SL14.

Interviewees’ responses showed that collective action was enhanced by the bridging and bonding social capital attributable to shared values: “The core conservation values are the same in everybody who's involved in conservation - a desire to protect the resource, seeing what you're doing as a lifestyle and a vocation, rather than just a job. That makes you willing to go the extra mile to accomplish what you think is right in the conservation community” - governmental and independent conservation actor, SL19.

Conversely, lack of reciprocity in values was commonly cited as an impediment to partners’ joint outcomes: “This partnership reintroduction project didn’t have the success it could have had: The federal biologists didn't really want to go into it; they never really had their ethical belief in zoos or reintroduction. From an ethical point of view they weren't sharing - there

wasn't a common ethical framework for the value of reintroduction" - zoo conservation actor, SL12.

Common values could pervade across sectors, often bestowing a pragmatic approach that fuelled collective action: "It depends on the situation; whether you're working in an African country, or the Americas, or in China; you have to adjust your approach according to the decision-makers and the influencers. We have a general approach, that is also a professional standard - which we accept, because it is our own beliefs and our own conviction, actually, we have a scientific approach to conservation. So, very often, scientific organisations - both governmental-controlled organisations, state universities, and NGOs - are our easiest, most reliable partners" - academic and NGO conservation actor, SL06

Common values held within teams and organisations bonded members, empowering their working outcomes: "The spirit of our overarching zoo body empowers the outcomes of the core alliance. We all work on the same principles: To be open-minded, to collaborate - and to look for the welfare of individual animals, the welfare of populations and to the involvement with conservation bodies in the wild. I'm very much driven by that spirit. People want to collaborate and I'm very proud of our group - all the members" - zoo organisation conservation actor, SL18.

Respondents credited holding common ethos's or values between partners as beneficial to joint working and outcomes, due to creation of a conduit for trust: "Sharing these common values positively impacts the outcomes of our conservation partnership work. It builds trust between us and is really empowering for our staff and team - and also for this NGO development" - NGO conservation actor, SL21.

Mutuality in values was often seen allied to existing trust relationships or frameworks, such as religion. In these cases, commonalities in values bestowed trust between parties - in this example, NGOs and Tibetan Buddhist monks - to help conservation outcomes. Such trust-fuelled action lead to impactful reciprocity: "In eastern parts of China, there's equal level of fascination within Tibetan Buddhism - and the monasteries and monks - as we have in the Western societies. So those are great avenues for promoting snow leopard conservation work programs" - NGO conservation actor, SL11.

Religiosity, therefore, could be an incentive to collaboration - and showed parallels with social capital, with religious solidarity facilitating bridging links and collaboration: "Some communities are extremely open to conservation and modern education and facilities - yet are also traditionalist. When we started working with communities in one valley, they said, 'We don't have any girls' schools! Can you please help?' We said, 'OK. We'll link you with this NGO'. In those valleys, there are local development organisations which are completely run by local people - religious scholars. These people want economic mobility through education. Surprisingly, where we see lots of religiosity, we also see lots of openness to education, girls' education, and modernisation at the same time" - academic and NGO conservation actor, SL29.

Whilst common values ran deeply, tending to be of personally-embedded nature, common ground could be found in efforts that parties undertook together, or a common interest - and as such, sometimes proved more accessible:

Despite diversity in goals, identifying common ground helped build social capital - allowing reciprocity between programs and empowering outcomes: "For the countries, they see a value in working through this global Program - and converging their efforts as well as resources. That's been a driving force; streamlining resources which are not essentially just for species conservation, but for green growth, community development, sustainable development of local economies - and also for wildlife ecology and climate change." - NGO conservation actor, SL36.

Common ground enabled working bridging links across sectors. As with building linkages, once the common ground was recognised, it could lead to development of deeper bonds, via acknowledgement of shared embedded values and passions: “We look for commonalities. When we work with government, it's often that they approach our organisation, to do certain things from a Species Action Plan. Maybe, in the first hand, it's more formal - but you need to find a similar ground. In the end, you discover - and need - those passionate individuals to work towards our shared goals” - zoo conservation actor, SL14.

Respondents particularly emphasised the need to seek common ground with parties and partners that were not specifically selected. This was important to facilitate bridging social capital, especially when working with governmental parties and partners: “With governments you cannot choose who you work with. In your organisation, you can choose your staff and teams - you cannot choose governments, and government officials - so you work with whoever is there. You try to find common ground”- NGO conservation actor, SL03.

In situations of difficult relations between parties, where trust could not be established, acknowledging common ground allowed reciprocity which helped the collaboration achieve a satisfactory outcome, as seen in this example of an authoritative, well-recognised party helping a party from a different sector and country, with differing views, toward reintroduction of an endangered cat species: “It's been a lot of work to get that far, because of different perceptions of how to do things - from their country’s side and our side. It has been so difficult to steer and to make sure that they were handling the animals and planning the training and the release as we wanted it, because we had quite different views. In due course, we sent our best breeding pair to their centre - and when it arrived, it actually stimulated the whole breeding. Later on, we had an exchange from both sides; we sent them a male for reintroduction and we received a hand-raised male, which is useful in terms of genetics. So we did see enough common ground all together to enable some progress” - zoo conservation actor, SL18.

Respondents identified that, in order to work in partnership, empathy is often needed in order to uncover commonalities - and sometimes, tolerance to accept the existence of the commonalities, especially if found where unexpected: “Snow leopards can't be conserved if we don't satisfy the local community. His ethos of realising there's a natural way of doing things, based on coexistence, aligned with our policy and project very well. We built a natural alliance. It's interesting that he has a natural science background and I'm an anthropologist - it shows people from different disciplines can cross boundaries and work together. When collaborations fail, it's due to lack of willingness, by either partner, to modify their goals to match the other party's interest and vision - a failure to come to a common ground, where we can understand why a multi-pronged approach to conservation would work. It's unfortunate that people fail to find these kinds of commonalities with each other's work, or to find value in other kinds of approaches and other disciplines. In order to collaborate successfully, you have to find - or create - this middle ground” - academic and NGO conservation actor, SL29.

5.4.1.6 Empowerment

Interviewees strongly connected a behavioural norm of empowerment with successful partnership conservation action and outcomes. The empowerment almost ubiquitously engendered reciprocity towards the conservation goal, often in a holistic way. For example, empowering communities benefitted their livelihoods, in return for conservation support: “Respectful community engagement and empowering communities to better be able to help in conservation is critical. Most of our countries are in regions where conservation has been very top-down. We have a strong belief that conservation needs friends. We can all end up fighting, but ultimately we recognise that you need alliances, whether with government, other organisations or whatever” - NGO conservation actor, SL03.

Empowerment was strongly associated with a norm of giving: The gift of empowerment could be bestowed via tangible items, for example equipment - or in a non-physical manner, for example, by generation of feelings of pride. By either means, the empowerment engendered reciprocity and maintained bridging social capital between partners. The non-physical gifts were especially powerful to efforts, as they became personally embedded: "They were really excited and enthusiastic about the training opportunity. Then we realised we were training them with certain equipment - but they didn't actually have any to use in the course of their work! Immediately we provided each trainee ranger with a field toolkit; camera, binoculars, GPS, first aid kit and crime scene investigation kit. That really has helped - not only their confidence and pride, but also their ability to address critical issues!" - NGO conservation actor, SL08.

Empowerment of conservation outcomes was often fuelled by diversity of partners - keeping diplomatic bridges aided co-operative working in differing societal contexts: "We don't want our in-country partners to seem like a front for us. It's important to recognise they're independent, they make their own decisions - we're there as advisors and to provide program support. By maintaining this distinction, it gives them freedom to do more, like with the monks and monasteries - and be more obvious and open" - NGO conservation actor, SL11.

Many participants voiced that their personal goal was to empower others: **"**Nature conservation in Mongolia means we have lots of Protected Areas, but even in Protected Areas, sometimes wildlife is decreasing. My main goal is to give really good community-based conservation concepts that give to local people - they protect their wildlife and then benefit from them. Also, studies are important - publications on wildlife, so I can communicate my knowledge and help people" - academic conservation actor, SL28.

Within organisations, encouragement from leaders was a form of empowerment that enabled team members to move forward towards their goals: "I like people to feel support from our senior leadership. Being goal-focussed - working on and supporting those. It's a question of asking, 'What are your issues and challenges - how can I help you?'- listening and bringing resources to bear on solving some of those issues" - zoo conservation actor, SL34.

Providing an organisational norm of an environment where people could grow was valued by interviewees as helping outputs: "It's empowering for us to have that space and flexibility to adjust to our strengths; it's another big strength of our organisation - and its partners" - academic and NGO conservation actor, SL30.

The empowering behaviour shown to respondents helped them feel acknowledged and valued, which in turn encouraged them to invest more resources, by way of time or effort, in the joint conservation effort - and fuelled reciprocity: "After years, it's also the friendships and connections with people who I really admire that encourage me to input time and effort. The time they have invested in me helps me feel that my skills are acknowledged - and as we go along in the network, when something comes up, I feel that if I can contribute, I really want to" - independent collaborative conservation actor, SL04.

Collective action could be enhanced by empowering bodies to help them cohese as a unit - building their stocks of bonding social capital - prior to a bridging process with partners: "These families are so remote from each other. When we started the handicrafts livelihood enhancement program, benefitting communities in snow leopard habitat, we started making contracts with individual households. Then we saw that we lacked peer pressure, so now we try to bring people together and discuss, with support from their own formal herder organisation. These herder organisations have community-responsible areas where they share the pasture land. So we help them to develop how they will manage this area - which is also snow leopard

habitat. Within that framework, we see what the community wants to achieve in the coming year. That's how we develop our strategy working together" - NGO conservation actor, SL21.

Many interviewees felt empowered by a norm that upheld a lack of hierarchical structure in their organisation, and lack of egotistical behaviour; they emphasised that it enabled the building of stronger bonds between its members, which in turn created an atmosphere that empowered their organisational collective action: "Ours is a pretty flat organisation: For example, when the Director needs help on issues, he just goes and asks anyone... Or if I need help, I might ask our driver, 'How do I fix this thing?' Everyone is open and approachable. The ability to work relatively flat in an organisation is really empowering" - NGO conservation actor, SL26.

Lack of obstructive hierarchy in an organisation enabled reciprocity across levels, which was viewed as empowering - and valuable to outputs: "We had to look for another Director - everyone was asked what they would like. I wrote that when we are shifting stuff, our ex-Director helped pick up tables… and when fundraising, the same person also talks to donors! It's the same with everyone in the team! Another colleague - he will help fix a tyre off the car... then he will go and talk to a president! The ability of being able to work at any level - anybody can access anybody - is really important!" - NGO conservation actor, SL17.

Regardless of working background, participants from widely-varied arenas regularly commented that their organisations supported the human side of their work, providing nurturing working environments: "I draw support for the human aspects of my work from varied sources, mostly from my own organisation. My immediate colleagues really help, as do people from other zoo organisations in similar roles - we work together, that's really helpful" - zoo conservation actor, SL34.

One of the major contributions of empowerment to collective conservation action was via the generation of pride: "Communities' livelihoods can be burdened by the cost of snow leopard killing their livestock. We created the community enterprise program to empower and help them: Local people make handicrafts, from their sheep and camel wool, which we sell through our NGO. We negotiate a fair price in return for their agreement of respectful treatment to snow leopard. The value-added products increase their livelihoods - so livestock materials help herders and snow leopards. We give local people skill-improvement training. But equipment is not given away; we build local people's sustainability. We created a micro-credit system; local people buy equipment and then pay, through the program - by cash, or by the products that they make. The herders feel so proud to be part of the whole program!" - NGO conservation actor, SL21.

5.4.1.7 Innovation

Innovation as a behavioural norm was strongly associated with the flow of social capital in the efforts and outputs of successful conservation partnerships and their aggregates: "It's allowing that person, whom we may think comes out from left-field, to come and present to us. Then, we realise, 'Oh, yes! We never thought of it in that way!' Having an open form and an open idea is important to allow that to happen" - zoo conservation actor, SL34.

The drive for innovation was often allied to the desire to engender holistic benefits, through the partnership action: "I set up the community co-managed livestock insurance scheme, in 1998. It was an innovative idea; helping communities face great challenges from loss of livestock due to snow leopard - who, as a result, felt negatively towards snow leopard. I'd travel to villages to monitor our various projects - the villagers complained, 'Our goats were eaten by a snow leopard!'. I'd talk to our managers, but they would say, 'We are into rural development - you are describing human-wildlife conflict, it is not our mandate'. I would go to the District Wildlife Officers and they would say, 'We cannot solve this perennial problem, we are short

of funds, we cannot provide compensation'. Later, I got an opportunity to develop a project to address such issues. I had tried to solve it in my head for some time. Then, I talked with a friend - who said, "Well! Why don't you insure their goats?" And I said, 'What?' and laughed - it was so unusual! So the project was born - twenty years later, we are going strong!" - academic and NGO conservation actor, SL29.

The norm of innovation and visionary work in collective conservation action was very commonly linked to a norm of expansion and amplification - and often via reciprocal behaviour in the partnerships: "The very poor rural communities, dependent entirely on livestock, were burdened by loss of sheep and goats due to predators, including snow leopard. We realised that communities and snow leopards could be helped if we started a community enterprise program. The herders could make handicrafts, which we could sell through our NGO, at zoos and online at a fair, jointly-agreed price. In return, communities would agree not to set snares or poison for the snow leopard. We started in one area, as a sample. The next year, we also tested another area. At that time, we didn't imagine it was going to grow bigger! At that time, we didn't really know how these scratchy camel wool socks were going to be marketed! But we tried - and twenty years on it is so successful! It's still expanding like a snowball, as it's implemented - lots more people want to be part of this!" - NGO conservation actor SL08.

Innovation and creativity often provided conduits for bridging social capital to flow between partners, encouraging the investment of time and effort in the partnership work: "We have this belief, recognition, that with conventional ways of doing conservation - some have worked, others have worked to a certain extent, and none of them are fool-proof. You need to keep responding to needs and opportunities. It's ingrained as a cultural thing for us. Increasingly, I spend time together with the Directors of our range country partners - working together to come up with novel ideas to be able to make a difference" - NGO conservation actor, SL03.

Showing the ability to be visionary with respect to work and generate innovative conservation actions engendered a positive atmosphere and trust between partners - and reciprocity: Trust bestowed in one, to explore and innovate, facilitated action from another: "Conservation is very dynamic. We like partnering and supporting people who are living in-country, who respond to changes, come up with local-tailored solutions. We trust and believe in the visionary, good work that they are doing - they know what needs to be done, what needs to be changed adaptively and dynamically in the field" - NGO conservation actor, SL32.

Linkage between the norms of innovation and reciprocal communication bestowed momentum to conservation collaborations: "It is by putting people together that we create a platform for innovation and creativity - and for knowledge exchange. That is the critical thing; that you create that platform - then you encourage people to talk - and to form an alliance" - NGO conservation actor, SL24.

The key social capital theme of communication was also vital to clarify parties' work and dispel myths where paradigms had changed and parties, once known for certain efforts, now provided novel inputs: "We did something in-depth and innovative with zoos: We had progressive zoo Directors from the US and Australia participate in a panel. It was a little controversial, because a chunk of our supporters probably hadn't given much thought to zoos. It was interesting to see them walking out of this panel saying, 'Wow! I hadn't realised that zoos were doing that much for conservation' So, the communication aspect is important!" - NGO conservation actor, SL32.

A behavioural norm of courage was also very commonly linked to successful innovative collaborative conservation action: “For me, the success of our collaborations is like this: In conservation, we talk about the need to think and act out of the box. But when it comes to actually doing it, we tend to be very afraid - we don't want to try things for fear of making mistakes. We need courage to try new things” - NGO and academic conservation actor, SL43.

Respondents noted that, allied to the personal courage needed to work innovatively, confidence to do so could be bestowed via organisational support of one or more partner organisations, thus aiding collective outcomes: “Things that make the partnerships successful: The Kyrgyzstani handlers and Customs have a desire to think outside the box and be flexible in trying a new technology. Though everyone's comfortable with drug dogs and mine detection dogs, this idea of using dogs for something simple, like detecting an organic target odour - it's mind-blowing for some people! The ability to be flexible and innovative; that spark in a person, ‘Let's try this thing!’ - combined with that infrastructure and organisational momentum and stability. Wanting to expand the idea, the program - that desire to be proactive and innovative” - NGO conservation actor, SL09.

Interviewees valued partners’ willingness to step out of the comfort zone to try novel ideas, since they felt it empowered the collective action: “For everyone, there's a desire to do more for snow leopards; be it through pure research, working with community-based conservation efforts, with monasteries - having the willingness to explore all options and not be set. I'm an academic scientist; I've always directed my academic science work to have applied conservation implications. I'd never really thought that, sometimes, the best solution is not science - but going in and talking with people and all the sociology side. So, among all of us, there's this willingness to step outside of our particular expertise and understand that there's a common goal here - and that's to further the efforts for snow leopard conservation” - NGO conservation actor, SL11.

5.4.1.8 Proactivity and Passion

Participants described a pervasive norm of proactive behaviour with respect to partnership working - which empowered the collective conservation action and outcomes: “We’re very responsive - the network across snow leopard range countries. For example, with communities, understanding their needs and trying to provide solutions, seeking them out and working with them to figure out what could work” - NGO conservation actor, SL10.

Demonstrating proactive behaviour to working partners was a required norm for successful action, whatever sector the partners hailed from: To me, highly important is the collaborative proactive nature of the person; it helps me to trust. We need those same proactive characteristics, whatever the sector we are working with. If you're not able to fire up people, collaboration will be hindered - especially if it's not a high profile species! You need dedication. I'm upholding it for sure! I bombard people with images and new field observations to keep the interest. I send sponsors regular updates and keep government bodies interested, also. Seeing images, or going out to the field, has a lasting effect. Luckily, there are some people who will always be dynamic” - zoo conservation actor, SL18.

Interviewees gave many examples whereby showing a desire to collaborate and being proactive towards partners not only aided the collective outcomes, but maintained bridging links, the stocks of bridging social capital: Our partners are people who are committed to working and living in the field and with local communities, adopting a community-based approach. That is not the only way to do conservation, but it's certainly the way we focus - our partners are do-ers, actually doing conservation and not just the science” - NGO conservation actor, SL32.

The incentive for the proactivity could be a need of one of the partners, thus driving the partnership action, for example: “Partnering gave them an opportunity to pilot a model which could help them justify their changed name, from hunting-focused to rational natural resource use-focussed. They also needed to exemplify their new focus. The collaboration became very easy - almost too good to be true! They're very conducive, very happy, very keen to go ahead” - NGO conservation actor, SL36.

The proactivity could also be driven by the passion of one or more of the parties for the cause or work - a norm described almost unanimously by interviewees. When parties recognised passion allied to proactivity in their partners, it engendered bridging social capital, and was associated with successful working partnership outcomes: “What is important for me is how strongly people are involved in the process of protection of snow leopards - by involvement, I mean when they are proactive, willing and really want to work for protection. Some people just work to make money, not really caring for wildlife. Our partners are really passionate in what they are doing - that’s the main reason we do a very good job together” - governmental conservation actor, SL27.

The norm of passion was infectious to others; recognising this passion and proactivity engendered reciprocity of action, which if the passion and proactivity reached out far enough could brace partnerships, engendering bracing social capital: “These field guys are exceptional people, devoting their whole life. They love the mountains, the breeze, the peace, the excitement. There is a lot of passion - and persistence. These are environmental adventurers and pioneers, performing against all odds. Conservation is not a significant topic everywhere - but this topic can be made significant by the understanding they generate - their passion inspires all our efforts” - NGO conservation actor, SL24.

The norms of passion and proactivity were often allied to altruism, in order to further a common cause. In the case of collaboration involving high-profile partners, it could manifest as a diplomatic altruism: “When suggesting and guiding, it should not be as if you're trying to get into the limelight. You're doing it - but you're trying to bring these people into the limelight, because in the priorities of countries, this sector of environment always sits low down in priorities - it's seen as anti-growth. If you can bring a creative environment in which the profile of the department goes up, people feel excited about it - and then comes momentum! Excitement is important, you must feel excitement in what you do - and enjoy hard work! ” - alliance conservation actor, SL40.

A norm of altruistic proactivity pervaded interviewee’s personal goals for conservation - many described the desire to give: “I am definitely driven by the desire to spread good, to make a difference - to help animals and people. I think, in a simple, way, I can't imagine a life where I don't make a difference - this gives it meaning” - independent collaborative conservation actor, SL53.

5.4.1.9 Showing and Sharing Examples

Following on from its strong association with the link-building stage, interviewees widely credited the norm of sharing and showing examples with empowering collective conservation action: “The scientists got excited; they weren't just doing research out there in the air - but their research was getting implemented in operational programs of countries. The excitement was widespread: Pakistan government, for example, they're excited; seeing communities feeling good and scientists working together, they poured more money into it - the administration felt the vibrations of success” - alliance conservation actor, SL40.

Leading by example was recognised by interviewees as a behavioural norm that could powerfully and positively influence conservation outcomes. Showing examples of initiatives that were working well, and of existing trust relationships at work, help boost bridging social capital between parties - and boost trust: “I believe that you've got to have alliances, partnerships and coalitions - you can't do it alone. When people saw what was going on they said, ‘This is very interesting - even the President's getting interested... ’. We showed them what has been done and said, ‘All these national programs have to come together for tigers into a global program - of advocacy, resourcing, capacity building and illegal trade. They saw the success of that - and they were excited in coming together and doing similar for snow leopards” NGO, SL24.

Showing tangible examples - results - could encourage reciprocity and bridging social capital to empower joint ecologically-focussed efforts, where parties also had to negotiate complex socio-economic issues: “The parties’ commitment was because of clarity of what can be showcased as success: The delineation of landscapes has ecological, political and diplomatic components - landscapes, once delineated, can be secured to showcase countries’ successful contributions to the global program” - governmental conservation actor, SL44.

Respondents widely credited the practice of showing and sharing examples and evidence amongst partners with building momentum in joint conservation initiatives; the reciprocal practice engendered a bonhomie, a positive peer-pressure that spread like a ‘good infection’, thus forming a new norm and boosting effectiveness of efforts and outputs: “There’s a sort of peer pressure; ‘Oh! Kyrgyzstan is doing this - this is what we will do!’ ‘Oh! India is doing this!’ - Pakistan says, ‘We want to do this also’. China says, ‘If they're doing this, let China show something exceptional!’ That camaraderie is a driving force in the program’s global collaboration. Once it gets momentum, then it's almost infectious: If one starts doing it and they show fascinating results, which make sense in the climate change and conservation development regimes, everyone says, ‘I want to ride the same boat!’ Then they join hands - so it becomes like an infectious initiative!” - NGO conservation actor, SL17.

New norms were, thus, established by sharing tangible examples: “When it comes to support from governments in snow leopard range countries, high level meetings are very useful. For example, when Mongolia showcases the important commitment and work that government has done there, or when, say, India comes up with some of the nice science-based conservation programmes that they have been implementing, it provides impetus to other range country governments" - NGO conservation actor, SL10.

Interviewees shared many instances whereby, tangibility, in the form of examples of solidarity helped development of greater trust, fuelling reciprocity and strengthening bonding and bridging social capital which benefitted the collaborative action of the partnerships. This was particularly important where partners were physically distant: “Our NGO is a partner in this long-running community enterprise programme: Years back my colleague was talking to the rural communities - herders dependent on livestock, but whose lives were impacted by snow leopard taking their livestock. She realised we could set up a program that benefitted both the people and the cats: They could make products, from their livestock wool, that we could sell at a fair price in the US and Europe and online, in return for their community’s commitment not to harm snow leopards. My colleague placed the first order with the communities - and when she went back months later to collect the products, the communities hadn't made any! The raw wool was still sitting around! The community people said, ‘We didn't think you'd come back - all the time people say they’re going to do this, or that - and they never come back!’ The community didn't yet trust that we were going to be a partner they could count on. You can't assume that people are only motivated by money or fear - it's so not true! When you develop trust with people, you can be blown away by their efforts” - NGO conservation actor, SL08.

Interviewees felt it incumbent on themselves to work in an ethical way, as they realised their example could impact other parties willingness to participate in future collaborative action. In this way, previous parties' behavioural examples impacted future collaborations, a type of 'forward-paying' reciprocity: "People are more receptive to our message and collaborate better - honour their responsibilities - where they had prior experience of working with outside NGOs and outside organisations. So, we must honour our responsibilities so that things keep working well - NGO conservation actor, SL22.

Tangible examples and results increased trust between parties, enabling small-scale initiatives to be expanded with confidence: "People say, 'You're saving this habitat - not the other!' It's not like that - these are pilots. If as a pilot, you are able to secure twenty-five percent of snow leopard distribution, then saving the remaining seventy five percent is a do-able thing! You can look at the success; if your pilot is doing so much - then you're really achieving a lot more than you strive for" - NGO conservation actor, SL36.

5.4.1.10 Investment of Time

A norm of ongoing investment of time - quality time - was strongly associated with collective efforts between conservation partners: "For successful collaborations, the onus is on conservationists to help people understand that, to have real conservation success, long-term, sustained engagement is important. Short goals and quick successes are not going to remain. When you're dealing with humans - always a challenging task - it's even more important to have this understanding!"- NGO conservation actor, SL10.

Respondents attributed the success of partnership programs to the sustained efforts of both individuals and organisations: "The success of our joint enterprise is largely due to the presence and the longevity of the field teams. They've been working with some of these communities for almost twenty years now; it's been that constancy of the people - and the organisations - that is key" - NGO conservation actor, SL08.

Investment of time strengthened bridging social capital between collaborative parties: "These international meetings are incredible places for bonding. There were two people from the government - one that I've known for many years, another that was young and open-minded. It was a great opportunity to spend a lot of time together, to talk and strengthen that level of communication and collaboration" - NGO conservation actor, SL25.

Investment of time could enable familiarity between parties that enhanced working efforts - bridging social capital could morph to bonding social capital: "We spend a lot of time with them - in their homes, in the mountains. We share those important moments. When we're not there, we're always in communication - they don't feel like they're left to their own devices. It's almost like, after all this time spent together, we go from being strangers and foreigners to becoming like a family" - NGO conservation actor, SL25.

With respect to social capital, time most enhanced collective action by influencing and enhancing the facet of trust:

Interviewees reported that they felt combined efforts sustained over time enhanced trust between partners: "In addition to our unique skillset, I think partners ongoingly invest in our partnerships because we have proven our long-term commitment. Something that grows over time is that trust. Seeing that we've been in this effort for thirty years has proven to our partners that we'll be there" - zoo conservation actor, SL31.

Participants acknowledged that it was reciprocity in their working efforts that built trust, but not reciprocity alone - time

was a necessary ingredient: “In our partnerships, this view helps our joint efforts; ‘You did this for us - and we will do this for you.’ Ongoing reciprocity - it builds trust, it builds long-term relationships” - academic and NGO conservation actor, SL29.

Time and persistence were particularly important to maintain trust and yield impactful outcomes where parties were working on joint initiatives, but remotely: “Trust is an important thing. Communities know they can trust us and they have ongoing support. I remember that first time when we, the international NGO, introduced this program, delivered training and then gave selling product orders to the rural snow leopard communities - who were going to make the handicrafts from their livestock wool for us to sell. The next year, when we went back, they hadn’t made any products for us to sell! When we asked why, they said they didn't trust us to come back. Then we explained that we really wanted to continue the work with them! So, that actually showed in the first three years; people started building their trust in us. It takes some time, but it's always so” - NGO conservation actor, SL21.

Trust and confidence in partners increased over time; reciprocity in time given to each other allowed partnerships to adapt to changes: “We develop long-term, deep relationships with all our partners, some partnerships have been established for eighteen years now. Before they become a partner we have an extensive process of getting to know them. Then we visit them in the field and continue that relationship. We have that human trust that people are doing good work - because we speak with them on a regular basis” - NGO conservation actor, SL32.

A norm of investment of time emerged as intrinsically important to maintaining multi-sector conservation collaborations, especially given the difficult socio-political climate of many of the regions involved: “Science is important to inform policy; then you need interactions with local, regional and national government. They all demand a lot of attention, constant communication, ideally in person. When that is not possible then, at least, talking over the phone frequently. Whenever any of these players is not regularly contacted, they feel excluded from the process. A substantial chunk of my time is devoted to interacting with government people - also with local communities, figuring out novel strategies to address different crises, then, bringing people from local communities together with people from government and making sure that they communicate. We work in a region that has had a lot of problems. There's always that risk that people in central government feel the conservation work is used to pursue different sorts of objectives, of a civil rights nature. We'll always need to make sure that the central government knows what the local communities are doing, so that they are assured that none of our conservation activities have a political nuance” - NGO conservation actor, SL25.

Many respondents emphasised that investing time with governmental partners could eventually influence thinking, thus positively changing policy norms, fuelling conservation outcomes and yielding wide-ranging benefits: “It's important to engage on a continuous basis to build trust with governments. We need patience - it's not easy to deal with bureaucracy. You should invest and invest and invest, without hoping for immediate results. You have to continuously invest in all relationships. Dealing with governments, dealing with international organisations - you must understand that things will take time. If you can do this you can change the thinking. For instance, for tigers globally, we have been advocating smart green infrastructure since 2009. Eventually, now, I'm getting so much pressure to come and talk about it because they want to create policies around it - it's taken years! People used to laugh at it and say, "Don't come in our way - we want to build roads!" Now they say, ‘We want to build green roads!’ So it took time. You have to consistently hammer at it - and slowly, people do understand” - NGO conservation actor, SL24.

Taking time to interact could both enhance relationships and working outcomes, via increased knowledge gained: “When you go out into the mountains and interact with local people who have been living there for generations, who know that place inside out, they become like your encyclopaedia. Even though I didn't have books, journals, phone or Internet - I was sitting out there learning, because I spent time with those people who knew so much about their area” - NGO conservation actor SL26.

Interviewees often spoke of finding other partners’ persistent, tireless conservation efforts inspirational, and that it had fuelled their own work: “I find the women at the range country NGO inspirational; in their late thirties, both have two children - but they're still pushing so hard. One has started her PhD; she wants to do really well and make change. It's inspirational how people balance their life - and women, strong, tireless women, who believe in themselves and make it work” - academic and NGO conservation actor, SL30.

5.4.1.11 Pride

Collective action could be seeded by feelings of moral responsibility; the resultant ownership garnered feelings of pride - and bonding social capital in teams - which empowered outcomes: “We thought this animal had gone extinct. When it reappeared and we were asked to become involved, there was a real personal responsibility. We don't like to watch species go extinct and we are very good at managing them. There was a real moral sense, as well as feeling proud to be the party with that skillset to provide this service” - zoo conservation actor, SL31.

In situations where people faced hardships, behavioural change and impact could be achieved by empowering those people by instilling a framework for generating pride - showing them how intrinsic they were to the whole process: “Saving snow leopard in the wild is much to do with local people. We are working with communities’ conservation committees, convincing through them to the herders - the ones who are alone and who are suffering the most. Bringing the herders as citizen scientists has been a key factor. Herders are the primary actors, the key factor in protecting the species - and we do that through giving them pride in what they do”- NGO conservation actor, SL23.

Pride functioned very effectively to change norms from negative to positive: “We've seen that processes work where the communities, on their own, realise they are doing something terribly wrong - that's when they become open. It's amazing to work with them: From day one, you feel it’s not like our NGO’s project - it's their project. They all have day jobs - livestock herders, drivers - but they each realise they need to make time to do something about poaching. Then, because they’re all former poachers, they put pressure on other poachers in the community to stop poaching. So, they all take turns in monitoring. We provide them with tools; camera traps for anti-poaching, binoculars, cameras to take pictures of traps or animals of poachers. They communicate among each other and say, ‘I've seen these tracks here, come here’ - then they all go. We get them full id, showing they are official rangers - that gives them powers of arrest. We see them becoming responsible for something they are creating. They become so proud of what they are doing together. Then one and two years later, when they start seeing the results, they get even more motivated! - NGO conservation actor, SL25.

Acknowledgement of partners’ worth via training and capacity building built pride and ownership - and bridging social capital - which fuelled collective outcomes - in addition to via the increased knowledge: “Seeing their enthusiasm and excitement to receive training from a high-profile organisation with an international presence - it was tangible from everybody! They all got a certificate with the organisation’s logo on - I think that really helped them feel empowered and proud to be part of the initiative” - governmental and independent conservation actor, SL19.

Pride was closely linked to other key social capital factors identified. A cycle of reciprocity was identified between empowerment and pride; whereby empowerment given by one party to another led to feelings of pride in both parties and empowered joint outcomes - thus boosting conservation impact and generating more pride and further empowerment: "Empowerment - not just in terms being able to do things on their own or in equal partnerships with us or other conservationists - but also in terms of helping them recognise their own roles. When you're working with a community you aim to help livelihoods- but also working with them respectfully, what you help to build is pride. A lot of these things people will do because they feel good, and they feel proud to do them, not just because they have money to make. So, respectful building friendships with communities is really important in conservation - and it's much under-appreciated! If we think, 'Ok, communities will gain this much, so they will change their conservation-unfriendly practices' - it doesn't work like that in my experience" - NGO conservation actor, SL03. This was a theme across sectors and backgrounds; however parties' responses highlighted its particular aptness to embracing communities and their organisations within conservation collaborations.

Numerous interviewees recounted situations where parties shown respect for who they are felt proud to be who they are. A norm of building pride then influenced behaviours thus boosting partnership efforts: "I like the values of The NGO we work with - they believe in involving local, rural people to work with them to save the environment. I feel like I am part of their team. What we do together makes me feel proud; proud to generate the products, proud to be part of such wonderful program - and proud to tell many people all about it" - community conservation actor, SL48.

Pride appeared to be the key ingredient to bracing social capital associated not only with building linkages, but also with collective action. The pride described by parties working cross sector and innovatively and holistically for people and animals seemed often to brace the collective efforts, by virtue of it being collectively felt and generated - a resonance, or a 'mist effect' - and not necessarily attributable to a single person.

Shared pride commonly created bracing social capital that underpinned collective action by parties linked by a common cause - the snow leopard in this study. Pride was a glue or scaffold that could span sectors and countries: "This multi-country, multi-party program keeps growing - a combination of factors drives it forward. There is this political will, which gives higher profile to snow leopard conservation in the minds of policy makers. At high level, people start thinking, for example, 'We, China, have sixty percent of the snow leopard of the world' - or 'India has, maybe, four or five hundred snow leopards'. There is more awareness - and they start to feel proud. Also, the scientists who were doing great research work felt proud to see their work contributing to actual conservation by various countries. Also governments and scientists felt proud to see that communities were benefitting also. There were many facets of the success and a common pride" - NGO conservation actor, SL24.

Respondents indicated that pride played an especially important role in fuelling collective action - the role was fundamental in fuelling partnership work at many levels - it appeared to function to create a common culture (a norm) and sense of ownership: "It is critical that communities see value in it, feel a sense of pride for the wildlife and wilderness - only then will we be able to save these animals. We have to make governments feel a value and a pride, because it's huge now - climate change. When we find value for everybody, whether a government official, a President, anybody - and tap into it we can be as one in our efforts and they are much more impactful" - alliance conservation actor, SL40.

"Everyone at the zoo feels proud to be associated with our partner NGOs and our collective efforts. For example, our Event Manager is very proud that she helps host events at the zoo. Pride in this partnership extends way beyond the scientists, the conservationists, the veterinarians, the researchers, the zoo staff, the keepers; it pervades and binds us all - and I think it

tangibly improves what we do together"- zoo conservation actor, SL12.

Generation of pride could uncover hidden pathways to previously-unharnessed effort that could benefit conservation: "We're finding ways to engage the private sector. First, we're having them do something relatively small, so that they can see a tangible result. We're really brainstorming around what little things they can do so they feel proud" - NGO conservation actor, SL08.

5.4.1.12 Amplification

Amplification emerged as a social capital-related theme that was key to collective action in cross-sector, multi-party conservation partnerships and their aggregates. Amplification manifest both as an intended consequence of spreading the benefits of collaborative work, a desire to spread benefits more widely than the immediate focus - and sometimes as an almost unexpected result of the collaborative actions:

Amplification was almost always strongly associated with reciprocity - and often of highly varied inputs or gifts between parties. Due to the outreaching nature of amplification, it was commonly a positive factor in the setting of new norms. "One picture of snow leopard from the sanctuary where we're all working has done magic! We've shared it; the Hunting Department loves it, the Forestry Agency loves it, the Minister and the President are in love with it! Everyone is talking about it - so close to the capital city you have snow leopards! It's done wonders for the Department's reputation - this one area's doing so well, they're thinking about doing three more areas! They're getting a lot out of this collaboration: For the same level of investment, they're getting much more value - and good publicity! Also thanks to our range country partner NGO's understanding of the legal system here - and our existing partnership with the government at many other levels - it really gave the idea momentum" - NGO conservation actor, SL36.

Amplification was closely linked to other key collective action social capital-related themes, such as empowerment and often, the more action-related capacity building initiatives between partners. "We really try to build capacity of range country partner NGOs; build their skills, their ability to run the projects - give power to them. It's a really nice partnership where no-one tells the other person what to do. The range country teams put together what they want to do; we provide technical guidance and funds. We very much value their input to conservation projects. They're the real conservationists - and we're learning from them about their countries, their situations. It's a win-win situation, because everyone comes together with their strengths and we are able to reach wider in this way" - academic and NGO conservation actor, SL30.

The desire to achieve amplification was associated with bracing social capital, which could strengthen and power cross-sector initiatives and their outcomes, especially those linking to high-level governmental parties: "The government - whether left or right - has to be responsible for the law of the land. We need to work with government - then government brings enabling policies for people to benefit and species to thrive. Also, the government brings investment - so once projects end the work continues, because the government has buy-in and many streams that feed into conservation issues" - NGO conservation actor, SL01.

Situations described by interviewees showed how amplification could be achieved by harnessing bracing social capital to facilitate large-scale operations by cohering smaller operations, possibly individually quite different in operational focus - thus enabling expansion to the scale necessary to conserve wide-ranging species such as snow leopard - and other species with transboundary range. Harnessing existing successful human-related practices that related to bracing social capital could

therefore enable scaling up of existing efforts to landscape and policy levels - allied to core principles was the key collective action social capital-related theme of innovation: "It's been a gradual scaling-up; we jumped from one to seven to ten villages. Scaling up means we have to be more flexible in our approach. For example, in some valleys, villagers want to insure their goats and not their yaks - it made more sense for them. In some villages, people wanted to contribute their livestock as an insurance herd, rather than money. It can be difficult when we face new situations - but we need to resist the cookie-cutter approach. A decade on, we are still expanding and helping communities and wildlife!" - academic and NGO conservation actor, SL29.

Many interviewees felt that a norm of amplification, allied to the theme of innovation, was crucial in order to embrace parties less-commonly seen in conservation and allow their novel efforts to contribute to outcomes: "To give conservation organisations confidence to accept more unusual parties, I think of women in US Congress; when a woman congressperson says something, other women say, 'Aye!' …They amplify her voice, because it's so often not heard. I think amplifying - by having academics and government people amplify their voice - gives legitimacy. We all need to amplify those people - amplifying voices is very important" - NGO conservation actor, SL09.

Respondents often associated the behavioural norm of amplification with the key collective action social capital-related theme of pride. The initiatives that most commonly highlighted this thread were holistic in their nature: "We just celebrated twenty years of this conservation program. Pride keeps it going; it's brought pride to our zoo and our supporters of its success. It's hard to explain what keeps its Director going: It's in a remote, biodiverse area. There are no roads, the villages are completely isolated. We work across a couple million acres - fifty villages. People have fallen in love with the Director, over the years - and she with them. Originally, she went to one village, because she wanted to help save this creature. But you know how it is when you're in a remote area like that, and the people have such problems - she just started helping them. It's grown into such a holistic and wide-ranging program over the years - everyone's so proud to be part of it" - zoo conservation actor, SL12.

Though a cross-sectoral norm, the desire to achieve amplification was particularly strong with zoos and NGOs: "Many of the zoo breeding program coordinators are finding a range country NGO that works on their species - and linking up. For instance, the red panda zoo breeding coordinator and studbook keeper is collaborating with the Red Panda Network. She emailed all her member zoos saying, 'We're one of the largest endangered species breeding programs: If all member zoos contribute just two hundred and fifty Euros, we'll fund twenty rangers working in Nepal with the red panda. You'll get pictures and information from the rangers that you can use in the zoos to raise awareness for the species.' It's a great way for zoos to get more involved. A number of zoos are really pioneering and see what a global force we can be. If all zoos really worked together, we have a larger force to contribute with than WWF! I see myself as working at a zoo, but a conservation organisation - zoos that are more traditional might not see things that way. They might still see themselves as - just a zoo! Also selling snow leopard communities' handicrafts from the livelihood enhancement enterprise doesn't cost you anything, but you're still contributing. If we all did just the small things - we could do a lot more" - zoo conservation actor, SL14.

5.4.2 Overarching Themes Key to Cross-Sector, Multi-Actor Conservation Collaboration, Linking the Key Social Capital-Operating Themes to Other Important Collective Action Factors

With respect to this research aspect, I have derived eight overarching themes, emergent from the data, key to the collective action of conservation partnerships and their aggregates (Figure 5). I encapsulate these themes as; Critical Unique Individuals, Diversity in Action, Capacity Building, Joint Action Planning, Human Factors Enhancing Joint Strategic Implementation, Human

Framework for Problem Resolution, The Three Commons - a Common Culture, and Structure. These over-arching themes variously embody the key social capital-operating themes identified in 5.4.1. These themes and their interrelationships are now addressed in detail.

5.4.2.1 Critical Unique Individuals

As in the case of partnership-building, the narrative data showed that individuals played critical roles in collective action, in numerous ways. As with the individuals identified in Chapter 4, I have termed these individuals, 'Critical Unique Individuals'.

Interviewees emphasised that individuals were key to successful partnership conservation action: "It's the individuals that make a big difference in terms of getting ideas going: One of us being in the right place at the right time, getting insights, getting a deeper understanding of what the situation is"- NGO conservation actor, SL03.

"Collaboration in conservation comes down to individuals: If it works, it comes down to individuals - if it doesn't work, it comes down to individuals" - academic and NGO conservation actor, SL06.

As with building relationships, the pivot points that underpinned impactful collective action were not as much governed by organisations or organisational identity, but rather by the individuals within - and the trust engendered by these CUIs to sustain cooperative working: "It's important to nourish strong interpersonal relationships with the people at a partner institution. The organisation's identity is not necessarily important - more important are the processes the organisation follows to select the women and men that it has. The person in a given position is going to make a hell of a difference. So much work has to be done based on trust" - NGO conservation actor, SL23.

As in the stage of building linkages between partners, the bridging role between parties emerged as one of the most fundamental roles that CUIs played in collective action: "As a Director, the hugest part of my time is spent keeping the partnerships going with the different organisations that we work with for snow leopard, especially the community-based conservation programs" - NGO conservation actor, SL21.

Many CUIs not only built links between sectors, but actually themselves worked in more than one sector, applying a diverse skill-set: "Our partners in Russia had to negotiate relationships with the government, so the project could proceed. Our Russian associate, having one foot in the NGO world and the other working for a federal nature reserve, had a lot of support - when you're employed by a federal nature reserve and it's your job to be the key snow leopard and argali expert in the region, then you've already dotted a lot of your 'i's and crossed a lot of your 't's" - independent collaborative conservation actor, SL07.

"I'm struck by the synergy of her two working 'hats'; the translating work has enabled her to build this bridge - that's then working to empower her conservation work and embrace indigenous people and their knowledge! It's one reason people trust and value her work - a real gift to the joint outputs" - independent collaborative conservation actor, SL53.

When CUIs linked to one another, each brought the impetus of their own network, which boosted collective outcomes: "Our Director has history with one of the other major snow leopard NGOs in China, and connections with another highly regarded biologist, who is good friends with an academic who's passionate about the cause. They saw that they could, together, do more for snow leopards than what was already going on with individuals. So they formed this three-way collaboration - to put snow leopards at the forefront of the NGO's efforts in China and get things moving" - academic and NGO conservation actor, SL45.

To underpin collective action, this bridging role required CUIs to harness many qualities similar to those utilised in partnership-building - but also required augmented abilities:

CUIs were particularly key to engender trust to bring unusual actors into collaborative partnership action: “We often rely on personal qualities that are over and above the job remit: The science aspects are taken as read - you've got to be excellent at it - but you'll not maximise the benefits of the work unless you have the human skills as well. I could point to individuals, ‘Oh! I trust that person. It's all going to be fine, because we've got that relationship.’ It’s an individual in an organisation that we trust - someone who appreciates the unusual nature of our contribution. I don't have a sector preference - it's that individual.' - NGO conservation actor, SL09.

The role of the CUI as an influencing bridge could drive positive outcomes where the bridge connected wider communities to conservation effort. In this example, a multi-sector conservation field team connect to an influential, respected member of a local community who is active communicator and advocate, leading by example to influence his community: “We are lucky to have one of the most respected landowners on our side: He's a total supporter of our activities, he is very outspoken, very well-respected - and a very shrewd businessman. He practices what he speaks - and that rubs off on the whole community. To have strong influence, it’s key to have an ally amidst the community you're trying to influence” - zoo conservation actor, SL18.

Similarly, a CUI bridging two working communities, that was trusted by both communities, provided a conduit for trust, that could fuel the collective outcomes, illustrated in this example of an multiple partnership aided by one member, a CUI from a rural community in the Russian Far East influencing his community to stop setting snares for snow leopards: “They don’t know me enough to trust me - but they do trust one of our partners and his team, which is built of people that know that landscape almost as well as they do. He went out and did the work - he is a field researcher, not a city guy. He's spent his entire career doing fieldwork for the State Nature Reserve, so he just has the right personality set - he’s careful, cautious and tactful. Thanks to him, the program has had significant results” - independent collaborative conservation actor, SL07.

Respondents highlighted that, to collective action, there was a negative side to relying on a CUI as bridge: “Trust is rarely just established at an organisational level, it is usually built between individuals. So, having that personal champion can be problematic. At some point the person will retire. But the relationships - do they extend beyond an individual champion? How institutionalised has that relationship become?” - zoo conservation actor, SL31.

“We were going to work in Afghanistan with an established NGO there: Two of us were going to go over and pick up mine detection dogs there. The hurdles were incredible. We didn't end up doing it, because the person we were talking with and got to know - that person left the NGO. Whether things work or not is often based on that one individual that we can trust to get us through the rough spots” - NGO conservation actor, SL09.

Other qualities embodied by CUIs in the link-making role were also harnessed to aid collective partnership action:

Respect, acknowledgement, honesty and integrity were all qualities interviewees associated with those making pivotal differences to partnership action and impact: “In summary, the key qualities of those key people that help us work together are; respecting local culture, having transparency, having empathy and being responsive towards community needs. I see these good qualities help improve our outcomes’ - governmental conservation actor, SL52.

Interviewees often referred to how collective conservation action was aided by CUIs' open-mindedness and efforts to understand other conservation parties' context, often showing far-thinking qualities to those from other sectors and walks of life: "You have to put yourself in the other person's position. You can't be staunch in your opinion. This field person said to me - and I agree, that whatever your role, you need to take account of the human element in conservation, especially when you're dealing with people's livelihoods; to tell them not to shoot an animal because it's endangered, but that animal could feed their family for a year… You got to put yourself there and understand - if you can't, then you're not going to be successful" - zoo conservation actor, SL34.

As with link-making, empathy remained a core attribute of CUIs - aiding them to aid collective action: "I have a very good working relationship with the local Wildlife Officer in Skardu. Government officers aren't usually proactive when it comes to conservation - they just sit in their offices and don't talk to communities. But this one particular officer, says, 'Let's go and survey this area, let's go and talk to these people!' He's enthusiastic, has this spark - and, at the same time, he's very humble and knows how to relate to people" - academic conservation actor, SL39.

CUIs were noted for harnessing their empathy with particular combinations of other qualities to help impact collective conservation outcomes; in this case, remaining positive and persistent; warrior-like, but with human empathy: "Two people come to mind who really fuel successful collaborative working. They consistently liaise and work closely with a very large set of conservationists and decision makers. One of their most important qualities is empathy. It means a person has broken the cocoon of a particular way of understanding an issue - and has started looking at a broader perspective. Also they have persistence - because conservation is not an easy task. You constantly hear negative news - species are declining... So another quality I greatly appreciate is remaining positive and persistent in conservation efforts" - NGO conservation actor, SL10.

Parties often highlighted that CUIs showed great empathy to others, even though their professional skills were not rooted in human dimensions - and how this benefitted collective outcomes: " I really admire this zoo Conservation Director: She's genuine, speaks from both the heart and the brain. I find that mixture of deep scientific insight, yet with deep passion and empathy, incredibly inspirational - a true leader. Napoleon said, 'Leaders are dealers of hope'- she's not a false hope, she's basing the hope on true empathy, compassion - and scientific-based wisdom" NGO and zoo conservation actor, SL35.

In addition to the traits of kindness and empathy described above, as with building links, the characteristic of empowerment was widely identified by many parties as being a key offering of CUIs to collective conservation action:

Collective action was empowered by CUIs' working gifts to others - gifts that were often non-physical: **"**I give them access to things they didn't think they had access to - not just experience, but being part of an overall network of people that you can rely on and get information from" - independent collaborative conservation actor, SL07.

The gift of moral support was a CUI trait that was widely-valued with respect to powering parties' collective action: "She explicitly values and prioritises her role of providing moral support. Moral support is almost as important as financial support - and it is a strategy that can be employed even if far away" - academic conservation actor, SL15.

The closely-linked traits of kindness, empathy and empowerment were seen by parties as being able to be collectively harnessed by CUIs to help amplify collaborative outcomes, for example where the empowerment led to behavioural influence: "To put it cleverly, we need to be reflective - we need leaders that are about empowering others. For me, as a leader, it's being

genuine, humble. It's particularly important in conservation: We have a lot of the science. Now, we need to show a new kind of empathy and compassion that will leverage change. Help people understand there's values that we could prioritise - that not only would make the world healthier, but would make our lives more meaningful" - zoo conservation actor, SL12.

"This man from Kanchanjunga Conservation Area admitted that, in the past, he had killed snow leopard: He threw two little cubs into the river - he really felt bad about it, the mother snow leopard was crying and another snow leopard came and killed the cubs... Then he became one of the best citizen scientists we have had. For ten years, he successfully headed the community conservation committee. Now, he has handed over to the second generation. I think of him as one of the most successful of men to our efforts: Someone who really had a problem with snow leopard, overcame the problem, helped snow leopard recovery as a citizen scientist, successfully groomed the younger generation and handed over to it" - NGO conservation actor, SL23.

Many interviewees, who from the response of others were identified as CUIs, articulated their hopes and efforts to holistically empower - with benefits for wildlife and humans, exemplified by this quote from a Director of a snow leopard range country NGO: "My conservation goal is that local people are empowered and snow leopards thrive - that local people live with wildlife in harmony, so that they both benefit from the conservation. The handicraft generation programs - they are amazing. It's really good to see that people like what they do and they benefit out of this - especially women. It really increases their empowerment, their self-esteem - I just love that" - NGO conservation actor, SL21.

It was clear that social capital enabled CUIs in positions of leadership to be fundamental to amplifying collaborative conservation effort both directly - as seen above - and more indirectly. A CUI in a position of leadership could power conservation outcomes by creating a well-bonded team that worked effectively with partners towards outcomes: "We have great leadership - it's a very non-hierarchical organisation; we bounce ideas and share thoughts - it's very empowering. We're pretty strongly bonded and we respect one another - I'm sure this strengthens the way we work with others and gives them confidence in us" - academic and NGO conservation actor, SL30.

A norm of altruism was associated with CUIs and their efforts to empower and amplify their joint conservation actions, exemplified by this quote from an actor widely identified as key to collective action: "We're not here to get rich - and most of us are not going to be famous either. So, if not for riches or for fame - what else are we doing it for? I think most of us are doing it for the animals and the ecosystems and the habitat we believe needs help" - NGO conservation actor, SL11.

Non-tangible and tangible gifts featured in the altruistic empowerment, in this example from an actor in a position of leadership: "I definitely try to give encouragement and moral support to other conservation people. If they seek information, I can make links to other people, or send them what I have. I don't know if anything will ever come back, but I always give, internationally, a lot of my pictures and my knowledge - not in return for anything"- zoo conservation actor, SL18.

The ability of CUIs to influence was recognised by interviewees as a multi-faceted trait, allowing them to impact to conservation outcomes in diverse ways, in addition to those already described:

CUIs communication skills were noted to be intrinsic to their ability to influence conservation efforts: "I'm Executive Director of a non-profit. I spend a lot of my time doing outreach to supporters, thanking them for their contributions - because much of our funding is from private donations, which is very powerful, because it's unrestricted funds. It gives us great flexibility

in supporting new initiatives. I also spend a lot of time trying to cultivate new supporters" - NGO conservation actor, SL33.

The CUIs' diplomatic influence was commonly associated with convening conversations, galvanising action across sectors - and from those in diverse positions. The strategic arena, in particular, provided CUIs the opportunity to be a champion for a cause and to influence collective action and conservation impact: "The experience of the Tiger Summit taught us that this whole business of wildlife conservation will only work if we have champions drawn from various parts of life - where you have Presidents, Prime Ministers and great conservationists - very special kind of human beings to really turn around the situation. I told the World Bank President that any kind of wildlife conservation which had patrons like this is very significant! I met the President of Kyrgyz Republic, we established the Secretariat - and the global program got started! In October 2013, we had the global Summit on snow leopards - there was a lot of enthusiasm from the countries. The pressures are so intense and relentless on the need for conservation, that only a coalition of great leaders can reverse it" - NGO conservation actor, SL24.

CUIs harnessed communication to effect outreach, which in turn amplified outcomes. Many people felt that CUIs' passion for the cause and inspirational qualities were particularly valuable to collective action: "He's inspirational; an Indian bureaucrat, the driving force behind the Global Tiger Initiative. When the President of Kyrgyzstan asked the World Bank for help with snow leopards, the President of the World Bank was absolutely going to decline. It was the guy I'm telling you about that talked him into committing. His fearlessness and grandiose thinking are, by far, the reasons why the global snow leopard program is still going today. He's a total, true believer in the cause; he is still fighting hard for snow leopards and tigers - it's absolutely remarkable!" - NGO conservation actor, SL08.

Interviewees, who had been identified by others as CUIs, were able to embody an empathic, warrior-like quality in their efforts to influence other parties: "It's not courage like going out on the streets and protesting against governments, but courage in a different way - to stand up. Let's say you're partnering closely with governments: Wrong or right, from your perspective and the perspective of conservation, there are things that governments will do which you think should not be done. You must have the courage to stand up to them - with the confidence that, as long as you are also protesting with utmost sincerity, your relationship will not get destroyed" - NGO conservation actor, SL03.

Participants strongly associated innovation with CUIs' abilities to aid collective conservation:

CUIs could harness vision and courage to support novel work of a conservation colleague - who later could also become a CUI: "Initially it was only me working on the project - such work had never been done for this species before. But the Zoo Director recognised my abilities and advertised my qualities to his colleagues and all. Now, after years of work, I have become the IUCN authority on the species" - zoo conservation actor, SL18.

CUIs desire to innovate could fuel amplification of conservation collective output and impact: "My goal is to sustain and grow this organisation. I want to keep opening new doors. For example, we're working on disease now - we're using dogs as a tool, so we think, 'What more can we do?' We have all of these resources - we think about what can we do to provide really simple techniques to help elsewhere" - NGO conservation actor, SL09.

CUIs recognised that people could be most empowered and effective in their work within environments that supported individuality and risk - such support for those around them engendered trust: "I want my staff to take initiatives. I tell my staff, 'I'm just a sounding board for you. You're in the field all the time - just come up with ideas and we will work it out.' Also, I

protect my staff; I tell them, 'If these ideas fail, just tell me - I will then liaise with the donors.' My staff trust me fully that I have their backs covered - which is important if you want to do innovative work"- academic and NGO conservation actor, SL29.

Participants spoke of CUIs being highly active in uniting parties - seeding, and encouraging sharing of, innovative ideas that encouraged collaboration between different fields: "It takes a dynamic leader - who really wants to be the champion for a particular species - to step up and really advocate for that and be that centre-point. Really pushing out new ideas - whether it be to the public visiting their zoos or amongst colleagues - and start those collaborations. We've seen it recently with Pallas' cats - creating a collaboration with diverse partners, making those initial contacts and really trying to move the needle. Regardless of species, conservation does start, and end, with people - and that social aspect" - zoo conservation actor, SL34.

Many parties felt that the core influencing role of CUIs to collaborative action could be summarised by their efforts to change the conservation paradigm, working together, giving due diligence to the human dimensions to empower outcomes*:* "We need to improve relations. Some conservation scientists are happy to say snow leopards are gone because of this and this - and not necessarily become a conservationist who really wants to say the species is not gone at all. It's more important to instil a system that makes these species survive in this world. We must work together, not in competition, valuing the human side of this" - NGO conservation actor, SL23.

The mission-driven, non-egotistical attributes of CUIs proved vital to many outcomes:

"They are the people for whom the cause is always the most important factor that drives what they do" - governmental conservation actor, SL52.

"He brings parties together and enables them to interact in a great way. He's humble and willing to listen, then take good decisions and move forward quickly. He doesn't have an ego, not 'It's not my idea, therefore I'm not going to move it!' He moves it!" - NGO conservation actor, SL24

CUI's desired to create a norm that did not give space for personal egos. Conversely, parties emphasised that conservation actions could also pivot adversely around an individual to the detriment of the outcome: "I'm disappointed to see how frequently personal differences among individuals, from multiple different organisations, hinder more open, fruitful collaboration. Petty personal differences; people spurn the other, often under the table, just because of these personal differences. There are still good ongoing collaborations - but it could be so much better. We're not working at our optimal level of collaboration and teamwork. It boils down to these distinct personal differences - petty parts of human nature" - NGO conservation actor, SL11.

Interviewees often recognised that CUIs were able to exhibit confidence and self-belief in their abilities - without having an egotistical nature, which enabled them to achieve greater impacts: "Having a vision is great - but you have to listen to people too. You must be willing to learn; it's great to have confidence - but it's good to leave your ego behind. Be collaborative; you can't solve the problems alone - you need to work with others" - independent collaborative conservation actor, SL53.

Though CUIs were often noted to be practical people - employing action to get to an outcome - a large body of evidence valued their ability to think strategically, particularly in problem-solving scenarios. In the strategic role in link-building situations, CUIs provided a neutral bridge between parties in difficulties (as seen in Chapter 4), whereas in situations of collective action, CUIs exerted influence to achieve impact:

In situations where parties may be in dissent, CUIs proved to be valuable facilitators between parties in conflict, giving a platform to all views and seeing the common end goal, to moving things forward: "It wasn't going in the right direction - it was messy. The common ground came around a recognition that we had to bite the bullet. Disagreements were put aside. Certain people were very, very key to this process" - independent collaborative conservation actor, SL04.

CUIs often reached out to techniques from diverse sources in order to help parties settle together in their work: "There's training we can get, to help us with this collective action: I've got a lot of advice from people that are involved in peace-making - that's an untapped area. People worked on this for years, preventing wars - third party neutral facilitators. A lot of times, that's what I end up acting like to help move us forward together" - NGO and zoo conservation actor, SL35.

CUIs with authoritative knowledge could help parties move forward in difficulties, respectfully acknowledging differences within negotiations: "If we have dissenting parties; to get people on board, I give them good reasoning, in terms of published literature and knowledge on the species. We can talk authoritatively from our side - we're considered specialists in our field. So, we always try to reason." - zoo conservation actor, SL18.

Often the critical link between inspiration and tangible output was provided by a CUI, whose humility and optimism was inspiring to others, in this example of someone identified by other parties as such: "I try to give to others in conservation by leading by example of not having an ego - and keep an eye on the ball, 'Let's do what's best for this particular species - let's not care about the conservation politics aspect' So, the egoless aspect, diplomacy and optimism are things I try to contribute to all the interactions I have" - NGO conservation actor, SL32.

5.4.2.2 Diversity in Action

"There are definitely times where things have come to a standstill, or we've had to re-envision how to move forward. It's not without its issues. Being multidisciplinary is an imperative to having success, because if we tried just one single route, being one-dimensional, I know we wouldn't have nearly the success we've had" - NGO conservation actor, SL01.

The norm of seeking diversity emerged in the link-building stage. The theme of diversity was even more strongly evidenced when respondents spoke of collective action - as exemplified by the quote above. Diversity - and cohering this diversity - was seen as being key to success and bridging social capital was variously manifest to this end: "I think diverse skills are important; somebody can be great specialist in technology, somebody can be really good at community work, another one can be very good at something else. But the most important value is the willingness to work together - to understand the value of an alliance and a coalition, for change" - NGO conservation actor, SL24.

Collaborations involving partners from diverse backgrounds were viewed as bringing wide-ranging gifts to the partnerships. These aspects are now discussed in detail:

Interviewees often identified the value of opportunities to provide diverse skill exchange - benefitting all parties - and that the benefits of such exchanges extended beyond the intended focus (in this case, the species in question). Reciprocity occurred in various forms, such as knowledge exchange, time and respect. Embracing parties that some would regard as unusual within conservation collaboration brought a sense of added value, in the sense that the knowledge exchanged was so specialised, it brought knowledge that either party would struggle to garner, if not from the other. This is illustrated here in the case of a highly effective partnership in the USA between tribal communities, government agencies and zoo actors; each party

make a pivotal contribution, jointly-working enriches stocks of social capital - and the unusual actors' contributions are key: "There are some really nice partnerships embracing tribal communities and their holistic knowledge that, although focussed around reintroducing black-footed ferret, have extended individual zoos' relationships with reservations in ways that extend well beyond ferrets - over a large landscape. One zoo has worked with a reservation on their education programs; helping teachers as well as students - and on biological monitoring and building other life skills. There have been opportunities to extend - beyond just reintroducing the animal - and develop more personal relationships that have proven beneficial to communities beyond just the healthy ecosystem that they wanted, but into other services" - zoo conservation actor, SL31.

Successful collective action embracing diverse parties was underpinned by a norm of desire to collaborate and jointly implement, manifesting as proactivity and a broad outlook: "The human-related reasons for the successes of these collaborations; readiness to have an overview on all the different aspects of conservation and to implement conservation actions - the willingness to join into a collaborative effort - from all sectors" - academic and NGO conservation actor, SL06.

In seeking diverse collaborators, interviewees commonly acknowledged the importance of recognising the context of other parties: "I believe that organisational culture - the way organisations work - is slightly different. We have to respect that to make the most of working together. For example, we maybe, have more experience working with the local people, whereas other NGOs have more experience of advocacy. Every organisation has different strengths and experiences. I am sure that we can share our knowledge and experience and at the same time learn from others" - NGO conservation actor, SL21.

Contextual open-mindedness as a norm was evinced linked to the themes of amplification and innovation. Parties commented that having an open-minded attitude and tolerance of contextual differences, cross-sector, cross-discipline, helped amplify collective working outputs - often by way of innovative, holistic linking of benefits to wildlife and humans: "We, as an organisation, may never do hunting. But, if there is hunting being done somewhere, we can help manage it better. We can provide support to the Hunting Department to tell how many animals to hunt sustainably. Also, getting involved at a core level, where we work with them to develop a local economy - to develop a small Protected Area in a way that it sustains without hunting - that's why we have these components involved; developing the PA as a field research laboratory, testing conservation management planning models, and exploring eco-education and eco-tourism programs in the area" - NGO conservation actor, SL36.

A diverse team allowed expansion: "We started working with them because we, as an NGO, wanted to expand our partnerships and work that we're doing in China - both with different groups and different regions. So, to diversify that, we looked for where there were other interests and other ongoing work with snow leopards. These academics, they were already working on snow leopard work - so that developed the kernel" - NGO conservation actor, SL11.

A diverse team facilitated greater bridging capital via number of bridges, which fuelled influence, especially where less accessible partners, such as high-level government, were involved: "Most of these working interactions are at local levels of government. Because of political hierarchy, these individuals have some influence, but mostly you provide them with advice and guidance in hope they transfer that to their superiors - who we don't really have access to. Our work with range country NGO and academic partners, via their governmental links, is contact and influence and communication with government officers that have the ability to impact policy and management" - NGO conservation actor, SL01.

The power to cross-sector collective action of intrinsic governmental linkages was repeatedly voiced: “The governments, we have come to believe, are absolutely critical because of the scale that they bring” - NGO conservation actor, SL08.

Governmental parties, since they operated at many levels, provided bracing to overarching cross-sector efforts - harnessing this bracing social capital positively benefitted conservation outcomes: “We decided to join the collaborative, cross-sector global program because, if it becomes successful and these collective country governments manage to even get close to doing what they are trying to achieve, it will be hugely good for snow leopards. I have a funny analogy to Physics here, where work done is mass by displacement: A small organisation may have to do a lot of work, thousands of things, to achieve real impact on snow leopard conservation - but if a government is doing something, they have to do just a little bit and the impact is massive!” - NGO conservation actor, SL17.

Amplifying the scale of conservation impacts was recognised to require engaging with partners from diverse sources and collaboration at an unparalleled scale - across governments, donors, agencies, NGOs and communities; the diversity-positive norm allowed the innovation required to achieve impact, whilst parallel goals provided cohesion: “Alone, you won't be able to scale conservation interventions up to the scale where the snow leopard occurs. There has to be an experimental approach - everything will change when you scale up the model. Other players with similar interests can be very important collaborators. For example, to improve animal husbandry practices in snow leopard range, one important collaborator who can really help us scale up - if we spend time, help them understand our ideas, then derive some common goals and shared vision - would be an animal husbandry department. It's their primary role to look after grazing and livestock - livestock grazing and livestock management is an important objective for snow leopard conservation also. For the snow leopard landscapes, we must have broad consultations with all stakeholders - and see how their efforts can be channelled towards those common shared objectives and goals. Long-term scaling requires strong, broad collaborations at different scales - national, district and village - experimentation, and taking everyone on board” - NGO conservation actor, SL10.

Collective action in diverse cross-sector collaborations was often underpinned by broad outlook - common values provided a path for a flexible approach to help cohese collective effort. In partners who commonly worked together, mutual respect, and acknowledgement of the alignment in values allowed reciprocity by means of exchange of ideas and vision: “We have a variety of partners; there are certain cats or regions where our most important partners are governmental agents. In other parts, it's a network - so it's not any individual organisation. Very often, we work with individuals - mainly the members of the specialist group. Then in other situations, we cooperate on a level of species conservation or project level with specific NGOs, international or local. Basically, we work with whoever actually follows the general IUCN approach - they are welcome to partner” - NGO conservation actor, SL38.

Participants noted that diversity of partners provided influence: “Influencing decision-makers, advocacy and lobbying was a new field for us and we struggled. Then we realised that's where we needed help from the media and different levels of local people - we learned how to mobilise local people into the advocacy” - NGO conservation actor, SL21.

In places of political change, NGOs and academic organisations provided conduits to keep bridging social capital flowing in order to aid collective outputs: “In some countries, governmental organisations change from one moment to the next, with elections. We cannot assume a new government will take over commitments of an earlier government. That is a problem we face. Though we work with GOs, NGOs and academics, NGOs are often more reliable, focussed parties than GOs. In such

situations, we work with scientific partners and institutions - capacity-building in our own domain, but also beyond, and then work with NGOs to strengthen this part of society" - academic and NGO conservation actor, SL06.

Diversity in partners provided a variety of influential pathways to work in difficult situations; such bridges were vital where norms and values were not held in common: "As foreigners working there, it's not as direct a collaboration as we would like. There are a lot more stories we'd like to promote - we just can't because of the sensitivities about working with monks and those ongoing relationships. So, to operate in that country as an international NGO, we stay behind-scenes and work through our in-country partner" - NGO conservation actor, SL11.

The positive norm of embracing diversity allowed pathways to be made to embrace actors with innovative offerings within collaborative endeavour. Collaborations involving partners from novel arenas, with different perspectives, enabled parties to draw on the new parties' connections for their network and knowledge - even if outside the usually-recognised arena. Innovative arenas were often provided by zoos and NGOs that provided pathways for unusual actors to contribute to conservation effort. Thus bridging social capital could be harnessed with sectors such as the business sector, widening outreach and amplifying outputs: "Our zoos took part in the Zoo Hackathon. We did it because it brought some young programmers - coders and others - to the zoo, and one weekend they really felt like they did something. We did that, not as a one-off, but to figure out how we can engage technology companies and their employees who're looking to volunteer, and want to do something real. Also, we got Microsoft Research to help us build a new type of scent delivery system to attract carnivores to camera traps. They are so excited - it's been a tremendous success" - NGO and zoo conservation actor, SL35.

"We're coffee-crazy in this town. We took an expert overseas, to our conservation project area; he worked with the local community - they had coffee, but it wasn't very good. It turns out that they weren't pruning the trees or drying the coffee right. So we set up solar driers and they told them how to prune the bushes. Now, his company buys coffee from those villagers and it's sold here in the US. People think of a zoo as a place - they don't realise that we're becoming organisations that are headquartered at a place, but that are working beyond those zoo walls, encompassing livelihoods, health - and biology and conservation. It's what I call 'The New Zoo' - zoo conservation actor, SL12.

Where innovative parties were embraced they were often very keen to be reciprocal with offerings - creating a mutually empowering environment: "It's a virtual organisation; it only has a staff of one - that's me. Since our focus is Russia and I am US-based, and I'm entirely dependent on partnerships and collaborations to do the novel work that my organisation is able to do - both informal and formal relationships. - I'm not a scientist, but in return, I offer Russian language skills and twenty-five years of non-profit experience" - independent collaborative conservation actor, SL07.

Respondents' diverse skills from past careers were often highly regarded by way of the benefits they bestowed to current collaborative effort - and they provided further value in the form of bridging links: "The organisation is very good at seeing what needs to be done to conserve snow leopard - in so many different ways, biologically, ecologically, community-related, advocacy. They recognise that my past skills really help my current work; I was a teacher. I am experienced in identifying people's needs and using my communication skills - that makes it a lot easier for me to work giving training and education events, especially with the local people. We are all benefitting from my background skill" - NGO conservation actor, SL21.

Interviewees voiced the need to instil a new paradigm with respect to diversity in conservation collaboration; the new norm should embody empowerment, mutual trust, reciprocity, acknowledgement and humility, to maximise impactful action:

“Conservation used to be headed by individual researchers that would go to a place, study a species, write about it, and be known for that. To do conservation now, we require a team and we all use our strengths together to solve a problem - that’s the paradigm now. We can’t go out and be a famous conservation biologist on our own; we all understand that we need to work together, build good teams with lots of diversity and lots of different skill levels to tackle these problems - because no single problem has a single solution” - academic & NGO conservation actor, SL45.

5.4.2.3 Capacity Building

The data showed that key processes relating to capacity building were important fuels to the collective action of conservation partnerships and their aggregates. These capacity building themes were variously linked to the key aspects of social capital that underpin collective action, as identified in 5.4.1.

Training and capacity building were norms of behaviour that contributed to collective action. Respondents gave many examples of how information and knowledge exchange impacted collective conservation outcomes - it was a norm of behaviour within and between sectors and organisations and took many forms:

“I put together regular training workshops with inspirational zoo people - and market it to other zoo Boards. There's often a lag between the people that have the governance power and the mid-level managers. There are a lot of younger mid-level managers at zoos that want to change - many Directors get in a bind. We need an inspirational outsider at Board meetings. Trouping this around the zoo world makes a difference to our collective outcomes”- zoo conservation actor, SL12.

“Our collaboration with the country teams: We respect and understand what it means to be working at the country level, the politics, a whole bunch of things. We also understand what it takes to effect conservation. So, on one hand, the country partner NGOs play a leadership role - and our NGO, our Regional and Science teams and so on, we play a supportive role. We share our opinions, we guide, as and when it's needed. At the same we cannot achieve our goals without our country partners - it’s a mutual thing” - NGO conservation actor, SL03.

“We're getting more into citizen science projects, knowledge sharing and facilitating group learning: We just started a North American river otter project - every time people see one they can go online and record it. Also, we work in a community that's having problems with black bears - we have a co-existing with carnivores program there. I call it Community Action Learning. It’s important. The world's going to keep changing, so learning is really the tool of adaptive management. We need to get people adapting, changing and learning together as communities - and then setting policies and setting group ethics”- NGO and zoo conservation actor, SL35.

Interviewees told of many instances where building capacity by training and learning together allowed reciprocal exchanges, often across countries and sectors, empowered collective action:

“We contribute to the international NGO and we also support their work throughout the range countries. Also, we hosted representatives from the Pakistan, Indian and international snow leopard NGOs here for education at the zoo. We work with them to swap skills and learn about each other’s’ work so we can better support each other - across five snow leopard range countries” - zoo conservation actor, SL14.

“We have a two-day retreat, with fifty wildlife leaders from all different sectors, hunting groups, government commission, wildlife senior managers, twenty NGOs, academia. I try to get them to realise we all have a shared goal of

protecting wildlife - it's part of this bigger vision of sustainability. We learn from each other - it's not all about me teaching them, because they are all doing great stuff. Things come out of it to power us on. I'm a big believer in a learning organisation and the different structures you can do to put learning together" - NGO and zoo conservation actor, SL35.

Shared learning within an organisation helped build stocks of bonding social capital. Learning together with people from other organisations and groups was a highly-recognised way to help build bridging social capital for collective action: "We released a joint report: Our partnership is very important to raise the level of information, not only in terms of snow leopard crime and illegal poaching and hunting, but also in terms of snow leopard ecology and biology and understanding of communities and socio-economics. Snow leopards are so rare and wide-spread - very little information trickles out. It's absolutely important for us to have partners like this who can fill in information gaps which we can't. This partnership fulfils a very important niche for long-term snow leopard conservation" - NGO conservation actor, SL10.

Investment in knowledge exchange and training could boost trust, which helped fuel collective effort: "Our NGO buys products from the community; twice a year, we travel around and meet them. When they sell the products, people get together and have a meeting - we use that opportunity to give training. We prepare ahead to find a good time for local people; we don't want to overlap with the time that they have more workload - hay-making time or cashmere-coming time. We share our experiences, our advice, our lessons learned. Sharing knowledge with them, having empathy for their situation, it all helps build their trust and boost our efforts" - NGO conservation actor, SL21.

Interviewees valued increased influence and leverage associated with knowledge exchange between parties. The impact on outcomes gave momentum to the collaboration: "I try to find people of influence to share knowledge with - that helps build wider trust and helps us achieve our aims. So, I spend time on advisory boards and so on, to get one-on-one time with directors. I find it valuable to share knowledge learned from experience. Quiet discussions, one-on-one with people of influence, can be really effective. We have to be so strategic these days" - zoo conservation actor, SL46.

The knowledge exchange over time built feelings of connectedness: "The nine international long-term projects have thirty Project Leaders. Every two years, we bring them all together in a retreat setting - that really pays off. We don't have a lot of money to give these partners, but they constantly tell me - after twenty years, they don't care anymore about the money, they care that every two years we have these meetings. They care about the loyalty - that's what these processes build" - zoo conservation actor, SL12.

Processes of training and knowledge exchange that involved diversification and diverse parties were widely appreciated in terms of bestowing added value to capacity building. Team members spoke of empowered collective action by building in-organisation capacity through enhancing staff capabilities in ways not commonly associated with conservation, for example practices such as specially building staff capacity in policy and advocacy matters, and partnership relations. This created both bonding and bridging social capital: "To support our plans most effectively, we both employ outside experts and invest in training existing conservation staff in those areas. For example, with the current changes happening, we have a policy research initiative cell in India, and we similar experts in different range country offices. We increasingly bank upon them to reach our goals - so we build better capacities and invest in human resources towards this objective" - NGO conservation actor, SL10.

The open-minded drawing-in of skills from outside the more commonly-recognised conservation arena not only empowered collective action but, via empathic pathways, was credited with influencing behaviour change: "I feel like there have

been a lot of synergies and lessons learned from conservation psychology - it has had tremendous impact over the last decade within our education community. I'm looking at behaviour change and empathy. Absolutely, there are fields outside the usual that we can bring in to help us" - zoo conservation actor, SL31.

Capacity building often occurred as result of action planning, offering a bridging stage between action planning and implementation. Joint strategy development provided a framework for exchange of knowledge. Such situations were empowering and occurred both within specific training opportunities and in everyday work. Items featuring in exchanges were not always similar, for example, knowledge on a certain subject may be shared - with reciprocity in the form of action: "For cooperation and maximising our efforts, it's very important that also we exchange scientists. Every winter, from our department, two lecturers visit the Museum of Natural History in Germany and do research there. Then some students come back from Germany to do research in Mongolia. We have a really good exchange and cooperation with Germany and other institutions too. We are always looking for new partnerships to work together for the nature conservation or wildlife conservation" - academic conservation actor, SL28.

Alternatively, as in the following example of reciprocity between an international NGO and one of its snow leopard range country partners, one body gives innovation and new perspectives - empowered by the capacity built by other body: "They don't impose any agenda; they listen to us and then support the country teams. That is so valuable. Of course, in terms of the human capacity, ours is a growing organisation - and quite sustainably. That's because of their great leadership - and also their understanding of local needs" - NGO conservation actor, SL21. This open-mindedness led to innovation - one of the key collective action-fuelling aspects of social capital identified in 5.1 - which in turn benefitted practical outcomes, as also illustrated in the following quote: "The loss of a yak or a sheep, for a farmer, is a loss, whether killed by wolf, lynx or snow leopard. All those carnivores are important on the mountains - all have to be protected, though all are preying on domestic livestock. So we work together to create a compensatory mechanism. They have been living long enough with those species, side by side - they will endure some losses. So, the idea was to provide relief for the losses which go beyond what they can endure - and then put in a system that brings benefits to people. That's the conservation citizen science that has been developed and now has been effectively working for last ten years" - NGO conservation actor, SL23.

Capacity building that included processes of joint strategic development often led, in time, to the establishment of new norms. Flow of social capital via training and capacity building built particular momentum, with increasing traffic in reciprocity, when associated with implementation of jointly-developed strategy. The exchanging of focussed knowledge was particularly associated with fuelling collective action: "Our organisation has a fairly advanced training and capacity building program for field staff. We were able to quite quickly forge this partnership with the NGO; where we provide technical and personal support in training to rangers, making sure that they are better equipped to address wildlife crime. We've worked out jointly desired outcomes. We've designed the training in a way that it's going to build a team of trainers - and these trainers are going to institutionalise the Wildlife Crime Scene Investigation Training over time. So gradually, each protected area ends up with, almost like, a SWAT team of Wildlife Crime Scene Investigators" - governmental and independent conservation actor, SL19.

Building capacity clearly built social capital - exemplified by reciprocal exchanges, new norms and feelings of connectedness. Moreover, numerous parties reported that capacity building efforts built pride - capacity building also helped build stocks of bracing social capital: "Since 2001, I have been spinning camel wool yarn. My friend told me first. I liked the opportunity to increase my income, most importantly, I like that the organisation contributes to us to build our capacity. I still

like their trainings. I like when local fellow participants also help each other. It makes me feel proud and part of something nice" - community conservation actor, SL37.

This was especially evident where the training involved parties from new arenas who brought new perspectives - and, often their own existing networks' knowledge also. The pride generated seemed to act as a brace to overall efforts. Building capacity led to an increased ability to influence outcomes and an increased reach for the outcomes: "We developed Kanchanjunga Conservation Area - it graduated from the NGO approach, to being managed by local people. It's become more people-empowered - people managing by themselves. Government actually handed the area to local people after we invested ten years working in this area - then it came to be a snow leopard key area. So, we started training local people. These guys have really become citizen scientists - doing camera trapping, supporting the GPS radio collaring, prey base monitoring, also managing the human-snow leopard conflict community-based insurance scheme - where people actually insure their cattle and get compensation when they are lost through snow leopards. They tell me they are proud of what is achieved" - NGO conservation actor, SL23.

Innovation and novel approaches within capacity building were often linked to collective action - and to resulting wider impact: "We did a really interesting collaborative project to get effective science-based research of the snow leopard population in Altai Republic - it hadn't been done scientifically prior to that. We worked in partnership with two international snow leopard NGOs, a Russian State Nature Reserve and two US universities. We knew there was a snare-poaching problem, but we didn't have any basis for discussion - no accurate baseline. We worked together to design a novel approach that provided the initial information. Now, the local guy has become a really experienced researcher - we've been able to expand the breadth of the survey area. He's spent the last couple of years, not just doing his own research, but training countless people - including ex-poachers - in snow leopard, argali and other relevant species surveying work. We now have an immeasurably improved understanding of the snow leopard population and its prey species. It's been an incredible thing" - independent collaborative conservation actor, SL07.

Clear connections were also identifiable between other of the social capital-related themes identified in Section 5.4.1, and aspects of capacity building, emphasising the value of enhancing capacity to collective conservation outcomes:

As evinced by all examples, capacity building was clearly underpinned by the theme of empowerment - providing a tangible link to one of the key collective action-fuelling aspects of social capital identified in 5.1.

Showing and sharing examples during capacity building processes was often linked to empowerment of collective action, people felt solidarity with a wider community and this generated momentum for the cooperative effort and its outcomes: "Kyrgyzstan is a semi-isolated country. We help them feel part of a bigger picture - a worldwide conservation movement. We talk and I relate some of my international experiences. Once you start talking about issues that are happening all over the world - things that you see in the media everyday on Africa, for instance, with rangers being killed - they relate to that. It energised them in their own work" - governmental and independent collaborative conservation actor, SL19.

Processes of training in previously-unavailable practical skills not only built capacity, but also built pride and a feeling of ownership - stocks of social capital - which contributed to scaling up operations and wider impact: "We're scaling things up to the point where they are able to train their own rangers in-country. We modify some of the training, based on their input and then do another session with the same students - as well as new material on how to be a trainer. They develop ownership of it

themselves - they become the local experts in country. Once they develop ownership of it themselves and they get recognised by some of their peers as being the local ranger who has the knowledge on how to train other people - they really buy-in on that" - independent collaborative conservation actor, SL47.

"About three years back, we were in the Tian Shan, mostly focussing on communities. We spent time camping with the rangers and realised they were extremely marginalised, underpaid, unsupported. When apprehending poachers, which is a serious issue in Kyrgyzstan, under Kyrgyz law a percentage of the fine should go to the ranger's team - but they would not get any money, they would have to spend money to take the case to court! So we thought up a program to recognise better the rangers' contributions and help them become more effective - and to increase cooperation between communities and rangers. This pilot programme would publicly recognise the efforts of rangers yearly; rangers who'd apprehended poachers, risked their lives, would be recognised in front of their highest government officials and media. We decided that we would also better train and equip them, in collaboration with another partner. The programme was so highly appreciated - the pride of the rangers is tangible. The programme's now expanded to all 23 Protected Areas of Kyrgyzstan! The pride and the support have really helped empower collective outcomes and impacts" - NGO conservation actor, SL03.

5.4.2.4 Joint Action Planning

Key processes centering on parties planning action together formed another important theme underpinning collective conservation action. This theme flowed on from that of joint envisioning and mapping of hopes that occurred at the link-building stage (addressed in Chapter 4). The joint planning-for-action theme was variously linked to the key aspects of collective action-related social capital identified in 5.4.1. The above is addressed herewith:

The process of developing a strategy for joint work provided an arena and opportunity for parties to meet to enrich links between them. This stage progressed partners from the initial stage of envisioning and jointly-recognising priorities and goals to a more action-related stage of agreeing on the practicalities of how responsibilities would be apportioned between partners and actions partners would undertake whilst working towards a common goal. It generated a sense of ownership which drove the action: "In our partnership work, we discuss what we want to achieve together and go through a process of joint identification of priorities and common goals - then we develop working strategy for country programs. There's also staff retreat once in five years to identify and develop strategy of conservation - how we will collaboratively work towards the conservation" - NGO conservation actor, SL21.

Bridging social capital was ubiquitously exemplified aiding multi-party cross-sector action planning for conservation initiatives to benefit joint outcomes: "We engage strategically with all the multi-sector areas so we can impact conservation: With the government ministries, universities, private sector: We talk strategically with them right from the beginning, so, for example, if there is development we can limit damage and introduce monitoring - and we keep talking through to the action phase" - NGO conservation actor, SL23.

Within organisations, bonding social capital fuelled action planning: Taking part in inter-group strategic processes was seen as empowering group outcomes, particularly as it enabled ideas to be discussed and a common plan of work to emerge from the earlier stage - where examples were shown and knowledge exchanged - giving a sense of ownership and pride. Thus, this type of scenario embodied several of the identified key collective action-related social capital themes: "At our annual meetings, we discuss and form strategy together - it's an internal discussion to direct our focus; developing a working plan to achieve our goals for each of our captive species programs. We share examples for the annual report - when species programs

have done positive things - that's encouraging to all. Sometimes we break into small groups to work on certain challenges. In some cases, programs are so interrelated, like bobcats and Canada lynx; we put them together and let them collaborate on issues concerning both species. Going through these processes together definitely moves things forward; people feel increased ownership of plans and have focussed goals, they all understand what they're going to do - that fuels the joint outputs" - zoo conservation actor, S34.

Examples shared in the form of scientific evidence were particularly beneficial in the governmental policy arena, enhancing trust and partnership negotiations: "Fortunately, there is a lot of governmental interest in snow leopard conservation. It's very important to go the government with facts and figures; data is important to help decision-makers understand problems and then take informed decisions. Strong science- and fact-based information is important - though it should be put in a simple framework for the policy-makers to understand and act upon. Continuous engagement in this respect is very helpful in trust-building with governments" - NGO conservation actor, SL24.

The existence of a previously-acknowledged common goal provided a facilitatory platform to underpin the progression from earlier envisioning stages to strategic planning for action together. The goal could have an ambassador-like quality, since it was effectively a neutral party - here the snow leopards - that could drive forward the strategic development, building on existing bridging social capital and providing an impartial platform to cohese parties with historical or current differences. This quote also links to a point made in Section 4.4.2.5, exemplifying the benefit of a meeting arena that feels natural for parties: "The first milestone was to have countries agree on something for snow leopard conservation. We're talking about some countries which don't share good neighbourhood relationships. To bring all those together and then agree on something - I can assure you, it has never happened for these countries on any other platform! The snow leopard, in a way - a species as charismatic as snow leopard - was able to make itself an ambassador of the mountains - to an extent that twelve countries unanimously agreed on something that we call the Bishkek Declaration for Snow Leopard Conservation" - NGO conservation actor, SL24.

As the quote above illustrates, it was notable that it was possible to have a common goal without sharing common values, thus a common goal could allow a degree of reciprocity of action, even where other commonalities were not apparent. Partners' acknowledgement of reciprocal benefits whilst developing strategy could also uncover common goals that may not at first have been apparent, thus giving further momentum to collective endeavour: "Our first talks with them were purely informal - I met some of them socially by happenstance. At that time, our NGO wanted to expand our partnerships in that country. The university lab happened to be doing snow leopard work. So, we got together to talk more formally and discussed our mutual goals: Obviously, our NGO's goals are conservation-oriented, through research - this university was clearly overlapping well with our research desires. So we started from that point and looked at best places for them to work - and whether those places interesting to us. We worked together to identify possibilities and then select those we thought would best support our interests as an organisation, while still maintaining support for their interests as an academic institution" - NGO conservation actor, SL11.

Joint definition of how goals would be achieved was widely-recognised as empowering to the collaborative action - allowing ongoing reciprocity of thoughts between partners: "We community women develop a working plan together with our NGO partner. They are very good to ask what is important to us - what we hope for and what community needs are. We decide how many woollen items we feel we can produce for the handicrafts enterprise program and how and when we will produce them" - community conservation actor, SL49.

Introducing tangibility by defining practical steps to sharing tasks aided joint strategy development - again, a reciprocal process: “After we had talked about our hopes, the next big step was to define a tangible goal for the program. Then came a very simple 'Sharing of responsibilities' table: A table that showed, 'These are the things you need to do to manage an area' and 'Who will do what'. That was the simplest starting point to developing a management plan” - NGO conservation actor, SL17.

A culture of respect was recognised as vital in order to acknowledge differences between collaborating parties during strategic development. Social scaffolding provided by bracing social capital could support multiple partners in their cohesive planning of how they could work towards a common goal: “After the Declaration was endorsed by all twelve countries, then the next goal was to identify twenty landscapes to be secured. We all were hugely worried, because if you tell a country to protect a certain area, they might say, ‘Who are you to tell us what to protect and what not!’ So, we worked with our partner organisations - there were many involved in the whole processes, NGOs in India, Kyrgyzstan, Tajikistan. Various organisations worked respectfully at different levels and together we were able to define our goals” - NGO conservation actor, SL01.

Interviewees voiced that respect for, and understanding of, contexts was crucial to underpin collective action planning where partners hail from diverse arenas: “Thanks to my colleague’s understanding of the legalities here and our multiple governmental partnerships - I think it really helped us propose this idea and pitch it in a way that it looks exciting to everybody. It is exciting to diverse parties! It's a new model in many ways. We have an MOU that works very well for all of us!" - NGO conservation actor SL36.

Empathy for partners played a key role in the viability of the strategy development process:

Goals centred on ecological common ground could lead to empathy for an overlapping ecological cause, which could not only form a pathway leading to empathy for people from other organisations, but provide particular momentum for action planning for holistic strategy to benefit wildlife and humans; for example where communities protected snow leopard in return for protection of their own homes and way of life. The ecological common ground acted as an ambassador-like natural root of a holistic collaborative working situation - whereby working relationships and ecological relationships bore parallels: “The local communities have seen the value of snow leopards to help protect their own homes, from mining interests and things like that - there are some amazing partnerships going on out there” - NGO conservation actor, SL11.

Many parties described how embodying empathy during processes of strategic development to mitigate conservation conflict situations - for example human-wildlife conflict - could very much enhance joint outcomes. This allowed new norms to be formed - key to achieving and maintaining positive behaviour change. Joint strategy development provided a framework - stability for innovative implementation, employing reciprocity and trust: “When introducing our programs, we not try to judge them or say, ‘You are wrong’. You can see how much hate they have in their eyes - some people can't even look at snow leopard photos. We have to accept that. It takes time. Instead of just telling them that snow leopard poisoning is wrong, we start to work together - collaboratively work on that loss. People start talking, offering each other things, trying to find solutions. Then it becomes easier for us to tell the community that poisoning and trapping is harming this endangered species. By that time, their tolerance and trust becomes better; after the strategic workshops they start understanding, so they also start listening” - NGO conservation actor, SL21.

Interviewees acknowledged that communication was key during strategy development and often underpinned ongoing efforts to bring parties to the strategic stage: “Talking is the first big step - it’s essential, all interchanges are valuable. The

meeting where our first global strategy was achieved followed two years of communications and interchanges!" - governmental conservation actor, SL52.

Participants often recounted that an air of informality had helped the strategic process: "While you are doing strategy, you are also developing relationships with people who work on snow leopard; they become your friends, you drink together. So, when we are discussing, we could perhaps convey to them, 'Could you perhaps look at your priorities in this manner - and if you did, we could try and bring more assistance into the program'. When people ask me why we succeed so much, I tell them that one of the core principles is we are an alliance of friends!" - NGO conservation actor, SL24.

The theme of amplification was a common driver in joint action planning- a desire to amplify scale, widen impact and to spread benefits. It was commonly linked to processes of sharing examples and influencing at the joint strategic development stage:

Partners widely acknowledged the value of harnessing governmental policy-arena partners in order to amplify outcomes: "We're supporting the global snow leopard program - we can see the potential, we're so excited. It's a huge opportunity for an organisation of our size, it gives us huge leverage because it allows us access to all twelve countries' governments, in a way we would never be able to do, so efficiently, otherwise. We had done so much community work. Then, a few years ago, when mines appeared in Mongolia, we realised that twenty-five years of community work can disappear in a day - because the government gave out a mining permit. So, that really woke up our organisation - we realised we need to do more at the policy level. Through this multilateral global mechanism, with access to all the governments, we've been able to mainstream into that process our principles about community-based participation and respecting communities. It's not how governments normally engage with people - when they make decisions. So, that was a potential huge win there" - NGO conservation actor, SL33.

Co-working with government parties during strategic formation stages could provide partners with a conducive arena for development of mutually-beneficial strategy: "On a zoo legislation level, within the EU and within Sweden, we have to do conservation - that's the reason for existence. It's important that you still have that governmental demand to do conservation - it provides common ground and goals - and fuel to efforts" - zoo conservation actor, SL14.

"We want our partners to feel the positive effect from our agency - the fact that they can be confident about the work we are planning to undertake together helps our working relationship. In the strategic stages we undertake together, we define clear goals; that is a process which helps our mutual understanding and, therefore our work together"- governmental conservation actor SL52.

A policy arena that embraced many countries and sectors could enable bracing social capital to support joint action planning. This powerful arena could facilitate the formation of new norms by parties' reciprocity of examples and ideas and permission to carry out innovative work, thus planning for action that could achieve wide-spread results: The following quote encapsulates several key social capital-related themes fuelling the collective action planning process: Sharing an example engendered reciprocity - and influenced and inspired: Parties were empowered by acknowledgement of their achievements; parties showed reciprocity of time and ideas to understand each other's contexts - and then shared diverse skills. The aforementioned aspects generated trust between parties. Joint development of the action plan led to ownership; creating an arena of ecological empathy for each party: "We had a great advantage, because we had done this with the Global Tiger

Program. So, for snow leopards, the first thing was to help them to clearly articulate their programs. Then to suggest, through these experts, where gaps existed - and what could be done to fill them. The strategy wasn't like we came in from the top. It was to first understand what could work, what's being done. Also to encourage countries to talk about their good work, so that other countries also got fired up. The strategy was built in a manner that range countries had a sense of ownership in their planning and actions. They understood that it's their strategy, within their own environment - and that this program is enhancing by bringing various experience across. For tigers and for snow leopards, you have a program which brings people together in agreement towards a common aim, and a common action plan and who is doing it. They understand it is important to converge - we have created this convergence" - NGO conservation actor, SL24.

Developing conservation strategy whilst respecting the biological processes naturally led on to joint implementation. Ecology triggered human responses - providing a tangible way for partners' common biological ground to enhance joint outcomes and logical scaling up: "One snow leopard, which we collared in Pakistan, was travelling between Afghanistan and Pakistan at regular intervals. The cats' large ranges have triggered us to shift our focus up to a landscape approach. So, logical processes were strong enough to justify the need for a landscape-focussed approach, as opposed to a species-focussed approach"- NGO conservation actor, SL17.

Making the action planning an iterative process aided resultant outcomes - iteration allowed repeated opportunities for social capital to aid joint processes: "We received a US grant to do a three-pronged project; anti-poaching patrols, converting poachers into scouts and surveying work. Our partners in Russia had to negotiate relationships with the government. The challenge for our Russian associate was that, to make enforcement patrols effective, he needed a government representative; he spent a lot of time, building support and discussing different parties' contributions. They worked out a multilateral agreement of who would do what. Then, a national park was created in the region - there was a lot of politics around the creation of this park that required renegotiation of all sort of issues. They constantly have to renegotiate those agreements, with the constant political change that is always underfoot" - independent collaborative conservation actor, SL07.

5.4.2.5 Human Factors Enhancing Joint Strategic Implementation

Enhancement of collective conservation action where parties co-worked to implement jointly-made strategy and plans was underpinned by certain key themes and processes, which were variously linked to the key aspects of collective action-related social capital identified in 5.4.1.

Interviewees felt that conservation outcomes were enhanced where programs were implementing jointly-developed strategy. It built common ground and common understanding between parties. Jointly-agreed priorities led to joint ownership of the action and commitment to achieve goals together: "That strategic process builds links, it improves communication, it gets people on the same page, using the same terminology, having the same vision, making sure that when someone says something, that we all understand what that mean for us. It builds a common understanding, a certain camaraderie, a shared commitment as we implement the priorities going forward" - NGO conservation actor, SL33.

Interviewees commonly told that joint implementation benefitted from as many partners as possible undertaking the strategy developmental stages together: "If you are all on the same page, the implementation is so much easier. When developing our project, we had discussions with people working in range countries - listened to their needs and what they think valuable for Pallas' cats. Also we talked with Pallas' cat conservation experts. It's very important that, together, know what you want to do - and get as many people on board as possible, because then there's more momentum in doing the actions. In

development and implementation of our project, it's very much a three-way effort, partner organisations work together; the zoological society, the snow leopard NGO and my zoo. The people involved have different qualities; we all have different angles on how we contribute to enable our project to achieve its aims" - zoo conservation actor, SL14.

Common goals - powerful drivers of joint strategy - in turn powered successful implementation. Working together on the joint goals, and empowering parties to see benefits of meeting responsibilities engendered a norm of reciprocity, ownership and pride - leading to greater impact: "The goal, shared between multiple partners, of species recovery has driven the black-footed ferret project: The ferrets were going extinct because prairie dogs - their prey - were being exterminated. There needed to be a lot of outreach to landowners to encourage prairie dogs back. You needed to captive reproduce ferrets and reintroduce them - and to be able to deal with the prairie dog population. Then you had the land and connectivity issues - so then you brought in the agricultural community and land management community. By working together, they've been able to really clarify goals and responsible parties for each one. Then, those parties are able to identify their own obstacles and work through them - and see opportunities as well. There is a huge feeling of pride in our joint achievements" - zoo conservation actor, SL31.

In diverse multi-party collaborations, it was deemed important to acknowledge overlaps and differences when working strategically: "The planning that we go through together helps the implementation of the strategy. We base our plans on emerging threats, then we all agree how to focus the action. As a Mongolian NGO, we don't necessarily have to copy our international partner's focus; there are always outcomes we want to reach as individual organisations - but ideas overlap. It's really a fine relationship among us - that gives us more flexibility to be impactful in our countries" - NGO conservation actor, SL21.

Working strategically at policy level could brace implementation between countries and sectors at all levels. Such actions could provide a conduit not only for reciprocity during policy development, but also bridges to empower its realisation: "While we're engaged at the policy level, we also are working at helping governments make this thing real. We have a staff person who travels around and helps the countries develop their landscape management plans. That's a nuts-and-bolts thing, because they don't have the capacity, they don't have the skills to do that. I like that it helps us operate at different levels" - NGO conservation actor, SL33.

Investment in strategic and policy work within cross-sector collaborations that included governmental partners particularly positively impacted outcomes, with widening impact seen by parties as one of the greatest benefits: "Scale is about mainstreaming what we're trying to do into the governments. One governmental policy can change the whole game for a species, for a society. For me, scale is all about government buy-in. It needs us to be working with them and getting them to enact. Ultimately, all this work needs to be taken on by government; they need to own this and to take responsibility for, in our case, protecting snow leopards in a given country. That's the end game - to get governments to have the capacity, buy-in, willingness and finances to make that real" - NGO conservation actor, SL33.

As with action planning, the co-working needed to implement jointly-developed plans could be catalysed by examples - injecting tangibility and building momentum where it was lacking. Arenas that felt natural to the actor's contextual background, aided the process. For example, the policy arena could exert wide influence, whilst taking socio-political climate and context into account: "One of the reasons we like the global program is that it's building in snow leopards into a political dialogue in a region - which didn't really take place before. We're seeing countries talk more and more about snow leopards. Slowly, that builds a certain level of expectations and responsibilities about what they're going to do about snow leopard conservation. It's

important to build that dialogue - then governments can get competitive against each other. Certain countries provide great examples to the others, who see, for example 'Look - Kyrgyzstan and Pakistan are doing these great things!' Then they feel encouraged to do more" - NGO conservation actor, SL33.

Making efforts to understand partners' context allowed partners' co-implementation of jointly-developed plans to remain relevant - an apt solution was more influential in impact than one that was less contextually-appropriate. By taking due regard of socio-economic contexts, parties could work collaboratively, engendering ownership of efforts that could amplify beyond the focal species: "Through joint strategy and working together people become aware of things that they do not know - such as legality of their actions, global significance of conservation and their own cultural identity in it - and the benefits of development together. This common understanding helps things move forward. For example, if we, immediately, talk about protecting snow leopards to mountain agropasturalists - who have a hard life - buy-in will be minimal. So our approach addresses community needs: A bridge has been broken - you need to repair; they need health camps - you need to run them. The priority is to improve their livelihoods. Then you win hearts and minds and you build a rapport and a relationship. Then you can talk about difficult things like protecting snow leopards. In the name of snow leopard conservation, they are getting development - the benefits of which help them be more understanding towards the species. Working together builds better understanding of that - which leads to more of that. They feel responsible - and they go on to protect the species" - NGO conservation actor, SL23.

Taking time to understand partners' historic context could also enable conservation collaborations to unexpectedly aid societal situations, by providing a neutral vehicle to help parties move beyond past conflict, via common goal generating feelings of ownership and pride. The generation of pride could enable cross-sector collective plans involving diverse parties to be braced to successfully implement action: "We need to understand the success of the program in the context of Spanish history: Twenty years back, there was very little cooperation between Spanish provinces and central government. However, we successfully brought together governmental partners, scientists and conservationists. I think part of the program's success was that the political situation - how Spanish provinces cooperate among themselves, also with central government - has evolved. So, I would not think that this was mainly thanks to the Iberian lynx project - but the Iberian lynx project has definitely profited, from this. On the other hand, I dare to think that the example of the Iberian lynx conservation programme has also demonstrated that cooperation is more successful than opposition. And of course the Iberian lynx has always generated national pride" - academic and NGO conservation actor, SL06. Resolution and mitigation of problems encountered during co-working are further addressed in Section 5.4.2.6.

Innovation was core to co-working of diverse parties in pursuit of positive joint outcomes whilst implementing joint strategy. Courage to proactively innovate, stepping out of a comfort zone - both in terms of innovative practice and overlooking awkward differences needed to be a norm, in order that momentum be maintained: "This cat was a national topic, a national theme. On one hand, it was an advantage because it was never questioned that this conservation project was most important. On the other hand, extremely high media coverage - the fact that every decision was scrutinised by the media - had blocked important decisions for a long time. We needed to encourage people to act, even at the risk of failure" - academic and NGO conservation actor, SL06.

Innovation commonly combined with empowerment to underpin partners' implementation of jointly-agreed strategy - and its impact. Within organisations, bonding social capital played a key part, since a well-bonded group could support each

other to expedite the efforts that had been jointly-agreed with other parties. Likewise, innovation within implementation of cross-sector initiatives could empower parties from other sectors, via bridging social capital: “The insurance scheme in Kanchanjunga, one of the first globally, was created in 2004. My NGO was sceptical about creating such insurance - everyone thought insurance was the job of insurance companies. Also, local people didn’t want insurance against their livestock - there's no culture in the mountains to insure your things. Despite those difficulties, I thought that was the only solution! So, we developed the scheme together; I was able to initiate a pilot with a university research fund. I had support from all our staff. Then, as it picked up, it really got scaled up across Nepal, Mongolia, India - and everywhere! Now, it's a standard scheme - and the government has bought in and pays the compensation” - NGO conservation actor, SL23.

Interviewees commonly highlighted the value of joint iterative review to implementation of collaborative plans; it benefitted outcomes by empowering partners to adapt their operations: “We are being more strategic; having deep conversations with partners about their visions for scaling up and their organisational growth. We put in place jointly-developed measures of their organisational performance. We help determine what kind of organisational performance they want to have - then work with them to try to increase their capacity. We lay out their expectation and our expectation. Then we'll work with them to strengthen areas that we jointly identify” - NGO conservation actor, SL32.

“Within the last few years, the situation has changed so radically on the ground that the model that we've used for the last fifteen years just doesn't work anymore. The adaptations that we've had to make in the last couple of years have not been desired or sought; we've desperately struggled against them - but they are necessary for the project to survive” - independent collaborative conservation actor, SL07.

Implementation of strategy developed during training and capacity building could be highly effective in outcomes and empowering to all partners. Iterative review involving all partners could build bridging social capital and ownership, Collective evidence-gathering fuelled collaborative effort; it contributed a sense of pride and ownership - and informed and gave rigor: “Having envisaged our goals, at the training session we carried out a process to develop working strategy for the training so the rangers could carry it forward in their work. We had them fill out an evaluation at the end of the training and another in six months - we asked them to go out and use their new knowledge to better do their job and then come back and tell us in six months how it was beneficial. Then we would work together to modify or expand it - it really empowered and drove along the initiative” - governmental and independent conservation actor, SL19.

The level of investment in the joint strategic processes was allied to the level of ownership, which in turn built pride, bracing co-operative efforts: “We make conservation contracts as community - we discuss things together with the NGO people. There is no fear for us to communicate with these people. They understand us well. If there is a problem we can just call them and discuss. They listen to us and try to accommodate our concerns. Our annual plans of production are discussed with them. There are no difficulties, because they plan, first based on nomadic herders needs. Their field schedule is even based on our seasonal work” - community conservation actor, SL37.

Many interviewees valued the ability of joint strategic efforts to spread benefits and often regarded strategic processes amongst their greatest conservation successes: “In terms of the outcomes, our most successful felid conservation collaboration is probably the Iberian lynx, with regard to conservation status - the species was downlisted, actually, earlier than we would ever have expected ten years ago. We were involved in strategic planning and scientific planning for its conservation - to help secure its future” - academic and NGO conservation actor, SL06.

5.4.2.6 Human Framework for Problem Resolution

The data showed that key processes relating to joint problem resolution combined under a framework that was important to the collective action of conservation partnerships and their aggregates. The processes making up this framework for problem resolution were variously fuelled by the key aspects of social capital that underpin collective action, as identified in 5.4.1.

It was apparent that successful conservation partnerships and their aggregates, consciously or unconsciously, as a norm, developed frameworks by which to address difficulties encountered in the course of their work. The framework was external to formal written agreements, such as Memorandums of Understanding - it was a framework that employed partners' human dimensions. Team members described how solving problems together helped them feel more bonded to one another - the bonding social capital helped their team - and partnership efforts. When members of different organisation solved problems jointly, it was an empowering process, generating pride which fuelled their collective efforts. Openly addressing problems in aggregates where partners hailed from diverse backgrounds and sectors - even if physically distant, seemed to engender bracing social capital which aided the collective endeavour:

A culture of empathy and norms of efforts to understand parties' contexts were almost ubiquitously associated with the framework for problem solving: "I listen and try to come from where they are coming from. I do not try to tell them to do anything differently. I listen and understand why they're doing that; is it a behaviour or an attitude that they are forced into - because they have no other choice? Or is this out of choice? Is this very close to their culture, are people very tied to this behaviour? Then, based on whatever we find out, we approach it differently" - academic and NGO conservation actor, SL30.

Contextual understanding was vital to problem resolution when addressing practices and consequences of practices counter to conservation goals - and could still be effective in the absence of empathy: "Sometimes it's, 'How are we going to get into this port to look for containers, if we can't get through this one meeting with the DG, who we absolutely know is corrupt... But, if we can move this forward a little bit, it is for the greater good. There's definitely some tension there - I think it's something we all have to wrestle with. There's probably a point where you just blow apart - I come in for a shorter period of time, so I'm not as worn down. I can just go in and hold the dyke together for a little bit and let our partners rest. I'll go in and be impressed by this person and all that they have to say and, just, give my partners a bit of a break on it" - NGO conservation actor, SL09.

Interviewees recognised the intrinsic need for working with and valuing human dimensions in conservation to achieve biological goals - and that a paradox of embracing diversity was that it intrinsically increased the potential for disparity, where partners pulled in opposition instead of unity - hence the need to address specific context in each situation: "I do not think, generally, we neglect the human dimensions in conservation. But, this depends on the situation, on the project, on the species. Because cats are so often conflict species, and because solving these conflicts is so central to cat conservation, we have these human aspects. But, if you are in certain situation, what are the needs of the people? If you take a local herder, or a representative of the government of that same country, or an NGO representative, and so on - the diversity of needs and of views between and among people is so huge. There is not only one stakeholder or one human view or one anthropogenic need and approach, there are hundreds. It's difficult to have a general approach - it depends so much on the situation and on the real conflict and on the background... and unfortunately, very often, also on the hidden agendas of certain stakeholders" - academic and NGO conservation actor, SL06.

Participants described that, since it employed intrinsic human dimensions, the problem-solving framework could naturally evolve within the partnerships. Responses described a norm of making provision during the arena for interchange to address immediate problems. Interviewees also described how, in certain situations, consequences of issues were often addressed by natural evolution and implementation of sanctions, such as less value-added to partners - which engendered a cycle of diminished reciprocity: “We've had a couple of misbehaviours by a few partners and guest speakers. For example, somebody might not be respectful of a private conversation between a conservationist and a donor and try to lure a donor away - talk badly about another partner, which is unacceptable. We'll address those if we witness directly - if not, it’s harder to address. These misbehaviours are the exception rather than the norm. It’s often similar individuals - and the consequence is, often, we do less for them. They're often also the same individuals who aren't as open to receiving the kind of services we offer. So, the relationship then becomes much more transactional, it becomes much more, ‘Well, you come to the events, you can make your pitch, you can meet donors - and that's it.’ But we don't put as much of our added value into it - and it’s the added value that allows us to make real headway”- NGO conservation actor, SL32.

The key collective action-related theme of communication was fundamental in situations that required sanctions to be deployed: “If a partner doesn't match up with the commitment that's put up there as a prerequisite and you have to break the partnership - in the same way as you developed the relationship with clarity and prerequisites, you must also break the partnership very much with clarity and prerequisites. People who do not honour commitments - even some grantees or community groups - you need to blacklist them. You can’t help them, so you say, ‘Enough is enough, we cannot go beyond that - sorry, it’s the end of the road.’ You have to be very honest and must say it clearly - you shouldn't beat around the bush” - NGO conservation actor, SL23.

The collective action-related social capital theme of investment of time underpinned the framework for problem resolution. Ongoing negotiations were often required to address problems and difficulties. Allied to these was partners’ acceptance that reciprocity was not always equal: “To overcome difficulties, you need to have very honest intent of doing a job together - and that has to have give-and-take. It is a negotiation; you need to continue negotiation after negotiation, so both feel they are winning. Sometimes you win more, I lose a little bit - sometimes you win less, but I win a little bit more. Not like win-win all the time. Win and loss is always part of life” - NGO conservation actor, SL20.

Embracing diversity brought existing trust relationships - which could help resolve problems in different arenas: “There was a persistent retaliatory killing - and we talked to the community about how we could help address the issue. We started an insurance program; where all the herders could voluntarily buy in. And we had a local monastery be the bank - someone that was going to be trusted - and the monks also went around and determined when lost livestock was due to predator or not. That was hugely successful!” - NGO conservation actor, SL26.

Problem solving via embracing diverse expertise - which also brought different insights - was often utilised. Diverse parties provided bridging to other potential solution-providing partners. Employing ongoing communication to find common ground could bring parties to a point of forward motion in initiatives and amplify outcomes: “Challenges are always there: For example, some people want development - not necessarily conservation at all! So you really need to negotiate a lot with all these development agencies - health, education, whatever - to find the best options to work together and within the community too. Do the community people want to conserve and have a better environment? With individuals who are more politically-motivated - not necessarily to do with conservation or development at all - it's more of their political ideology. Things can be in

opposition - so, again, you need to negotiate to bring it to common ground. So, we say, 'We are neither left, nor right, nor centre; we're here to do conservation - and conservation's good for all. Everyone needs to breathe the air, everyone needs clean water'. All those basic fundamentals you can actually explain to people; they see you are explaining from a neutral position, then the understanding can be built. So, to resolve problems, the biggest thing is you need to do is start talking and negotiating with honest intent - then the understanding gets built very slowly" - NGO conservation actor, SL20.

Participants noted the benefits of joint action planning to resolution of subsequent problems, particularly the unifying effect of having recognised common ground within strategic framework. Thus, the strategic arena could be highly valuable to problem-solving. Having sought common ground, parties experiencing difficulties in collaborative action could iteratively return to acknowledge it when difficulties arise: "You have to be able to establish common ground in strategic development situations - and common priorities, because they are what you fall back on: As you work with your strategy - when things don't go according to plan, you have to be able to go back to something and say, 'Well, actually, look here - we all agreed that we want to do this" - NGO conservation actor, SL01.

An informal arena that was comfortable to all parties could help in the problem solving: "Initially, it's an incredibly informal process. We literally just have a cup of tea, and then we talk - and then we'll ride into the mountains together for a day and look for tracks. While we're looking, we talk about them, about their perceptions as to what happened to the wildlife and the problems. So, it's all happening in a very comfortable environment for both. We are out in a beautiful place, we are watching, scouting - and then thinking out loud" - NGO conservation actor, SL25

Awareness-raising and education was often employed within the problem solving framework. This could lead to creation of common values, empowerment and influence on behaviour: "When I meet people who have been hunting wildlife illegally, I always say, 'Who is the owner of the wildlife?' I always say that wildlife is actually for the local people. So, it is actually for the local people to make a conservation of wildlife - and so that locals can benefit somehow from wildlife. I always teach them that first you have to conserve the wildlife - then after that you can have some benefits from them" - academic conservation actor, SL28.

Tangible examples and education via peers proved to be a powerful way to empower solutions between parties, again, influencing behaviour in a respectful manner: "We sit together in somebody's home or in a classroom, with usually twenty to thirty of these traditional hunters. We'll pull out pens and big sheets of paper - ask them to draw the mountains where they go hunting and the animals they see. Then we'll ask them to draw a diagram that starts with two dates - today and ten years ago - and have them tell us what they think happened to all the different animals. They'll show a diagram, where, ten years ago, there were many snow leopards - and now there's zero. Then we'll go through this other game, where we have sweets in a bowl. We say, 'Imagine this is the year 2010 and you're going hunting, how many animals are you going to hunt? Write that on the paper and grab as many sweets from the bowl.' Everybody does that - and then eventually there's nothing left in the bowl. We show a table that shows if you hunt, eventually the entire population of the species is extirpated. Then, after everybody has made peace with the fact that this is not sustainable, they ask 'What do we do?' So, we walk them through the process of how we can work together. We bring leaders from other conservancies who can say, 'Oh! We did the same, we had the same problems - and then we got together'. So it's not us telling them what to do, but it's, 'OK. So this is what these guys across the border did and they can answer all your questions and concerns" - NGO conservation actor, SL25.

To mobilise positive collective action in difficult circumstances, for example where counter-conservation practices are occurring, norms could be changed through education. Effectiveness required parties to try to understand potential partners' context - and could be enhanced by a diplomatic facilitatory CUI: "I don't think we have the moral right or authority to go and tell someone, 'You are wrong!' What really works is stepping up the education, stepping up the better understanding of what's going on. That's where being a good teacher helps; one who makes the audience come up with answers of their own, by making them gradually take steps. That does wonders. If you try and teach something to people, they will be highly resistive to it. But if you make them understand point by point - then they can come up with an answer which makes sense to them" - NGO conservation actor, SL17.

In impactful collaborations, listening and understanding context, seeking common ground - and empowering partners to own solutions was an impactful manner in which to resolve issues. A common sequence of social capital-related events in the framework for problem solving involved communication within respect for context, leading to problem solving, often embracing innovation, and increased impact of joint endeavour: "From our perspective, the human side of it is paramount to what we often do. It's a matter of trying to understand, continuing to have those conversations. It's really, a commitment to dialogue, dialogue, dialogue - until you can understand those practices and help the communities find a way where they come up with the solutions themselves. We can't force, or direct, anything to happen. It's a matter of continuing to work with the communities towards that end of trying to find behaviours and solutions. It's either driven by economics, or religion - or by other aspects. So, we're always trying to figure out the different entry points as to how you might be able to influence, or support, a community in finding pro-conservation ways of living" - NGO conservation actor, SL33.

Despite jointly-negotiated action plans, participants stressed the importance of accepting that some partners would require an element of tolerance with respect to manifestation of collective action - it was a commonly cited difficulty. In this case a neutral bridge could link parties and keep matters on track: "Some partnerships were very difficult and needed more time - that was fine. Some opportunities were easier to move forward. The taxon advisory group took real leadership on providing guidance for the rest of the community about priorities - and, as a third party, worked with partners to make sure the priorities that they were developing were in general agreement with how the global community was approaching it. I think that going through that process and being transparent about it really helped with getting people through" - zoo conservation actor, SL31.

In situations without strategic framework, impactful bridging to resolve problems was commonly aided by respectful verbal communication of information supported by tangible examples: "I talk to all these people to change their attitude; letting them know that black-footed cat is a difficult species - it will never tame down as a pet - and it's rare, but it fulfils a very important role and it doesn't kill their sheep. I give them all the information. Luckily, I can prove it - with pictures and so on. With the spread of poison, I can only talk to the farmer. So if there's a migratory locust outbreak, I try to convince him that poisoning will also kill a lot of other species- because they will take the poisoned locusts. Then obviously, if he goes out and shoots predators, then he better look exactly what he's shooting at! Obviously, I use my international and diplomatic skills in how I talk to people - I get to the point slowly and carefully" - zoo conservation actor, SL18.

Problem-solving frameworks made provision to account for context and cultural nuances that could occur even within an area; in this way, parties could offer apt solutions: "It's complicated in this region; we have the larger, dominant ethos on top of the local indigenous culture. The actors that we deal with have different ethnicities; some have lived in this area for generations, then there are people who are city-based or representative of large organisations. So we're not just working with

one culture; we're working with local culture, national culture - and their views on the indigenous culture - and then we're working with the city culture. It's important to understand all those differences. Some of our collaborations are with government - which has culture. Some of our collaborations are with small grass-roots organisations - which operate very similar culture to us. Some of our collaborations are with large international NGOs - and those are very distinct and different than grass-roots groups" - independent collaborative conservation actor, SL07.

Where collective action was beset with problems, common ground needed to be identified and accepted by all parties. The framework could utilise a CUI as a neutral facilitator bridge to resolve conflict: "First of all, people need to be willing to accept the common ground, which is basically to accept certain facts. We were in Oman, helping to develop a national action plan for the conservation of the Arabian leopard. There was a very strong conflict between two GOs and between a group of stakeholders - the camel-breeders and the conservation GO that was initiating the project. Our role there was basically that of a facilitator. Very often we see ourselves in a situation where we try to moderate the discussion and to find an exchange between the local, regional and national key players. Very often, we try - as outsiders to bring them together and define next steps and to seek common ground" - academic and NGO conservation actor, SL06.

Many participants describe how pride in the form of inflated ego could hinder collective action. This inflated personal pride has the opposite effect to the pride that resulted from, and fuelled, partnership empowerment. The remedy for this ill was often a CUI who could act as a bridge, reaching out and turning the negative pride that was isolating parties into a common, shared pride in an endeavour that empowered all associated parties - and fuelled the joint work: **"**Personal pride was a huge hindrance to that collaboration; people wanting it all for themselves, basically saying, 'I'm saving this species - and nobody else!' There was a lot of competition between government and non-government organisations and between regional government organisations. You had people at each other's throats - and they were totally blocking each other's work. The field people blocked the captive people and vice versa. There was no collaboration happening. It was purely ego! Ego, ego, ego! Then the new Director came on board. She made extraordinary strides in pulling the collaboration together. Her role was absolutely crucial - she reached out and sought people with varied skills, invited them all on board - people felt proud to see what was achieved. She - and other key people - have been very important in having made this project work very well, helping to drive the cat's conservation" - zoo conservation actor, SL18.

On occasions with limited reciprocity, little or no inter-party trust, limited common ground, no common vision or goals - a CUI could aid resolution of issues by becoming an empathic warrior, with courage to speak out and issue sanctions. In such circumstances, the bonding social capital of the CUI's team, especially the trust held between members, was very important to reinforce solidarity: "As recognised specialists, our different organisations were closely collaborating as a team. We were forced to collaborate with the other party; they were capturing animals from the wild, which was hurting the wild population. Their main person - it was definitely not a collaborative spirit there! That made the whole process incredibly difficult. We need someone open-minded, to actually listen to our advice and make an effort to discuss it properly and not say outright, 'No, you're wrong - I disagree and I want this and this!' That person has been so difficult. So, I've put my foot down and said, 'This is a long-term project for the next ten years, if it's going to succeed, you have to change that person' To me it's clear - if people are not working together and are making things worse and not listening - then they have to find somebody else. I will not go across certain lines" - zoo conservation actor, SL18.

Iterative collaborative review often formed part of problem-solving "When we have a problem with the hunting units, when there is too much trophy hunting, we pool our experience to solve these problems, we monitor; before it was seventy hunting units and now it is fifty. We've adopted the law on regulated hunting and they have an opportunity to regulate once we have collectively gathered new data and if necessary to make it even less" - governmental conservation actor, SL27.

5.4.2.7 The Three Commons - a Common Culture

The data showed an over-arching theme that embraced three areas - common ground, common values and common goals - as highly important to collective action of conservation partnerships and their aggregates. I have entitled the theme, the 'Three Commons - a Common Culture' - it emerged to be variously linked to the key aspects of social capital that underpin and fuel collective action, as identified in 5.4.1.

I have previously shown that common ground and common values are themes by which social capital can operate to fuel collective conservation action. Narrative data further showed that where these themes cohese with common goals, collective action is greatly enhanced: "Our NGOs share a lot of common values - that's why this collaboration is working so well. If you look at the core values of our two NGOs you see parallels; driving conservation action using good science, always appreciating and understanding community concerns. Taking communities into confidence, and looking at communities, not as people who should be involved in conservation - but as people who need to be your partners in conservation. Seeing the common ground, and sharing common values - and having common goals - sharing these core principles makes collaboration work very well" - NGO conservation actor, SL10.

The commonalities combined to create a 'Common Culture' or norm that variously fuelled collaborative conservation endeavour: Common ground could be identified by any parties wishing to work together. Shared goals could be defined likewise and encouraged reciprocity and bridging and bonding social capital, thus enhancing impactful joint endeavour. Common values, being more embedded required uncovering. However, when the Three Commons were present, it could lead to the building and sustaining of a Common Culture, often to such a degree that the scaffolding effect of bracing social capital was evident supporting wide-spread efforts. The theme of the 'Three Commons - a Common Culture' is now described in detail.

Interviewees showed that though culture is commonly thought of as a philosophy that is rooted in a particular part of the world - the ideas, customs, and behaviour of a particular people or society - it was also possible to have an intrinsic culture, a culture within working partners, whereby, even if parties hailed from different parts of the world, commonalities could unite partners. It was very bonding to those involved: "We absolutely share a common working ethos with all of our in-country partners. We have somewhat of an interesting model; the partners that we work with, within our five countries on the ground; some of them we helped create, some of them existed before we came around, some of them, we provide almost all of their funding, others we provide only a small percent of their funding. When I joined the organisation, I spent a fair bit of time talking to each of the Directors, to try to understand, 'Why are you a partner with us?' There seems to be an unusually deep level of commitment to what our NGO represents and what all of us together represent as a collective. I was so impressed - I've rarely seen such a profound commitment across organisations, almost common identity, a mutual empowerment. It's very mutual" - NGO conservation actor, SL33.

Interviewees felt that the presence of the Three Commons empowered joint working, despite differences in partners' situations or partners hailing from diverse backgrounds and sectors: "The recognition of the shared desire for a specific goal - that gives us common ground. We also share common ground in that everybody is always financially- and time-constrained. That

can be a conservation-stopper, more than a way to move forward together - so we need to set aside that obvious obstacle that's going to confront any relationship in any program, whoever the parties are. What works is recognising that common ground, going in there and saying, 'What is our shared goal here? How can we move toward that?' - combined with sharing values. This is what helps our work together succeed" - zoo conservation actor, SL31.

Where partners hailed from diverse backgrounds, the Three Commons bestowed solidarity - an empathy to allow accepting of partners' different pathways to reach common goals: "We share common ground and their values align with mine - so do their goals. They work in a way that I believe to be the right way - a productive and good way, though we take different routes. They are working not only with scientists, but also they are working with local people, administrative people from some levels and also government ministers - they are working at many different levels. That's really important for snow leopard conservation" - academic conservation actor, SL28.

Participants also illustrated that presence of the Three Commons could aid joint initiatives to succeed, despite partners' different personalities: "That common desire to work together gives common ground - that is always helpful. Yet, we have had some good strong partnerships where we've had to say, 'OK. This is where we agree and this is where we agree to disagree.' So, there's not always a complete overlap or a hundred percent, 'We're behind this organisation and they're behind us'. But there's enough shared value and common desire to work on that particular project. So, the mutual respect of the goal in mind, and the willingness for each to contribute their part - that the important area. Folks bring their own different personalities - but that's very separate from the shared goal and drive motivation. Then we can work through the personal preferences and differences, whatever they may be" - zoo conservation actor, SL31.

The ability of the commonalities to positively influence collective work was often attributed to the fact they tended to permeate all aspect of a person's work; values were often personally embedded, common ground could be found in terms of working focus or knowledge or understanding - and the goal was ever-present - this enabled bridging social capital to flow between partners: "We've worked successfully together a lot. We have a mutual understanding of what conservation is, we use similar approaches - it covers all aspect of their work. If you have a really deep common understanding of your working, you don't spend a lot of time explaining, or trying to find common ground - or fighting on different opinions. It just makes work a lot easier. So being open-minded, interested in bringing things forward - and having a common goal for the species" - academic and NGO conservation actor, SL06.

Shared resonances between partner's working experiences could provide common ground - though partners' experiences might be different. Alignment between common ground and ethos's could bring parties together to work for the common goal - and the common good: "I've worked with that NGO a lot: Their core values are exactly the same as mine - we're all out for protection of the resource. We have all made a vocation of it - and that's what we all work towards. Sharing this common ground and these similar values directly impacts the outcomes of our working initiatives in that it has brought us together to work towards a common goal. We can all relate what we can do in the future to some aspect of what's happened to us in the past, our common ground, based on experiences" - governmental and independent conservation actor, SL19.

Interviewees credited sharing the Three Commons with bestowing a mutuality that boosted trust between partners and confidence in one another, leading to a positive cycle of reciprocity of ideas and effort that amplified partner's outputs and inputs: 'We share a common ethos across the partners. There is commonality between us - a focus on conservation. So, in our suite of partners it's really a focus on people-centred conservation - engaging communities - and also being collaborative.

Sharing the common ethos and values really impacts conservation outputs and outcomes. It gives me a sense of confidence that we have the right kind of partners. That translates into good dynamics when we bring them all together - it's a very collegial atmosphere. That feeds a lot of cross-partner sharing; people learn from each other. We've taken that to another level where we enable our partners to visit each other in field sites. So, we may have a cotton-top conservationist from Columbia visit a painted dog conservationist in Zimbabwe, because they both share an environmental education program - that's hugely enriching for the conservation space" - NGO conservation actor, SL32.

The presence of the Three Commons enabled powerful bridging and bonding social capital to be harnessed between partners - and could underpin highly innovative and novel collaborative work - and help amplify the size of the partnership aggregate and its outcomes. Thus, the Three Commons seemed able to brace conservation effort uniting partners from diverse backgrounds and different countries. Where common ground, common values and common goals combined with common passion, the resultant partnership action was highly impactful and trust was often reinforced by commitment to and manifestation of action: "We have a tremendous partnership in Kyrgyzstan. The President is very passionate about snow leopards - that makes everything move. The government agreed to let us co-manage a hunting concession - there'll be no hunting there for ten years and we're going to document how the ecosystem recovers. That happened, in part, because the President is so interested in snow leopards, so the government made a variety of promises: They would provide horses and vehicles for the rangers who have to travel throughout the park and renovate the rangers' station. All that was done within the first couple of months of the project. It was just amazing that the government did everything it said it was going to do, from the very beginning! So, just a real passion and a real commitment to buy into what you're trying to do. We thought it would be great if we could meet the President. Normally, it takes months - we actually got an audience with him within three weeks! Then, he said a lot of great things about snow leopards and our NGO on local TV. The commitment, the belief and agreement - a shared vision of what you're trying to achieve - these factors really help partnerships achieve" - NGO conservation actor, SL33.

The union of common ground, common values and common goals could unite diverse sectors - and cultures - in productive effort: "In places where it is already well-ingrained, the people are quite devout, there's a high density of monasteries and monks that have interest in helping and providing partnerships - those are always pursued. It's always part of a seamless social landscape; there's the Chinese NGOs, the academic students, there's always going to be some level of government players involved; and then the various monasteries and involved monks. Those all work in collaboration with each other" - NGO and academic conservation actor, SL45.

Where common ground was allied to common values that were deeply embedded cultural values and religious beliefs, here Buddhist ethos and values, identification of shared goals also could mobilise wide-spread effective collective action: "Those communities often have Buddhist values - ethos' and values to conserve the landscape and the species, which can be key to the success of initiatives. That's one of the primary factors - the non-killing philosophy. They see snow leopards being one of the deities of the mountains - as 'God's Pet'. There's a huge cultural and psychological value as to how people perceive the cats. Even though, once livelihoods are threatened, of course people want to kill them. But as soon as you say, 'This is, very much, a totally threatened cat - if you don't protect it, there will be no more Deities of the Mountains', people totally change their psychological understanding - they bring a compassion immediately. So it's talking - to find that common ground, and mobilising those common values and understanding and moving together - that has been the biggest mobilising factor of the success of our work together" - NGO conservation actor, SL23.

The common culture established by the Three Commons built and braced a resilient community with influencing power: **"**We came in - on the request of twenty range countries, both tigers and snow leopards. They said, 'This alliance cannot be allowed to fade away! It's very unique - it's tigers and snow leopards, twenty range countries all functioning together, there's a community of practice - and there is such convergence and clarity, so it can't be allowed to fade away" - NGO conservation actor, SL24.

Numerous examples were shared by interviewees that showed how sharing common ground, common values and common goals yielded wide-ranging benefits, beyond the conservation focus: "They share certain traits: First of all, they are true believers - they share the perspective that wildlife conservation is important, but it's not simply because they love animals. They also deeply believe that the greatest challenge for humankind is building a sustainable, resilient world, and that wildlife is essential for that - the whole ecosystem services side of things - and to the collective health of people and planet" - zoo organisation conservation actor, SL12.

The three commons helped drive collaborative work forward to overcome differences in working practices, despite partners being physically distant, exerting a bracing effect: "With our associate in Russia, we share the common ground of our working focus and ethos of valuing the environment, and habitat, and conservation. We don't have any differences in those values, though we do have obvious - and necessary - differences in approaches to getting the job done - he's field researcher on the ground in the Russian Far East and I'm an external funder and collaborator based in the US" - independent collaborative conservation actor, SL07.

In addition to those noted above, other key social capital collective action themes were especially important in order for the Three Commons to empower collective action -

Convening the conversations in an arena allowed parties to identify common ground, values and ethos' with each other and to bridge - this created an atmosphere conducive to definition of common goals. The Common Culture - the Three Commons - could then develop to brace diverse cross-sector conservation effort, supporting reciprocity and bracing social capital between these parties: "One of the Co-Founders was a passionate wildlife enthusiast and philanthropist and, years ago, as an individual, started supporting the work of a couple of, now high-profile, cat conservationists. He realised that there was something bigger to do for the field of conservation. So the idea of our organisation came out of those relationships that he had developed. He started it to be able to feature the work of field conservationists and put them directly in touch with people, like himself, who were interested in such work and had the means to financially support it. From there, other partners joined. In the early years, the bulk of the relationship was really to provide a platform for those individuals to talk about their work and convene - so our organisation convened potential supporters. We just provided that platform; brought the conservationists, brought the philanthropists - and then we let the magic happen - now we're global!" - NGO conservation actor, SL32.

The importance of time, context and open-minded communication was apparent: The presence of commonalities may be hidden, hindering collective progress. Therefore taking time to understand partners' context could reveal the presence of the Three Commons and unleash reciprocal benefits to the collective action: "Our collaborations can be hindered when the common ground is not apparent - or not easy to attain. If there's a pre-conceived idea - on either side - that comes into play, breaking down those barriers is a big challenge. If a field person is coming to the table and saying, 'The only thing that the zoo person brings to me is money', that's a pre-conceived idea that, maybe, you're not as open to the idea of collaboration. Yet, we clearly have common ground and certain common values and goals in our desire to save species. To me, the core of it is the common

understanding - of the commonalities" - zoo conservation actor, SL34.

The role of the CUI was important to bridge partners into the Common Culture, which then gained its own momentum to encourage collaborative endeavour: "Those early partners were brought along through the personal relationships - there's something emotional about it. It's driven by the people that come to us, a common desire to conserve the environment and wildlife. A very personal thing; you may have the best idea in the world, but if the person on the other end of that conversation doesn't connect with you - intellectually, they may think that's great, but emotionally, they may not be quite there - that relationship's not going to be as fruitful. It's an intangible element - the creating of the deep common bonds" - NGO conservation actor, SL32.

CUIs could help amplify the effect of the Three Commons. With shared ground, values and goals - CUIs could harness key social capital-related qualities and help bestow confidence and build trust for initiatives to go forward and to bridge outward: "In every society, there are people who are passionate about making their societies better. It's a matter of finding those people and giving them support. From our side, it's about having respect and listening to what people are saying, because they know what they're doing, usually they have good ideas - it's just a matter of helping to connect them to either technical training, or to finances, or to the right people, the right institutions. So, we found a great team of people; they were local staff, they knew the country and the people and they had connections. They were really committed to the work - and we were open to experimentation; if we saw something that didn't work, we could try something different and work on a continual improvement over that period of time. We all believed in that to get to our goals" - NGO conservation actor, SL08.

Three Commons were commonly seen to amplify success of initiatives especially when there were resonances with deeply embedded culture; resultant pride and ownership led to innovative working and increased impact: "The Himalayas have predominant culture of Buddhism; the basic teaching is that you don't harm animals. Also, the snow leopard is considered as a pet of the deities, 'God's Pet'. That interconnectedness has been a key factor. There are people now, even as modern systems are developing, who are beginning to see more value of protecting the species which can keep the mountain ecology much more healthy. Once you are in charge of your own destiny - your own species, you feel more pride in it, in protecting it. They are very proud to tell tourists that, 'We have been protecting these species - and we are part of the larger global conservation'. So that brings pride into their cultural identity, together with a modern form of pride, and practice, while you are talking to outsiders. Then, while doing the conservation work, people know it brings livelihood benefits directly to those who are engaged into it" - NGO conservation actor, SL23.

5.4.2.8 Structure

Respondents generally felt it most conducive to collective action that the relationships they held with partners from diverse backgrounds should form an open, spider-web-like pattern. Bridges between connections were key to amplifying conservation efforts and outcomes. Overall, within the aggregate of conservation partners from diverse backgrounds, social scaffolding - bracing social capital - helped multiple partners harness social capital to achieve their goals and amplify the impact of their collective efforts: "I don't think there's any particular centre. It might seem that there are a number of hubs within the overall network, but these different bodies are playing different roles: The global program focusses on collaborating at high level with national snow leopard range country governments, to buy in support at a country level - that's very, very important. There is a very old, established snow leopard NGO which has tremendous experience and successful conservation models, science-based interventions - which are very important for everyone in the snow leopard conservation community. There is also a networking

body for snow leopards, that's again, a very, very important body, because it's a loose collaboration of every conservationist - anyone who has any interest in snow leopard conservation. There's also another large conservation NGO that has a very strong on-ground presence in eight countries - so has the ability to scale up good conservation models and make a tremendous difference. So there is no centre, as such - and it's beautiful, because different organisations bring in different expertise and strengths. It is very important for all the institutions to remain in a very nice collaborative framework - that really helps snow leopard conservation!" - NGO conservation actor, SL10.

The open structure of ties, rather than parties centering around a hub, provided numerous opportunities for reciprocity within the partnerships: "There's one person who's good at genetics, there's another person from a different country partner who's good at statistics, there's another person from another country partner who's phenomenally good with communities. We have the opportunity - this open channel - where we can always communicate and exchange. For instance, we are trying to build corrals for the communities. What kind of corral should we make? We had immediate access to other country partners' programs who have experimented with different things" - NGO conservation actor, SL17.

Bridging was fundamentally important to collective action. The open structure of the conservation partnership aggregates allowed CUIs to play pivotal roles in numerous places, being widely distributed, rather than in one organisation that acted as a hub: For example, range country academic and local NGO partners formed bridges that could link international NGOs to that country's governmental bodies: "Our range country partner has quite a bit of involvement with key policy-makers in State Agencies, at the national level, for wildlife; they're more able to have direct conversations. Same goes for our partners at the university, which is state-run. So, for our NGO as an organisation, and me as an individual in that organisation - I don't have a lot of direct interaction with those governmental people, but, we do have, through our partners there. So through our partnership work, we have vital links to influential governmental and policy channels that can impact our conservation work" - NGO conservation actor, SL11.

The network structure commonly facilitated many channels of communication, often through CUIs: "That access of communication, the right kind of facilitation of that communication, with some of the regional staff - which includes, of course, key people in the range countries and US - who are able to facilitate such cross-program communication - I think that really builds onto the strength" - NGO conservation actor, SL33.

In concurrence with SNA findings of Section 3B, within the overall aggregate of conservation parties, narrative responses did show a small number of 'mini-hubs'; these mini-hubs played key roles in the collective action processes and were particularly valuable to expanding impact. Varied effort types (as per Table 10) were reciprocally exchanged. This was evinced commonly in both interviewees' responses and borne out by the SNA results within Section 3B. This and other commonalities are discussed Section 5.5.

One example of such a hub was where a larger, or international, organisation trusted satellite organisations to widen its reach - and therefore, its impact - across range countries: "The biggest, most prominent, collaborative effort of our NGO has been the ability to forge partnerships in five range countries, where we have very active country programs. That is the strongest and most effective form of collaboration that our NGO has been able to put together" - NGO conservation actor, SL08.

Expansion from such mini-hubs was evinced in in many directions - notably, across sectors and to actors from diverse backgrounds - and was facilitated by the open structure of the conservation aggregates, as discussed in Chapter 4: "We've

always had a plan to collaborate with other NGOs. I think one of the more unique things is the way we work in countries; we focus on five of the twelve snow leopard countries - with permanent staff - through NGO partnerships: So there's not an office of ours that's a legally-registered NGO in any of those five countries: We find a locally-registered NGO, or we've helped establish those. That's how we partner; we've always tried to work with local partners - completely staffed by local people from that particular country. We feel like that's the only real way to operate sustainably within these countries. For example, if you think about the challenges that Pakistan has faced, most programmes would have shut down - yet, we grew - because of our local partnership, and our ability to operate in that country, despite the security challenges. Over the years we have had an incredible partnership with about seventy zoos around the world. That collaboration takes many forms: Financial support is wonderful, but so is changing signage at the zoos. For example, our founder partner zoo has 1.2 million people through their gates annually; if you have the chance to educate and inspire those people about our work for snow leopards, that's really great. So, we do all kinds of zoo partnerships; selling handicrafts from our community livelihood enterprise program, hosting us as a speaker series during a fundraising event for us, giving direct cash - all kinds of ways they support us. They have become important partners in the community livelihood enterprise program, so we are consciously, increasingly trying to assist them, in terms of their own outreach. Our other major collaboration is with the global snow leopard program. It's huge for us - and a huge opportunity for snow leopards. Snow leopards range over two million square kilometres; we looked at our capability, the capability of other NGOs. It was pretty clear that we can't scale the conservation efforts big enough to ensure the snow leopard's survival without the help of the governments" - conservation actor from NGO 'HUB A'.

Hubs centering on capacity building were well-regarded; interviewees described several, but with common features that empowered collective action. An array of support was evidenced, providing varied platforms for administrative support, networking, knowledge-sharing, both formal and informal. One particular NGO was described by several parties as a hub, due to it being an impactful innovative model for collaborations and partnerships, providing pivotal support to many conservation practitioners: "We help practitioners working innovatively and holistically to help people and wildlife co-exist. For example, we give platforms for people in the field to talk to donors - and conservation practitioners to meet. We give training to partners in areas that support conservation, such as strategic planning, accountancy, marketing - areas often less familiar to people in conservation. We offer live, interactive training workshops, cross-partner visits, a scholarship program and targeted training for emerging wildlife conservation leaders in association with animal welfare and other conservation bodies. This capacity building is specifically directed towards conservationists who collaborate extensively in their range countries with NGOs, communities, governments and other stakeholders. We also link zoos to field-based conservation" - NGO conservation actor, SL32.

Such hubs perpetuated a norm of recognising and valuing the human dimensions of conservation, despite the conservation arena having an ecological focus. This norm formed a common value that facilitated bridging between parties from different backgrounds, cultures and sectors. It was commented upon, also, that the sheer diversity of projects supported by these hubs empowered their overall operations: "It's an interesting organisation, it exists solely to support projects like mine, it has around seventy projects, some smaller, some international. For the most part, all it does is provide back office support to non-profit organisations that want to devote their time and energy to programmes. It handles all of my funding; I do the in-and-out of it, but the money's all in their bank accounts. They also provide training, continuing education, networking - I can collaborate with any of those other projects. It's a really strong, powerful model. There's another organisation that does this too - it's like an incubator. A lot of the organisations within the institute have been with it for decades. They don't force you out - you can stay or spin off. There are all types of foci for the organisations; environmental, social justice, food sovereignty, indigenous affairs - we empower each other" - independent collaborative conservation actor, SL07.

Another key type of hub centred on policy-related matters: “This initiative had a founder partner with convening power; it could talk to countries, talk conservation to leaders, talk to international financial institutions. A critical role of the program is to pose ideas and work to help each country leverage resources via national policies, integrating national policy into a global program. We bring these institutions together and converge their attention. Having done similar for tiger conservation, we can leverage a lot of funds into this. Certain countries showed good examples, good ideas - like setting aside significant development funding for snow leopard conservation. We took those examples to senior officials and persuaded the other counties to do likewise. We said, ‘Look! This is a great example coming from Kyrgyzstan - why don't you do that!" Immediately, Pakistan agreed to do it, then India. Then, it had a bit of a chain reaction. So, our goal was to act as a catalyst - and to spread the word. Now the programs are much better funded than before, when this whole idea was not there and scientists were doing good work - but all diverse and fragmented” - conservation actor from alliance organisation, ‘HUB C’.

Overarching zoo bodies were also noted for providing mini-hubs, with satellites - their member zoos - liaising and bridging out to conservation effort across the wider conservation community. A natural structure to reach out across global regions, they not only addressed biological side of conservation via captive breeding - keeping genetically and physically healthy captive populations - but also aided field conservation, awareness-raising and advocacy:

“Our zoo organisation is actively driving all their species groups to become more involved with conservation in situ - I'm very much driven by that spirit” - conservation actor from zoo organisation, ‘HUB B’.

“Listening to some of the in situ people and the struggles and issues they have - and being able to step up and say, ‘Hey! Maybe we can help you with that!’ Partnership’s not just about bringing dollars to the projects. That obviously helps, but, it’s also utilising facilities to help field projects, ‘We want to use this particular type of camera trap in the field’ or ‘We want to use this particular type of radio collar, but we don’t want to go through the elaborate process of putting it on an animal in the wild and not having it work - can we try it in your facilities?” - zoo conservation actor, SL34. - conservation actor from zoo organisation, ‘HUB D’.

“Project coordination is one of the things we offer to field researchers: Since we are more office-based, we say, ‘If you have a lot of camera trap data, we can take it, do the analysis that you don't have time for - and give it back’. It's easier for us to do that than for people who are in the field. We’re also lead the international Pallas’ cat project; managing the considerable funds that we secured from a foundation - and coordinating efforts across zoos and field partners. Also, we work with a major snow leopard NGO, give funds, including part-funding one of their key people. Our Masters studies - looking at aspects of camera trapping and radio collars - contribute directly to field conservation also, the results are implemented in the field” - zoo conservation actor, SL14.

Hubs that were noted by parties for generating momentum to diverse cross-sector collective action were commonly approachable, proactive, open-minded to new collaborations, sharing of resources and giving of time: “It is the driving force behind the alliance, with a really strong belief in collaboration and information-sharing. There are relationships with NGO-based researchers, university-based scientists, foundations, NGOs - small grass-roots and international-level NGOs, inside and out of snow leopard range. The listserve is effective; it does many phone calls and in-person meetings with the partners. The tangible and intangible collaborations and relationships - there is a lot of time spent maintaining those - because they're important. They’re always open to things and networking” - independent collaborative conservation actor, SL07.

Where a hub existed, lack of organisational ego allowed social capital to bridge ongoingly outwards, a conduit for capacity built and joint strategy to have ever-widening outreach: “The alliance has some very, very prominent people - world leaders. It has an architecture, a triangulation - an overarching council with two implementation arms; one for tigers and one for snow leopards and their ecosystems. Some NGOs have become very individualistic; they have an ego and are territorial. There is an NGO, which is key to the alliance, which has not been territorial - it has played the role of pulling others together” - NGO conservation actor, SL24.

As with building linkages, the open structural pattern of diverse operational conservation partners, with a lack of hierarchy, grew from respect - and depended on respect and reciprocity to function with impact: “The problem of conservation of snow leopard; clearly it's a technical issue, but it's also an ethical issue. We, as academics, benefit from this work; even if snow leopards go extinct, all the research still builds our CVs. People who work for NGOs - their salaries are attached to snow leopard conservation. But then there is cost of having a snow leopard in your environment - that is not borne by myself, or somebody sitting in Lahore, London or New York. It's borne by people who live with the snow leopard. They see a completely different animal: We see it as a symbol of ecosystem integrity, a keystone predator for the Himalayan ecosystem, they see it as vermin. So, how do we reconcile these two different visions of snow leopard? My only approach is reciprocity; we make this offer to the villagers. ‘Look - we know your priority is to send your kids to school - so we'll do that. Also, you want compensation, you don't want this negative impact on your livelihood - so we will compensate that as well’. Then we ask villagers to give us their commitment and in return to provide protection for the snow leopard and honour their responsibilities” - academic and NGO conservation actor, SL29.

5.5 DISCUSSION

This study provides a unique perspective on how human-related drivers, under the framework of social capital, influence the collective action of cross-sector, multi-background, multi-party partnerships in the field of threatened species conservation. This is the first known study to identify key mechanisms by which social capital operates in co-working in such conservation partnerships, and concomitantly to uncover how, in these partnerships, the themes associated with these mechanisms relate to other factors considered to be important to collective action in networks.

In this study, I found the following themes to underpin social capital operation in collective action; Ongoing Communication, Respect, Context, Empathy, Common Ground Common Values, Empowerment, Innovation, Proactivity, Showing and Sharing Examples, Investment of Time, Pride , and Amplification. This study highlights how the identified themes channelled trust, reciprocity and behavioural norms during the collective action processes involving conservation partners - and therefore how the core facets of social capital (e.g. Pretty & Ward, 2001; Barnes-Mauthe et al., 2014) are harnessed towards conservation outcomes within such partnerships. The current study makes novel contribution to social capital knowledge, by identifying the mechanisms by which this can happen, hereon discussed within this chapter.

Trust has been recognised as core to natural resource management and especially to collective action (e.g. Ostrom, 1990; Pretty & Ward, 2001; Rydin & Falleth, 2006). Just as social capital is a multifaceted concept (Woolcock & Narayan, 2000; Pretty & Ward, 2001; Pretty, 2003), Stern & Coleman (2014) propose trust in collaborative natural resource management is likewise - comprising four types - dispositional, rational, affinitive, and procedural - all key to collaboration. The current study reflects these findings in the ubiquity of trust in its differently-natured themes - and is notable in revealing their antecedents and

embodiments in conservation practice: Themes of Respect, Empathy and Common Ground, Common Values reflect affinitive trust, Ongoing Conversation and Context reflect dispositional trust. Sharing and Showing Examples reflect rational and procedural trust. Empowerment, Investment of Time, Pride, Innovation, Proactivity and Amplification seemed to express a mixture of trust types, though less in procedural in nature - showing the tendency of trust to operate in the psychological rather than bureaucratic dimensions. Indeed, exhibiting a high level of trust has been found to increase the ability to accurately predict the behaviour of others (Kikuchi, Watanabe & Yamagishi, 1996). The difficulty in categorising the trust types in operation the current study's thematic findings highlights the reflexive nature of social capital - where one aspect feeds into another.

Shared trust in a group is associated with facilitating collective action, since it aids members to overcome problems (Brewer, 2008). Scholars have shown that perilous situations can motivate collective action (Fritsche, Jonas & Kessler, 2011). However, further studies of groups in crisis situations recognise that in-group trust can be more fostered that intra-group trust (Fritsche et al., 2017), particularly where certain out-groups hold conflicting views or a power differential exists. Therefore the pervasive trust and its contribution to the group agency within the multi-faceted conservation movement found amongst the snow leopard conservation parties is notable, since trust was established and operated across many power differentials and difficult circumstances. Also noteworthy is a parallel here with recognised attribute of social capital theory - that trust lowers the cost of collective action (Putnam, 1993a; Rydin & Pennington, 2000; Pretty & Ward, 2001).

Certain social capital theorists have connected trust mechanisms to collective action via rather negative incentives; parties observe norms since they fear negative social consequences if they do not (Hardin, 2002). In contrast, the current study found trust to be ubiquitously ignited by a positive driver. As with Coleman (1990), the themes identified by the current study represent mechanisms which, in operation on the inter-personal scale can affect norms - wider outcomes. Trust fuels individual commitment to collective action within an overarching movement; norms perpetuate the trust, with reflexivity aiding coordination of the overall collaborative functioning (Six et al., 2015). This study has found similarly; structures and mechanisms necessary to support the trust mechanisms' contribution to effective collective action within the threatened species conservation movement also do so for social capital.

Trust has improved performance of collaborative organisations, particularly those based on informal organisation (Tadessie & Kassie, 2017). This is mirrored by the findings of this study - and is notable, since the conservation movement as whole has no overarching governing body. It is therefore significant that the effectiveness and persistence of the conservation movement can be enhanced by processes that foster mutual trust - and uphold its informal organisation. This study provides guidelines to facilitate this.

The themes identified by this study embody norms of behaviour, amongst the conservation actors, that are key enabling mechanisms of collective action. They are positive behavioural choices (sensu Taylor, 1982; Coleman, 1990; Collins & Chippendale, 1991) and are all prosocial and positive in nature. In this respect, the current study concurs with Putnam (1993), who noted it was positivity of inter-personal interaction which was a precursor of collective action. In the field of common pool resource management, the study of Ostrom, Walker & Gardner (1992) indicated that cohesive action within a body of individuals was best achieved by behavioural norms that could be freely chosen, rather than imposed - and Ostrom (2000) proposes mechanisms by which the outcomes of self-organising collectives may be more favourable than those which are governed by externally-imposed rules. This study's findings concur, evincing that choice, rather than imposition, is key to social capital's empowerment of collective action.

These findings also bear parallels with identity and social identity theories: The salience an individual attaches to identity influences their role-related behaviour and the amount of effort and performance within a role (Burke & Reitzes, 1991; Desrochers et al., 2002). With respect to social identity, membership of a group helps individual members frame their identities as individuals (Hogg, Terry, & White, 1995). Haslam et al. (1999) posit that social identity can be highly galvanising of attitude. Embraced voluntarily, the norms identified in this study enable parties to maintain their independence - and contribute to effective outcomes of the threatened species conservation movement (sensu Tadessie & Kassie, 2017). Their embodiment represents a manner by which those within the vast conservation movement can show some form of common identity across wide-ranging fields, backgrounds and countries. By level of cohesion and cooperative effort, the current study evinces that membership of the conservation movement and adoption of its norms provides a positive feeling to members.

Human reciprocity and the predisposition to acquire shared understandings regarding social norms are rooted in evolution (Cheal, 1988; Ostrom, 2000). Humans have an embedded array of highly-developed psychological adaptations that facilitate development, adjustment, enforcement and adoption of common behavioural norms (Chudek & Henrich, 2011). Evolutionary-rooted perceptiveness to non-verbal cues (e.g. eye contact) heightens receptiveness to learning social rules, thus norms have emotional salience and can be internally-motivating (Camerer, 2003). The current study displays how norm-psychology encourages members of the threatened species conservation movement to adopt behaviours by creating positive reinforcement, affirmation of the value of embodying its norms. Additionally - and importantly for this research, Chudek & Henrich (2010) highlight that it is norms - and not purely opportunities - that are key to collaboration. Thus some underpinning is proffered to the importance of the psychological resonances within this study's themes and it is suggested that study of norms can yield deep insight to studies of collaboration.

The parties within a purposeful assemblage can be defined by their collectively-adopted behavioural norms - the processes by which norms are established are thus important (Saglie, 2006). Crises render parties prone to normative influence (Fritsche et al., 2017). Therefore, in the often-crisis discipline of conservation, it is crucial that the prosocial norms identified this study are promoted, such that collective conservation endeavours may aid conservation outcomes.

The norms identified represent reciprocity embedded and embodied in collective action. Reciprocity is an evolutionary-rooted trait, a basic psychological mechanism found to direct a diverse array of relationships (Buunk & Schaufeli, 2011). Reciprocity is implicit within pro-social norms (Lam, 1996). Olson (1965) proposed that self-focussed individuals would not act to benefit the greater good. This study found the anthropological concept of the gift promoted a gift economy evinced by social capital's operation; valuable commodities were bestowed without arrangement for return (sensu Cheal, 1988). Thus, the thematic norms are the vehicle for the reciprocity that is the currency of the conservation movement's own gift economy - underlying the study's ubiquitous finding that reciprocity is key to fuel collective action. Though insight into collaboration is often provided by studies into reciprocity (e.g. Fehr & Henrich, 2003; Gurven, 2004), Chudek & Henrich (2010) propose that reciprocity cannot alone account for cooperation. As the current study shows, it is the synergies of trust, reciprocity and norms that are key to social capital's empowerment of collective action.

5.5.1 Discussion of Core Themes

Communication

Effective communication has been recognised as essential to collaboration (e.g. Fisher et al., 1991; Margerum, 2011; Witasari, 2016). Indeed, studies of collaborative endeavour, which have embraced social capital within their theoretical framework, do

credit various aspects of iterative communication, such as discussion and negotiation, with aiding cohesive effort across diverse stakeholders (e.g. Robert & Jones, 2013; Bråtå, 2006; Galaz, 2006; Falleth, 2006; Rydin & Måtar, 2006). The current study is novel in identifying communication as a core mechanism by which social capital can operate to enhance collaboration - and across an extremely diverse array of parties, between and within organisations and backgrounds, in the subsection of the threatened species conservation movement for the snow leopard. Castells (2009) theorises that networked communications are fundamental to driving action within any type of aggregate - and that diverse communication formats are imperative to wide outreach. The current study finds similarly, identifying that, even with complexities of purpose, conduits and logistics, communication can harness social capital to enhance collective endeavour.

Smith (2010) proposed that language has a specific ability to augment and compliment evolutionary mechanisms that operate through reciprocity and mutuality, predisposing humans to cooperation, such that communication can greatly alter the costs and benefits of collective action - an attribute also associated with social capital (e.g. Putnam, 1993a) - and displayed by the current study. Communication is an antecedent of dispositional trust (Stern & Coleman, 2014) - providing means for parties to learn, share norms and develop contextual understanding. Thus its intrinsic link to social capital is further illumined by the current study's findings; the deeply-embedded nature of communication within the human psyche is manifest by the ubiquitous ability of communication to harness social capital in collective endeavour.

Ostrom (1997) considered that communication facilitated cooperation by giving conduit for exchange of mutual commitment, thus boosting trust and development of norms and group identity. Face-to-face communication has been repeatedly found to greatly boost cooperation (reviewed in Ostrom, Gardner & Walker, 1994; see also Dwyer et al., 2007). The current study concurs - the spoken word was a particularly effective conduit for social capital to empower collaboration. This study has shown communication to be a core conduit of social capital across varied platforms, including the internet. Bimber, Flanagin & Stohl (2005) extend collective action theory to consider such a contemporary media environment, showing boundaries can be crossed between previously-unconnected domains, but question the relationship between social capital and collective action in such circumstances. The current study places physical and virtual communication as a core conduit and fuel of social capital between collaborating parties even when physically distant or from varied domains.

Communication cannot alone facilitate collective action (Ostrom, 1997; Smith, 2010). However, by the variety of purposes communication serves, the current study reveals it to be a core vessel important not only to convey a message, but by which other social capital-related thematic norms and their associated reciprocity and trust may operate to enhance collective action.

Respect

This study provides a novel perspective in recognising the intrinsic nature of respect to the operation of social capital, finding it to be a ubiquitous norm, bridging cultures, backgrounds, sectors and countries - as a way of fuelling successful, impactful transboundary conservation partnerships.

Views on partnerships have been seen to be contagious - individuals can influence each other (e.g. Kolk, van Dolen & Vock, 2010). Respect engenders respect and can help to maintain trust (Gray, 2011). Studies have shown that, though the degree of respect is not always accurately judged, individuals can perceive where they are respected (Beach et al., 2006) and perceived respect aids longevity of relationships (Shaikh Ali & Ndubisi, 2011). The current study reflects these findings by the ubiquitous

nature of the norm of respect and its contribution to sustaining partnership co-working. Respect is, thus, a key to unlocking the potential of social capital's core - trust.

Information is more likely to be provided to someone who is respected (Beach et al., 2006). Thus, respect underpins and fuels the communication and information flow that powers partnership endeavours. Crucially, to collective action, respect bestowed to others can positively influence the willingness of the others to act cooperatively and motivate them to contribute - notably, the greatest effect is found with those on the periphery of a group (de Cremer, 2002). In this study, respect provides a key conduit to marginalised parties, attesting to the value and fundamental need for respect within the conservation movement to embrace new parties.

The degree of respect one person holds for another has been positively linked to the beneficial effect the other person feels due to an interaction (Beach et al., 2006). Individuals who feel able to act within their working environment are more likely to feel respected (Faulkner & Laschinger, 2008). Respect is, thus, reflexively linked to a positive and productive working atmosphere. Promotion of collaborative working relationships both intra- and inter-group and maintaining support are key to maintaining respect (Faulkner & Laschinger, 2008). Mishra (2016) has written extensively about the benefit and need for respect within partnerships involved in community-based conservation. The current study's findings both concur and testify to the critical role it plays within diverse partnerships that make up the conservation movement. This study is novel in identifying respect as a mechanism for social capital to enhance partnership action. All in conservation can, thus, boost feelings of respect, conducive to better collective working.

Context

This study finds that taking measures to learn and understand the context of other parties, partners or colleagues is a conduit for social capital to fuel collective conservation action. Context has varied facets in terms of conservation; historical, societal, cultural, geographic, economic and political factors shape environment and ecologies - as evinced by this study. Context is also dynamic in time and space; Maaninen-Olsson & Mullern (2009) showed this to be a vital consideration in management of multi-party initiatives. In terms of social capital creation, this study concurs - but pinpoints that it is the very personal impact of these past and current situations which is important to ascertain.

Historic context can incentivise or dis-incentivise parties' contributions to environmental collective action (e.g. Ostrom, 2000; Lundvist, 2001) - and it can impact the extent to which social capital can be harnessed in such situations (Penington & Rydin, 2000; Cramb, 2005; Witasari, 2016). Norms emerge, in part, as result of historic factors (Acemoglu & Jackson, 2015). Stern & Coleman (2014) acknowledge that backstories of individual's interactions influence the establishment of trust and its resultant effect on collaborative natural resource management. The current study provides further understanding; though past history itself affects social capital's influence on collective action, taking measures to understand it, can give growth and momentum to collective action, regardless of backstory.

Notably, this study shows the value of reflexive consideration of context in dual conceptual forms within social capital theory: Social capital is vested in the relationships between people - not in the people themselves (e.g. Coleman, 1990). Thus a certain individual context-specificity is implicit. The norms themselves constitute wider contexts where social capital may operate; in this respect the current study mirrors the theorising of both Coleman (1990) and Bourdieu (1986), in recognising the circumstantial nature of aspects such as social trust, group membership and behavioural norms of reciprocity and collaboration. Maloney et al. (2000) and Foley and Edwards (1999) highlight the importance of context to social capital operation, the latter

scholars proposing that social context determines individuals' ability to follow norms - and social capital's ability to leverage collective action. The current study does not argue against this, however, it shows that making efforts to understand the context of other conservation parties can channel social capital - thus giving greater leverage to collective action whatever the context.

Six et al. (2015) found that, though norms may be operated by choice and promote collaboration, parties must have freedom to interpret them within their own context in order to create a degree of trust to allow effective collective action. This is reflected in the current study's finding that contextual understanding can underpin the harnessing of social capital in partnership endeavours between diverse partners in wide-ranging situations. It is manifest in this study's findings that a contextual framework provides a conduit for benefits of contextual understanding to flow from a familiar situation to one which is more unusual. Taking measures to gain contextual understanding enables parties from diverse backgrounds to leverage social capital to benefit partnership action, even where, perhaps, individual empathy cannot be achieved (for example in cases of differences of view regarding cultural or political practices).

Context has a fundamental influence on reach and impact of a collaborative initiative, for example affecting ability to scale up a local effort to a larger scale (Wood et al., 2016). It has been found that many partnerships are unaware of the importance of contextual understanding (Van Tulder et al., 2014).This is not evinced by the current study, which highlights that taking measures to understand context in interpersonal interactions can generate social capital which can enhance cooperative action across wide-ranging boundaries. Future collective action towards threatened species could be boosted by understanding the views of all involved parties towards past cooperative endeavours.

Empathy

Empathy as a norm was found to transcend the conservation arena fuelled by a purpose of engendering greater environmental and holistic benefits. Empathy is considered to motivate prosocial behaviours (Eisenberg, 2006), promote cooperation and altruism (Van Lange et al., 2007), encourage individuals to be helpful (e.g Davis 1996; Hoffman, 2000) and promote feelings of positivity and trust (Halpern, 2003). Thus a link to flow of cooperative benefits - social capital - is implicit. This supports the study's general findings of the key role of empathy, and altruism, to social capital operation in conservation collaboration - and that positively-valenced norms fuel social capital in conservation collective action.

Empathy is closely linked to contextual understanding; at the individual level, without contextual perspective, empathy cannot occur (Singer & Lamm, 2009). Contextual understanding, in combination with empathy can promote collaborative action (Segal, 2011). This synergy is a strong explanation for the common culture of empathy found by this study that bridged cultures, and the empathy in partnerships that mirrored empathy for the environment and its balanced relationships. Empathy is associated with emotional resonance with another person, thus it is an embedded personal attribute (Halpern, 2003) with deep-rooted origins, being the outcome of reciprocal altruism (Buunk & Schaufeli, 2011).

Empathy is not an attribute that has been widely studied in conservation, with the exception of Mishra (2016), who notes its value to community-based collaborative initiatives. Since empathy is based on an emotional judgement (e.g. Halpern, 2003), it is likely an antecedent of affinitive trust, recognised as key to fuel collaboration in the environmental arena (Stern & Coleman, 2014). Empathy has been credited with helping individuals circumnavigate workplace misunderstanding, thus avoiding negative collaborative consequences (Rumble, Van Lange & Parks, 2010). This is often seen in the current study - empathy forms a core mechanism for social capital to alter the balance of cost and benefits in joint efforts and a major channel by which social

capital can fuel partnership working. Certain fields, such as the medical profession, teach empathy as a way of attaining an appropriate, mutually desired outcome (Halpern, 2003). It would seem that he conservation arena would do well to follow suit.

Common Ground, Common Values

Common ground and shared values are widely evinced, in this study, as underpinning behavioural norms - and as conduits for social capital to benefit collective conservation action. Previously, common ground has been found to lower cost of group transactions and amplify efforts (Enfield, 2006) and its establishment has been recognised as key to allowing social capital to achieve wider impact in diverse communities (McGhee, 2003). This study mirrors these findings. It shows common ground to be uniquely valuable by its ease of acknowledgement between parties and another previously recognised attribute (Manzo & Perkins, 2006), its potential to strike strong emotional resonances.

In environmental collaborations, belief systems influence the trust parties have in information and others' actions (Henry & Dietz, 2011). The agency of shared values operating within an existing trust framework to impact conservation collaborative effort has been recognised (e.g. Dudley et al., 2009). Practical faith is one example of this. For example, Tibetan Buddhist monasteries have been found to make major contributions to snow leopard conservation, by influencing social norms and practical measures (Li et al., 2014) and practising Buddhist communities also (Bhatia et al., 2016). This study shows similarly; social capital in one set of shared values can imbue another value-set to create synergies that deeply empower combined outcomes.

Pretty & Ward (2001) studied the development of social capital in aggregates of parties in the natural resource arena: At first, groups had an outward-looking characteristic, with their growth being more dependent on acknowledgement of external factors - in the following stage, groups were more internally-focussed. Shared values underpin the operation of norms, however due to deep origins, they can slow norm development (Richerson & Henrich, 2012). The current study shows parallels, finding that common ground can sometimes more accessibly channel social capital in parties' joint efforts, than deeply-embedded common values - which though sometimes harder to acknowledge, once acknowledged, are a powerful conduit for social capital to fuel the human psyche in partnership action. Interestingly however, recognition of common ground has been found to engender emotional resonances that motivate environmental collaborative efforts (Manzo& Perkins 2006). This emotional resonance may well aid social capital to be engendered via common ground recognition and then strengthen partnerships' endeavours via acknowledgement of shared embedded values.

Empowerment

Empowerment has been found to boost trust and respect in the workplace (Laschinger & Finegan, 2005) Individuals who perceive that they are empowered within their working environment, both logistically and psychologically, are more likely to feel respected, thus engendering a positive working atmosphere (Faulkner & Laschinger, 2008). In concurrence with these studies, the current study finds empowerment to underpin promotion of collaborative working relationships both intra- and inter-group. However, this study is novel in its identification that social capital is a key mechanism by which this is achieved. Trust development in collaborative processes presents challenges - agency is often unequally distributed, rendering risk and vulnerability also unequally shared (Balint et al., 2011; Margerum, 2011). The findings of this study, in particular, regarding the ability of empowerment to allow social capital to lubricate collective action involving participants across backgrounds show it to be a vital ingredient to conservation collective endeavour.

It has been seen that, despite costs to the practitioners, concern for the environment engenders prosocial and altruistic values that feed and sustain pro-environmental behaviours more than self-centred values (Prager, 2012). Likewise, this study finds empowerment to be pervasive and persistent, across backgrounds and sectors, perhaps underpinned by similar holistic concerns. In comparing informally- and formally-organised collective action, Perkins and Long (2002) found empowerment to be more relevant to formally-structured cooperative action. Interestingly, this study finds empowerment to channel social capital to fuel all types of collective action, of formal and informal origin, in varied socio-political contexts. Moreover, numerous of this study's collaborative scenarios operate without formal mandate and across societal or organisational positions. These findings exemplify the manner in which servant leader ethics and practices (Greenleaf, 1982) manifest within the conservation arena to aid collective action. The positive practices of servant leadership within organisations and purposeful assemblages are a viable manner to benefit individual members and empower collective outcomes (Paris & Peachey, 2013). This study strongly shows empowerment to be a mechanism by which social capital can itself empower collaborative endeavour.

Innovation

The current study is novel in identifying innovation per se to be a key conduit for the flow of social capital in conservation partnership efforts. However, innovative initiatives are no stranger to the conservation arena, with multi-party conservation initiatives frequently harnessing reciprocal support to explore novel practical options (e.g. Robert & Jones, 2013; Witasari, 2016). In common with these studies, the current study finds constructive ongoing communication to be an essential co-mechanism alongside innovation, to build trust in an exploratory zone.

Innovation has been identified as core to partnership success where diverse parties are involved, since it offers a way to create a novel course of action acceptable to all, but ongoing support is urged to enable it to do so (Deakin & Allwinkle, 2007; Innes & Booher, 2015; see also this chapter, Capacity Building), thus echoing the findings of Gong et al., (2012) that a psychological safety-net is necessary for creative endeavours (see also Capacity Building). Socio-ecological complexities are recognised as a particular hurdle associated with multi-stakeholder natural resource management (e.g. Galaz, 2005) and also in conservation (e.g. Pretty & Smith, 2004; Jachowski et al., 2015). Innovation and support for parties to experiment are posited as vital ingredients to maintain resilience and wider socio-economic benefits of such collaborative networks in a constantly-changing environment (Galaz, 2005). This is exemplified in the current study; innovation, underpinned by trust between parties, can be a valuable conduit to engender holistic benefits beyond a focal field. Conservation parties need support for their courageous actions in this respect.

Cooperative group acknowledgment of ability to develop novel working patterns in response to need, as seen in this study, is the second of three stages associated with evolution of group social capital, described by Pretty & Ward (2001), representing a stage whereby a group's collective action has acquired resilience. Innovation is essential to fuel success and ongoing development of a business (Trott, 2008). Highlighting parallels with change management theories, this study shows innovation to be highly empowering and valuable to re-engineer conservation collective action.

Proactivity and Passion

It is not uncommon, in the environmental arena, for collaborative parties to display proactive behaviour to partners (Bansal & Clelland, 2004), however Hyatt & Berente (2011) highlighted different motivations for doing so; parties may feel genuinely caring towards the environment - others may merely wish to appear to do so for legislative reasons. The norm of proactivity, in the current study, is often allied to passion for the conservation cause; in combination these themes regularly channel social capital

to fuel collaborative endeavour. Proactivity and passion often operate to promote wider benefits and frequently altruistically. It would seem that passion for a common cause fuels the widely-outreaching bracing social capital channelled by this combination.

Proactivity is a core facet of the business process reengineering seen in change management practice (Grover & Malhotra, 1997; Al-Mashari et al., 2001). Human social cooperation psychology theory considers that humans cooperate for a variety of reasons, including reciprocal benefits and social status. Whatever the reasons, proactivity towards partners can be viewed as prosocial behaviour. Prosocial behaviours enhance evolutionary instincts such as reciprocity to enable wide-spread cooperation in informal institutions (Chudek & Henrich, 2011). This study finds this initiation of a process, prior to being the beneficiary of the reciprocal action, to be a powerful manner to aid flow of social capital. In this way, this norm is clearly linked to altruism. Proactive individuals develop wider information resource-bases than the non-proactive, enabling varied response to working situations, and are likely to seek to exchange information with individuals outside their own working environment (Grant & Ashford, 2008; Fuller & Mahler, 2009). Proactivity thus offers a wide utility to channel social capital from inter-personal links to wider collective conservation endeavour.

Showing and Sharing Examples

This study finds ecologically-focussed collaborative efforts, involving multiple and diverse parties navigating complex social, economic and ecological issues, can be facilitated by showing tangible examples, such as results, thus encouraging social capital. The examples frequently act as a 'good infection' giving considerable momentum to joint working. The practice of showing examples between parties is recognised to stimulate learning (e.g. Aubrey & Cohen, 1995). This development of human potential can, in turn, catalyse and empower action (Aubrey & Cohen, 1995; Gong, 2012). A similar effect has been identified between organisational partners, whereby within a partnership formed predominantly to satisfy policy requirements, the positive environmental stance and actions of one partner imbued to others deepening links and amplifying collaborative outcomes (Hyatt & Berente, 2011). From a more overarching perspective, matters of legitimacy require cultural support to sit them comfortably in the wider society (Meyer & Scott, 1983). The current study emphasises that examples, perhaps through more superficial issues, such as legitimacy, can be mechanisms by which social capital can be harnessed to influence deeper drivers and catalyse collaborative action involving diverse partners.

Dwyer et al., (2007) found behaviour could be influenced by showing examples - but, crucially, that they must be contextually-relevant in order to be most motivational. Repeated tangible evidence, in the form of actions, is known to reinforce presumed shared values to enable trust to be harnessed (Kumar and Paddison, 2000). This study shows that showing examples can be antecedents of rational and procedural trust (Stern & Coleman, 2014) - trust not formulated not in an emotional way, but via evaluation of evidence or procedure. This highlights the utility of this mechanism to aiding collective action between parties in formal scenarios or prior to situations where, perhaps, more emotional-based trust types such as affinitive trust can be established.

Investment of Time

By its nature, time would be implicitly invested in a collaborative effort. However, this study finds investment of quality time to be a norm in ongoing collaborative conservation endeavours. Time, like communication, clearly underpins the other social capital-fuelling mechanisms, allowing ongoing evaluation as mechanisms are repeated. This concurs with previous research (Kumar & Paddison, 2000). Within the current study of social capital, it is notable that time most enhances collective action by influencing and enhancing the facet of trust. These findings exemplify the findings of the exploration of trust by Stern & Coleman

(2014); with the exception of dispositional trust - in essence, the inherent tendency of an individual to trust another - rational, affinitive and procedural trust all require time for their evaluation, be it in calculated or emotional manner. This implies that in the multi-faceted field of conservation, time underpins the judgements that partners need to iteratively make, and thus quality investment thereof is fundamental to partnership endeavours. Additionally, time allows trust forms such as rational trust to develop to deeper forms, such as affinitive trust. In terms of social capital operation in collaborative action, this study finds time has a reflexive relationship with the other social capital-fuelling mechanisms. This has been found in studies looking at community-based initiatives, with respect to level of participation and growth of shared interests (e.g. Tadesse & Kassie, 2017). Mishra (2016) also infers that time is vital in these partnerships, by stating the value of ongoing, regular physical presence - to community-based conservation. This study is novel in highlighting the vital underpinning nature of time to understanding the psychological dimensions of people's interactions and to channel social capital across all collaborative endeavours.

Pride

This study finds pride to be motivational - being relevant to societal and ecological improvements, a holistic generator of social capital that helped establish new norms. Pride is often a result of operation of other social capital mechanisms and itself operated to enhance collective conservation action and, to a great extent, to brace and sustain widespread efforts, facilitating wider outcomes.

In this study, positive pride - in achievement - enhances collaborative endeavour; egotistical pride, or hubris, however, has the opposite effect - as also noted by Kahan (2003). It is notable that the reflexive action of the other social capital mechanisms seems to be necessary to keep the pride operable in the positive domain. Previous research has noted that individuals feel positive effects from the act of working (Kandel & Lazear, 1992). Emotions are acknowledged to influence bodily state (e.g. Oosterwijk & Rotteveel, 2009) and in a reflexive way whereby activation of the bodily state could induce the feeling. Research has found that being part of participatory collective action that has positive socio-economic outcomes also engenders positive emotions and enhances social respect (Mutinda, 2017). The sense of ownership engendered by pride has previously been found to boost the resilience and longevity of community-based conservation partnerships (Baral & Stern, 2009). Notably, self-esteem underpins the ability to make connections (Juvonen, 2006) - and connectedness to a group is recognised to positively affect personal pride and self-esteem (Hernández et al., 2017), furthermore, this effect can positively imbue resultant efforts when a group connects to a wider society. As with the stage of building partnerships, this study finds that pride has unique utility to cross-sector collaborative action in terms of its ability to be a conduit for the 'bracing mist' or bracing social capital necessary to support collaboration involving wide-ranging horizontal and vertical linkages. The pride that braces collaborative endeavour provides a fine example in concurrence with a phenomenon noted by Kolk, van Dolen and Vock (2010) - in cross-sector partnerships, that which originates at the micro, or individual, interaction level can ripple out to greatly impact the macro, or aggregate, level.

Amplification

This study shows amplification manifest both as an intended consequence of spreading the benefits of collaborative work, a desire to spread benefits more widely than the immediate focus - and sometimes as an almost unexpected result of the collaborative actions. This mechanism enables social capital vested in the linkages between actors to have potentially boundary-less reach in its operation to fuel collective action of the conservation movement - and wider societal, economic and, in some cases, political benefits also. As such, this mechanism of social capital resonates with micro and macro sociological theory (see Kolk, van Dolen & Vock , 2010) noted above and also the work of Schlegoff (2006); individual interactions are the root

manifestation of sociality, they supply the framework for the structure of wider society. A norm is, thus, an amplification of the personal interaction. Micro-sociology inquiries consider explanation for collective action in terms of individuals and their drivers, and those in fields of macro-sociology, by way of social causes (Knorr-Cetina, 1997). Falk & Kirkpatrick (2000) connect individual interactions to macro social order and broader social meaning. They consider trust flow at individual level - through interactions related to knowledge resources and identity resources (cognitive attributes, for example, values and visions) - to sustain cooperation for community benefit. Thus, they consider micro level social capital to be the foundation of social capital's ability to affect wider outcomes. These authors conclude that more research needs to be done on the nature of interactions that harness social capital - the current study provides much illumination in this respect.

The relevance of amplification to social capital in collective endeavour may be explained in part, by the psychological theory of elevation, which focusses upon feelings of uplift on encountering moral goodness that trigger a ripple effect of emotional and behavioural changes (Haidt, 2003). Amplification in the current study seems often to be a moral instinct. Such instincts, due to their embeddedness, underpin cultural development (Haidt & Joseph, 2004). Thus it is posited that amplification forms a highly influential behavioural norm within the conservation movement.

That social capital vested in bonds between individuals has wider socio-economic impact is acknowledged by social capital scholars (e.g. Putnam, 1983; Woolcock, 1998; Henry & Dietz, 2011) - including within the conservation arena (e.g. Pretty and Smith, 2004; Roberts & Jones, 2013). However, perhaps the most notable aspects of the influence of this particular mechanism are its underpinnings of altruism for the wider movement, not just interpersonal altruism - and that it manifested by intended and unintended means.

5.5.2 Discussion of Overarching Themes

By concomitantly considering a social capital framework in relation to other factors known to be important to collective action in partnerships and networks, I provide added rigour to this study's findings and, in this aspect of the research, I have derived eight overarching themes key to partnership collective action: Critical Unique Individuals, Diversity in Action, Capacity Building, Joint Action Planning, Human Enhancement of Joint Strategic Implementation, The Three Commons - A Common Culture, Human Framework for Problem Resolution, and Structure. These overarching themes variously embody the key social capital mechanisms described above; this continuity illustrates the conduit by which social capital permeates and reinforces other key collective action factors - and how social capital is harnessed to benefit multi-party conservation endeavours. Through these synergies, this study offers novel insight as to the reasons why these areas have been identified as important to collective action.

It is noteworthy that a number of these overarching themes - discussed below - have strong resonances with theoretical perspectives in contexts such as leadership, psychology, institutional and social organisation. This study is novel in highlighting the fundamental importance of these elements, recognised as key in other fields, to the conservation process and movement.

Critical Unique Individuals

As with partnership building, this study finds that collective action is not as much governed by organisations or organisational identity, but rather by pivotal individuals who play critical roles in driving collaborative endeavour.

This study shows that collective conservation action can be influenced by Critical Unique Individuals (CUIs) in formal positions of power - and, crucially, that true agency to guide others is frequently bestowed to individuals within the conservation movement informally by their fellows. This concurs with previous studies (e.g. Ostrom, 2000; Purdue, 2001; Bodin & Crona,2008;

Harrell & Simpson, 2015), and exemplifies the vital need, in order to maximise persistence and effectiveness of collaborative action, to acknowledge that agency of leadership is vested in diverse individuals in varied positions, not solely those who are situated in formal leadership roles or positions of expected authority. This will enhance the availability of diverse key individuals - a factor acknowledged as vital to give momentum to collaborative management of environmental complexities (Bodin & Crona, 2008), to help the conservation movement tackle the 'wicked' problems it faces.

CUIs empower collective conservation action by their embodiment of the key mechanisms, identified by this study, by which social capital operates to enhance collaboration. Vision, empathy and empowerment, co-harnessed, particularly enable CUIs to influence behaviour and impact. This study finds congruence with Purdue (2001) in recognising the agency of visionary, innovative CUIs to harness the trust invested in the social capital of their own community to bridge out to empower wider initiatives. Empathy is a strong motivator for prosocial and altruistic actions (Hoffman, 2000a), particularly if underpinned by rationally-considered or cultural virtuous principals (Hoffman, 2000b). Individuals can shape cultural beliefs, societal values and wider behaviour (Eisenberg, 1989; Staub, 1989). This study shows that, whether or not a CUI emanates from a human-focussed field, empathy underpinned by varied overlappings with others' underlying beliefs enables them to influence and motivate conservation-related action.

CUIs are found to be ubiquitously empowering - in a holistic way. Benevolent traits from those in leadership positions have been recognised to boost output of large collectives (Harrell & Simpson, 2015). Paris & Peachey (2013) show that in servant leadership theory (Greenleaf, 1982; Lanctot & Irving, 2010), the ethical pillar of mutual empowerment within a collective can boost organisational capacity and human capacity. Such reflexiveness can explain how the empowering nature of CUIs boosts collective action. Even a minimal number of influential individuals can leverage behavioural change from negative to positive norms (Acemoglu & Jackson, 2015). The conservation movement would do well to focus on nurturing the core CUI traits in its numerous and diverse individuals, in order that, in the course of their daily lives, the capacity of these individuals and their efforts may grow to enhance and brace wide-ranging effort.

Diversity in Action

Positively embracing partners from diverse backgrounds, who bring an eclectic range of skills, is a key channel by which social capital empowers the actions of conservation collaborations - allowing collaboratives to be stronger than the sum of their constituent parts. This concurs with other studies demonstrating the collaborative advantage - the benefit of pooling skills and attributes to enhance multifaceted outcomes of multi-party endeavours (Dyer, 2000; Lasker, Weiss & Miller, 2001; Huxham & Vangen, 2005). It is posited that the ideal level of diversity in a collaborative partnership should allow exploration and reflection of the range of perspectives, skills and resources to innovatively address all working contexts (Lasker, Weiss & Miller, 2001; Innes & Booher, 2015) and to explore. Given that diversity of partners is known to boost innovative performance (Yang & Wang, 2017), and ability and resilience to respond to ecological (Galaz, 2005) and political complexities Gartzke (2001), this study highlights that in order for social capital to facilitate innovative responses to achieve desired conservation outcomes, diversity of parties is a fundamental resource.

Considerable momentum and resilience can be added to collaborative endeavour if partnerships span sectors (Hart & Hart, 2003; Hyatt & Berente, 2011) - and levels within sectors (Montgomery, 2000). A recent study of cross-culture, cross-sector multi-party collaboration (Vangen, 2017) involving a similar array of partners and geographical scope to this study, though not in the conservation arena, highlighted that though a goal may be common, it is crucial to address context in each culturally-

different situation in order to gain shared understanding and momentum. The current study does concur, however it highlights that social capital, harnessed via identified mechanisms, creates a common culture that can transcend professional, societal, national, organisational, cultural and other differences. This study shows the essential contribution of skills outside of those commonly associated with the conservation arena to holistic, innovative successful cross-sector, cross-culture conservation collaborations; in common with Woolcock & Narayan (2000) and Montgomery (2000), evincing the value of social capital as a resource to lubricate collaboration across established chasms and to facilitate objectives endogenous and exogenous to those of the original collective.

This study shows a remarkable ability of conservation aggregates to cohere and collaborate across vast physical distances - and across geographic, social, political and cultural boundaries and between public and private arenas. This phenomenon echoes a reconceptualised addition to collective action theory (Bimber, Flanagin & Stohl , 2005), positing that varied contemporary media can enable collective action, without formal arrangements or physical presence. Research has shown that the more individuals identify with a group, the more its collective action is enhanced (Haslam et al., 1999). My study identifies with these concepts, showing the salience of multiple contemporary media platforms to spread conservation values, exchange information and empower diverse conservation collective action.

Capacity Building

This study finds that building capacity - human capacity, via information and knowledge exchange - is clearly underpinned by the mechanisms of social capital that fuel collective endeavour, especially that of empowerment. Learning organisation theory considers an organisation's problem solving capacity to be improved through providing its members better access to knowledge and expertise (McHugh et al., 1998; Senge, 2006). In facilitating learning, the conservation movement exhibits commonalities; by empowering and building its members' capacity, the movement as a whole benefits also - and is continually able to innovatively transform itself.

Information per se does not often illicit behaviour change (Kaplan, 2000). However, social, reflexive learning can engender increased understanding (Chudek & Henrich, 2011) which is a strong driver of behavioural change (Jackson, 2005) and which helps mobilise action (Kaplan & Kaplan, 1989; Prager, 2012). Humans have evolved elaborate capabilities to learn in social situations - norms and institutions can emanate from such interactions (Richerson & Henrich, 2012). Information exchange forms a key resource to partnerships and influences the ability of their aggregates to achieve synergy (Lasker, Weiss & Miller, 2001) - it can boost trust, which in turn can aid creative output as partners feel supported to try innovative plans (Gong et al, 2012). That collective learning can resonate with deeply-embedded evolutionary parts of the human psyche may go some way to explaining the ubiquity of the process of capacity building to harness social capital to enhance collaborative action and why it was so well-received in numerous scenarios.

Notably, this study finds that capacity is not only built by formal or professional knowledge and that learning processes can take place in formal and informal situations. Everyday situations prove particularly effective channels for social capital to fuel collaborative endeavour and team spirit. People exchanging and creating knowledge informally form a dynamic community that is responsive to its needs (Bandura, 1977; Wenger, 1998). Learning during informal times has been found to be an important mobiliser of social capital, which in turn enhances trust as parties also learn about each other, thus building collective capacity and easing the path of cooperation (Glover & Parry, 2005; Ishihara and Pascual, 2009; Witasari,2016).) This study concurs, showing a shared understanding, via formal and informal frameworks, underpins and drives collective endeavour in response to

conservation complexities - exemplifying previous studies' findings that such social processes with diverse injection and sharing of information are crucial where actions must be adaptive (Westley, 2002; Galaz, 2005; Henry & Dietz, 2011). Social capital enables the conservation movement to have multi-faceted knowledge capacity, thus providing the inherent responsiveness necessary to address constantly changing issues in targeted and purposeful multi-party conservation collaborative action.

Joint Action Planning & Human Factors Enhancing Joint Strategic Implementation

This study finds that for multi-party conservation endeavours, social capital can fuel the transition of joint envisioning and mapping of hope processes into goal-related joint planning for action. A number of related human dimensions by which social capital reinforces ensuing joint implementation of strategic plans are concomitantly highlighted. The operation of these mechanisms is discussed hereon.

In the conservation arena, social capital has been credited with lubricating processes of joint strategic planning involving multiple parties from diverse sectors and backgrounds (Robert & Jones, 2013) Drivers for stakeholder involvement in planning processes vary (e.g. see Rydin & Pennington, 2000), however, collective action theory recognises the right of all stakeholders to contribute to governance and rule-making and that these pillars aid persistence and effectiveness of common-pool resource governance (Ostrom, 2000). This study concurs, but looks wider.

Multi-stakeholder planning for sustainable development of natural resources often operates akin to the political principle of subsidiarity (e.g. Stoa, 2014); conservation initiatives often do likewise. The conservation arena has deeply embraced the importance of embracing all communities that cohabit with wildlife as stakeholders within collaborative management planning, co-governance and implementation for initiatives on their shared land (e.g. Jackson & Wangchuk, 2004; Thirgood & Redpath, 2008; Voinov & Gaddis, 2008; Baral & Stern, 2009; Palomo et al. 2011; Hill, 2015; Mishra, 2016), thus empowering and giving agency to potentially-marginalised parties. Revolving around reciprocal contributions, the elements of these participatory forms of planning and action mirror the social capital-fuelled stages identified in the current study. The current study's extended focus on joint planning across sectors shows that commonalities in these approaches are channels for social capital. It has been found that parties' propensity to accept decisions, even if not completely aligned with their own, increased when they felt respect and ownership in planning processes (Fisher et al., 1991; Reed, 2008; Leong et al., 2009). Giving opportunity to all parties within joint strategic processes can bestow legitimacy on parties' views, aiding both self-respect and collaborative outcomes (Hyatt & Berente, 2011). This is exemplified in the sense of ownership and pride seen in the current study, whereby strategic processes empowering group outcomes via reciprocal exchanges allow social capital to influence and brace a common plan of work. Notably, the current study shows the social capital-operating mechanisms to boost these collective action processes regardless of traditionally-recognised agency or power differentials. Thus, adoption of the social capital-operating mechanisms seems to offer a pathway to action planning and implementation between cross-sector, multi-background partnerships that is equitable for all.

Previously, it has been noted that, for environmental matters, multi-party collaboration that spans social, political, national and geographical boundaries and diverse arenas can enhance planning and implementation processes (Innes, 1996; Wondeleck and Yaffee, 2000). Trust aids such processes (Fischer et al, 1991; Margerum, 2011) and is likely to grow when actors participate in collaborative governance (Tadesse, & Kassie, 2017). Stern & Coleman (2014) posit that dispositional trust, the innate predisposition to trust others, is key to such planning processes since it allows open communication - and particularly important in large scale initiatives, since it is difficult for each party to gather information about other parties. Interestingly, the

joint action planning processes in this study do show that via the social capital mechanisms, all types of trust can be employed: For example during strategic processes; showing examples promotes rational trust, time and empathy promote affinitive trust via perceptions of personal qualities, and procedural trust from the joint decision-making systematic process and perceived legitimacy of other parties. Additionally, contextual elements, affecting both cognitive and emotional responses, are evinced as antecedents of all trust types as recognised by Stern & Coleman (2014). This is a potentially very important finding of this study, underlining the importance to conservation outcomes of all types of joint strategic process.

Partnership relations are known to be boosted by communication opportunities during joint action planning (e.g. Ansell & Gash, 2007; Reed, 2008). In particular, knowledge gained by embracing different perspectives in such processes has been credited with strengthening joint outcomes (Lasker, Weiss & Miller, 2001; Innes & Booher, 2015). The current study concurs; communication is key to joint strategic matters - and a key conduit for social capital to facilitate its sister mechanisms to improve inter-partner trust. Joint planning processes have been found to enhance creativity and persistence of resultant actions, both outside (Ansell & Gash, 2007) and within the conservation arena (Reed, 2008) The current study finds likewise - innovation fuels co-working of diverse parties in pursuit of positive joint outcomes whilst implementing joint strategy - and finds with Robert & Jones (2013) that innovation is a core channel for social capital in such situations.

Variance in group planning process and associated context-specific factors greatly affects collaborative outcomes (e.g. Koontz, 2003). Apt solutions are a common result of partnership efforts to derive plans together, not only boosting uptake of actions in community-based conservation, but facilitating and influence beyond the focal species to wider socio-economic arenas (Mishra, 2016).The results of the current study show mechanisms that can be employed to optimise collaborative planning for action regardless of situation. Support from different parties with agency in different sectors enables social capital to aid collective action (e.g. Rydin & Pennington, 2000). A major contribution of the social capital mechanisms at the strategic planning and implementation stages is their operation around contextual understanding (noted also by Rydin & Holman, 2004 and Rydin & Falleth, 2006). This underscores the current study's findings; the social capital mechanisms support numerous types, levels and scales of joint strategic planning within cross-sector multi-party strategic scenarios - and brace implementation; widening impact and spreading benefits.

Interestingly, during over-arching crisis situations, for example economic downturn, it has been found that giving parties control and input to action planning does not always boost collective action (Fritsche et al., 2017). A major contributing factor in such situations was whether parties identified with a group and whether this group-identity was strong enough to motivate collective response. Conservation is a crisis discipline (e.g. Sharman & Mlambo, 2012; Madden & McQuinn, 2014); in the current study, bonding social capital is ubiquitously found to aid collective contribution of a well-cohered group that is bridging into an over-arching collaboration. Integration of formal and informal governance of natural resources has not always been effective, and cooperative action found lacking, as well as lack of acknowledgement of certain parties' legitimacy (Lunqvist, 2004). This study has not found this to be so and proposes that it is due to social capital benefits.

Pretty (2003) recognised that, via collective planning, social capital could develop new norms, thus aiding common governance and outcomes across a wide variety of conservation scenarios. He notes that these positive outcomes have mostly not extended beyond regional level, where conditions maybe more supportive - and that a major challenge is to address how social capital may be harnessed in wider situations. The current study highlights transferable mechanisms whereby this scaling-up may be aided. With respect to synergy of partners' co-working, leadership of such multi-party, cross-sector conservation

processes has been posited as crucial, but embedded procedures even more so (Lasker, Weiss & Miller, 2001). This study concurs, but shows that it is not formal procedures per se that are crucial but the behavioural norms that are adopted by those involved.

Human Framework for Problem Resolution

This study attests to successful conservation partnerships and their aggregates, consciously or unconsciously, as a norm, developing human-related frameworks by which to jointly address difficulties encountered in the course of their work. The framework is underpinned by harnessing the key identified mechanisms by which social capital operates to underpin collective action and frequently empowered by CUIs and their key traits.

In the collective action theorising of Ostrom (2000), easily-accessible conflict-resolution arenas and mechanisms form an important core principle to perpetuate collective action in natural resource governance. The current study evokes similar findings; the problem-solving framework naturally evolves within partnerships, since it operates within intrinsic human dimensions. Empowering partners to navigate to their own acceptable solutions is a recognised practice within community-based conservation initiatives (e.g. Jackson & Wangchuck, 2004; Sheil et al., 2006; Mishra, 2016; Zahler & Paley, 2016). The current study widens this phenomenon, showing it to be a core channel for social capital to facilitate problem mitigation across sectors.

This study evinces very limited use of sanctions - and considerably more activity in the positive behavioural realm. Keller (2011) found behaviour change to be highly motivated in scenarios where no prescribed method was given, but individuals were required to choose their behaviour. The current study highlights this effect. Following social-psychological theories (reviewed by Prager, 2012), key elements to effect behaviour change can be encapsulated as; respect and acknowledgement of worth, capacity building via knowledge exchange and skills boosting, empowerment, motivation via goals, acknowledgment of context, norms, action planning, emotional involvement and empathic behaviour. The parallels between these elements and the current study's findings eminently show that the harnessing of social capital within the human framework for problem resolution can strongly empower vital change of behavioural norms to address human-related conservation difficulties.

Neutral strategic arenas are crucial to partnership development, to facilitate assessment of joint outcomes (Brinkerhoff, 2002) and respond to environmental changes (Olsson, 2004). This study shows various guises of the strategic arena provide a neutral platform - for example, during training and capacity building, as well as intended policy-formation scenarios - whereby partners identify and utilise eclectic entry points in order to influence and empower the collective towards finding pro-conservation solutions.

Previous studies in conservation have shown that contextual understanding is key to disentangling the drivers of complex 'wicked' situations (Balint et al., 2011), such as are frequently found in biodiversity conservation (e.g. Young et al., 2004). The human dimensions in this area have been particularly well-studied where conflict situations - especially human-wildlife conflict scenarios - are transformed by multiple parties' cooperative actions (e.g. Rangarajan, 2003; Sheil, 2006; Madden & McQuinn, 2014; Mishra, 2016). My study finds social capital is strongly harnessed via contextual understanding to enable parties to address situations whereby diversity in partners' backgrounds intrinsically increases the potential for disparity; in common with the previous scholars and Innes and Booher (2015), I find parties embrace all viewpoints, considering them as gifts to strengthen collective understanding and output.

As has been previously noted, Fritsche (2017) found that in crisis, cross-sector collective action is not always enhanced by giving parties a level of control. Other studies suggest that cultivation of prosocial norms and sense of collective identity and pride can effectively mitigate this scenario (Fritsche, Jonas & Kessler, 2011; Fritsche et al., 2017). The current study's findings show how social capital can be harnessed to benefit such a situation, so frequently encountered in the crisis-driven conservation arena - and emphasise the crucial importance to biodiversity conservation of cultivating the prosocial norms identified by this study.

The Three Commons - a Common Culture

Building on the efficacy of common ground and common values as a conduit by which social capital can fuel collaborative endeavours; this study finds that, with the addition of common goals, a synergistic trio - the Three Commons (or a Common Culture) - can brace conservation effort uniting wide-spread partners from diverse backgrounds and different countries in collaborative endeavour. Of the constituent parts of the Three Commons; common goals give momentum to drive efforts forward, common values enhance efforts - not just to the focal arena, but also enrich partners' capacity to outreach further, and common ground gives a starting point. Together the Three Commons underpin joint efforts to make a resilient community with influencing power.

Previously in this section, I have discussed the mechanisms whereby emotional resonances of common ground recognition allow social capital to aid partnerships to develop deeper bonds, via acknowledgement of shared embedded values. The combined effect of the Three Commons evinced by this study bears similarities with the ultimate developmental stage of groups described by Pretty & Ward (2001), with respect to social capital evolution - the 'awareness-interdependence' stage. The authors posit that at this stage, the aggregate is seen to be strongly connected - by their grounding, their values and the shaping of their common goals. Aware of the value of their unity, they are capable of being a highly dynamic collective, in both their focal actions and linking outward towards high aims. The very strong commonalities of the current study with Pretty & Ward (2001) likely evince the mechanisms by which the awareness-interdependence of a collective may be achieved. It is clearly of fundamental importance to the collective action of conservation collaboratives due to its ability to positively feedback and add resilience to efforts and collectives.

Scholars of collaboration have variously described culture by way of norms, values, interpersonal behaviours, practices and shared meanings that influence individuals' perceptions and behaviours when together (Cray & Mallory, 1998; Martin, 2002; Schein, 2004; Vangen & Winchester, 2014) - all of which imbue a sense of identity (Adger et al, 2012). This thesis explores the aggregated conservation parties that form the threatened species conservation movement. It is a community of practice embracing joint aims, norms of behaviour, and its array of human resources (sensu Wenger, 1998) - and it harnesses these dimensions positively towards its focus. In communities of belonging, members feel pride and a sense of positivity at their shared identity, which can manifest regardless of whether they belong to other sub-groups (Haslam et al., 1999). Thus the trust, reciprocity and norms of social capital that are bonding, bridging and bracing the conservation actors in my study embody them as a community of belonging and a community of practice - a manifestation of the aforementioned authors' findings. This study emphasises that the synergies of the Three Commons, working as a Common Culture, can evoke synergies across diverse professional, organisational, national, religious, sectoral, cultural and other domains, creating a tipping point - a phenomenon noted in behavioural ecology where social behaviour gathers momentum over a threshold yielding resilient social system-wide change or uptake of behaviour (Fernández-Giménez et al., 2017) - to reach empowered collaborative action.

Structure

The findings of this study, which focusses on a subsection of parties within the overall snow leopard conservation network, describe a situation whereby multiple parties from diverse backgrounds and sectors are linked in a pattern of partnerships and aggregates, bridging and bracing social capital being harnessed to help the multiple partners achieve their goals and amplify the impact of their collective efforts.

In this study, the pattern of linkages facilitates many channels of reciprocity: As highlighted by interviewees' responses, strong reciprocal relationships exist, by which varied forms of effort can be exchanged - and social capital, via its numerous identified mechanisms, can flow to aid co-working. The social network analysis (SNA) findings of Section 3B also highlight reciprocity in action - in the partnerships of the overall snow leopard conservation network; in each partnership, each partner is giving as many types of effort as they are receiving. Reciprocity with respect to linkages is recognised as influential to social capital generation and operation (Baerenholdt & Aarsaether, 2002; Hovik, 2003; Pretty & Ward, 2001; Bouwen & Taillieu, 2004; Rydin & Holman; 2004; Kolk, van Dolen & Vock, 2010). My study evinces richness in this respect.

The structurally-related narrative evidence of this chapter is further supported by the SNA results of Section 3B, with respect to the presence of 'mini-hubs': For example, the narrative evidence describes 'NGO A' to be highly influential - connecting dense sub-networks and as a broker - and the SNA results show that it has the highest betweenness centrality in the snow leopard conservation network. Additionally, narrative evidence describing other parties as having high profiles within the network concurs with the SNA closeness centrality results. As per Breiger (2009), high betweenness centrality and closeness centrality values infer these parties to be of high influence, as major conduits for flow of reciprocity within the network and to outcomes of the network. Scholars have also postulated that high values with respect to these two centrality measures increases adaptive capacity and ability to respond (Vardaman et al., 2012). Baerenholdt and Aarsaether (2002) showed that networks within overall networks - 'mini-hubs' - can be assets to the overall network if the social capital vested within them can flow wider. My study identifies a number of such structures - which transcend spatial settings, allowing parties to channel social capital, born at micro level, to a macro level. Narrative responses attest that these hubs play key roles in the collective action processes, expanding impact in many directions, across sectors and geographical boundaries (as also seen in the SNA of Section 3B), exchanging varied effort (for example; HUB A, HUB B, HUB C and HUB D). Scholars have previously shown that network prominence and brokerage opportunities facilitate access to valuable resources and information (Bodin & Crona, 2009), which are pivotal to the persistence of a network as a whole (Henry, 2009), since the sharing of such resources influences creation and maintenance of trust (Henry and Dietz, 2011) and aids innovation (Barnes-Mauthe et al.,2015). The findings of these scholars are supported by my study's findings; high connectedness of snow leopard parties - and Diversity in Action - seem to enable the norm of innovation and the mini-hubs identified in my study appear to play key roles in channelling social capital to aid and sustain collaborative collective action.

This study evinces richness in respect of the boundary-spanning nature of linkages between parties hailing from different sectors and backgrounds. Access to governmental actors facilitates influence to policy processes, in accordance with other scholars (e.g. King, 2000). This study also shows that NGOs play key bridging roles to link parties within and beyond country boundaries. Fraser et al. (2010) also note the catalytic linking role that NGOs can play to galvanise local change through their connections and neutral position, and Hart & Hart (2003) the resilience that NGOs can offer to a collaboration. Previous research has proposed that bridging ties are analogous to social capital - and that the ability to exchange education and experience in a network is predictor of social capital (Barnes-Mauthe et al., 2015). Such ties are especially pertinent to complex

socio-ecological systems to allow exchange of diverse information (Grafton, 2005). The proactive, prosocial attitude evinced in the narrative responses of this study, whereby social capital enables eclectic parties to collaborate in diverse effort, certainly supports the theories of these authors. However, the current study shows that these factors do far more - allowing flow of social capital that can reinforce itself to ongoingly and exponentially empower collaborative endeavour.

5.5.3 Notable Findings with Respect to Types of Social Capital

Bonding and bridging social capital are evinced to be operated by all the core mechanisms and within the overarching themes. This echoes recent findings that trust must be embedded and sustained within a group prior to bridging out in order to sustain trust bonds within effective collective environmental action involving cross-sector partners (Tadesse, & Kassie, 2017).

Many connections (often NGO-NGO) that work well seem to build 'morphous' social capital that changes type from bridging to bonding: Prior to linkage, the discrete organisations or groups are closely internally-bonded. Following bridging, in these scenarios, these particular organisations then bond so closely with each other (due to the themes identified by this study), that what started off as bridging social capital, effectively, becomes bonding social capital between all involved. Rydin & Holman (2004) note that distinctions between bonding and bridging social capital can depend on the perspective of boundaries. However, though similar in one sense, the morphosity seen in this study is attributable to the identified facets of social capital itself. Additionally, it is likely that bracing social capital is needed to maintain cohesion when the size and/or diversity of the aggregate reaches a certain point.

It has been previously emphasised that, due to social capital being a social resource, it can operate between parties in varied spatial environments, over wide distances and at a macro level (Baerenholdt, 2002; Rydin & Holman, 2004). In the current study, bracing social capital is majorly attributed to mechanisms of positive Pride and the overarching theme of the Three Commons - a Common Culture. The utility of pride to cooperative action in globalised aggregates and societies is recognised (e.g. Cohen & Prusak, 2001). In the theatre of threatened species conservation, these themes are mechanisms through which bracing social capital can support large-scale, overarching cross-sector operations comprising many smaller multi-party sub-initiatives, each very different in type and operation; a scenario similar to that noted by Kusakabe (2012), where many vibrant sub-communities were connected in their aims. It may be, by the sheer good operation of the social capital mechanisms in general, in realms of bonding and bridging social capital, the overall movement can benefit from the bracing effects that, in particular, Pride and the Three Common bestow.

5.5.4 In Conclusion

In this study, I identify key mechanisms by which social capital operates in multi-party, multi-background conservation partnerships engaged in collaborative action - and that these mechanisms underpin other themes concomitantly identified in relation to factors considered important to collective action. As with the previous study detailed in Chapter 4, in most cases, the themes by which social capital operates are not commonly considered with respect to conservation of threatened species. Numerous of the themes have resonances with theoretical underpinnings from other fields, echoing thoughts of conservation scholars such as Borgehoff Mulder (2007) and Chan et al. (2007).

This study draws connections between scholarly thinking regarding social capital and various aspects of sociology and anthropology. From a sociological perspective, by considering individual interactions, inter and intra-aggregate, this study shows interaction effects attributable to social capital trickle from individuals to benefit a wider society (sensu Kolk, van Dolen & Vock,

2010) - the threatened species conservation movement. In agreement with numerous other scholars (e.g. Rydin & Holman, 2004), this study affirms the value of social capital as a resource which may be operated to enhance collective action. In a globalised, multi-party, cross-culture, cross-sector conservation movement, addressing 'wicked' challenges (e.g. Sharman & Mlambo, 2000), far from stalling with collaborative inertia (e.g. Huxham & Vangen, 2005), it has shown social capital ignites and fuels diverse collaborative endeavour towards its aims.

This study finds strong resonances with core principles, identified by Ostrom (2000), that help perpetuate collective action, including the relevance of context-specific norms - and the value of CUIs, of recognition for all parties, of opportunity for all to contribute strategically and of accessible conflict-resolution mechanisms. Notably however, the presence of boundaries defining cooperative relationships is not evident in the current study. Norms operate in the conservation partnerships across different organisations, cultures and countries; social capital, as seen, for example, in the Three Commons, creates a boundary-less common culture which can aid biodiversity conservation - and sanctions do not feature highly; much more, the emphasis is on the positive.

In alignment with Lowndes & Wilson (2001), this study shows that the ability to release the potential of social capital is very much process-dependent - human process dependent. This study untangles the determinants to bring novel insight to the mechanisms of these processes - and to answer scholarly questions (e.g. Woolcock & Narayan, 2000; Rydin & Holman, 2004). Herein lies a major insight of this study to a previously unexplored aspect of social capital; the current study finds particular resonances with fields that shed understanding on the psychological dimensions of people's interactions. Recent scholars have also identified psychological predictors of collective action participation (Becker & Tausch, 2015). Greater insight is beyond the scope of this particular work, however, future studies of partnerships, collective endeavour and social capital may wish to employ a psychology-based theoretical framework to further explore how social capital works.

This study confirms that much of the social capital-related understanding within the wealth of literature pertaining to collective management of natural resources is applicable to the threatened species conservation arena. By considering threatened species as natural resources, it contributes to that body of knowledge. It also affirms the utility of considering wider findings in the realm of natural resource management to inform conservation collaborative actions. However, this study is novel in illustrating a difference to many natural resource management scenarios; in the threatened species conservation scenario under study, the positively-framed social capital mechanisms facilitated a situation of collaborative stewardship of these natural resources, more than one of governance.

Through combined methods, my research provides quantitative and qualitative assessment of social capital in collaborative conservation endeavour, from a micro to macro perspective. Social network analysis has illuminated social capital pathways available; akin to Foley & Edwards (1999), it has illuminated the many pathways by which varied resources can flow to parties, to benefit them and the wider conservation effort. Meanwhile, narrative evidence goes deeper to attest to the quality - and qualities - of the social capital operating.

This study evinces the great potential in harnessing social capital to enhance conservation collaboration. Indeed, over a decade ago, Pretty & Smith (2004) questioned what could be done to promote uptake of processes that enable social capital to work in this arena: The overarching themes identified by my study are core to every day conservation work. Social capital is a resource that, by virtue of its numerous 'human nature-rooted' mechanisms, can be operated by all who have agency to act. The accessible practicality of other mechanisms bestows the adaptability, to address changing and 'wicked' scenarios (Sharman &

Mlambo, 2000), that is so vital to threatened species conservation - though this study evinces the mechanisms' operation help wider fields also. Since an increasingly common socio-economic model to operation of purposeful assemblages, in many arenas, involves the embracing of eclectic parties (Googins & Rochlin, 2000), this study not only provides framework for practitioners of all sorts in conservation, but also transferable knowledge to aid collective action in any discipline and theatre.

CHAPTER 6. DISCUSSION

6.1 INTRODUCTION

All too often, wildlife conservation is cast in a tragedy narrative (e.g. Ceballos & Ehrlich, 2002; Wake & Vredenburg, 2008; Hilton Taylor et al., 2009; Barnosky et al., 2011; Ceballos, García, & Ehrlich, 2010). Where people are concerned, conservation often considers human-wildlife conflict - and problems that, understandably, require resolution. However, we either forget, or do not acknowledge, another aspect of people - our intrinsic human ability to form positive bonds and alliances, the basic human instinct to help one another; we all have the ability to be social in a positive way (e.g. Richerson & Henrich, 2012). There is a growing movement in conservation advocating the power of a positive, optimistic approach to fuel our outcomes (e.g. Beaver, 2000; Knight, 2013); one empowered by research that is informed by real conservation scenarios and delivers practical, accessible, positive solutions as well as theoretical contributions.

In terms of wildlife conservation, few have paid much attention to what we do well interpersonally and how it works, though there are certain notable exceptions, for example Kleiman & Rylands (2002), Mishra (2016) and McCarthy et al. (2016). However, prior to this research, few have framed such studies via the lens of social capital, despite social capital being a recognised concept for some decades - and none have combined an overview of the vast scale of conservation collaboration in the cross-sector, multi-party, multi-background, multi-culture threatened species conservation movement with the individual viewpoint, or tried to discern the actual mechanisms by which social capital is built and operates to enhance conservation collaboration.

This thesis bears witness to the fact that effective conservation of threatened species requires collaboration between multiple parties, spanning social, jurisdictional, political and natural boundaries and diverse backgrounds. It shows, in accordance with others (e.g. Innes & Booher, 2015; Wondolleck and Yaffee, 2000), that such collaboration can yield multiple benefits - both to biodiversity and wider social and ecological benefits, such as improved decision-making and implementation of plans and conflict resolution. Trust is recognised as underpinning successful collaboration (e.g. Dirks, 1999). Numerous studies acknowledge the challenges to social capital development in collaborative processes, due differences in values, interests and power distribution (Balint et al., 2011; Margerum, 2011). Therefore, addressing how social capital may be built and harnessed in collective action is highly pertinent to conservation efforts. This entire study is about context - the human contextual dimensions that make collaboration work in conservation. By focussing upon actors and effort for threatened felids, my research has found a most illuminating pathway to study the complexities of the human dimensions in conservation collaboration.

6.2 SUMMARY OF RESULTS

The findings of this thesis attest to the multi-faceted - and positive - nature of the human dimensions of collaborative conservation effort for threatened species. Building social capital and harnessing it leads to a tipping point that moves conservation endeavour on a positive path (sensu Fernández-Giménez et al., 2017).

With a focus on 36 threatened felid species/subspecies, as a proxy, Chapter 3 takes a novel perspective, via an institutional framework, on exploring the array of actors and effort contributing to threatened species conservation - the conservation actors and their exchanges that constitute the threatened species conservation movement. Once the preserve of biologists, the extant threatened species conservation movement, for felids, is found to have diversified to embrace an eclectic array of actors and effort, including novel actors and innovative contributions from backgrounds not previously associated with threatened species conservation - and, from actors commonly-recognised within conservation, diversification to offer innovative contributions. Thus, the study highlights evidence in favour of proposing a new paradigm; an over-arching threatened species conservation movement as eclectic, dynamic, evolving and actor-centric - much changed from commonly-recognised conservation paradigms. Additionally, the study illustrates a novel method by which such a purposeful assemblage may be studied.

Chapters 4 and 5 consider a case study, under a social capital framework, based on conservation actors and their extraordinary, diverse, transboundary partnerships working to conserve the snow leopard *Panthera uncia*:

Chapter 4 details a qualitative approach, exploring the human-related mechanisms by which diverse, successful, visionary conservation partnerships and their aggregates are established to aid threatened species. Via the results, I demonstrate and derive 12 themes to underpin social capital creation during the process of building links between conservation partners, namely; Recognising Need, Convening Conversations, Respect, Context, Empathy, Common Ground and Common Values, Empowerment, Innovation, Proactivity, Examples, Time, and Pride. By concomitant consideration of other factors considered important to network-building, I also identify six overarching themes key to conservation partnership building, variously embodying the key social capital-creating themes; Critical Unique Individuals, Diversity Positivity, Capacity Building, Joint Envisioning and Mapping of Hopes, Arena for Interaction, and Structure. This study provides a unique perspective of the influence of human-related drivers on the building of cross-sector, multi-background, multi-actor partnerships in biodiversity conservation. It is the first known study to identify mechanisms by which social capital is created in such conservation partnerships, and concomitantly to uncover overarching key partnership-building themes whereby these mechanisms are harnessed. By focussing on a subsection of parties that work to conserve snow leopard *Panthera uncia*, this study places individuals' interactions within the larger ecological and socio-political context of the threatened species conservation movement and makes a novel contribution to social capital knowledge.

Chapter 5 builds on the findings of Chapter 4, to explore the complexities of inter-party relationships in operation when trying to improve conservation outcomes via co-working and collaborative action. A qualitative approach facilitates identification of the human-related mechanisms by which eclectic, successful, visionary conservation partnerships operate social capital within co-working and collaborations to aid a threatened species. It also makes novel contribution to social capital theory; I demonstrate and derive 12 conduits by which social capital operates in such collective action, namely; Ongoing Communication, Respect, Context, Empathy, Common Ground and Common Values, Empowerment, Innovation, Proactivity and Passion, Showing and Sharing Examples, Investment of Time, Pride - and Amplification. By concomitantly considering other factors considered important to collective action, I also identify eight overarching themes as key to conservation collaboration - Critical Unique Individuals, Diversity in Action, Capacity Building, Joint Action Planning, Human Factors Enhancing Strategic Implementation, Human Framework for Problem Resolution, The Three Commons - a Common Culture, and Structure - variously embodying the key social capital-operating themes. This study provides a unique perspective on how human-related mechanisms influence collaborative working in the field of threatened species conservation. This is the first known study to identify mechanisms by

which social capital operates in co-working conservation partnership action, and concomitantly to uncover how social capital imbues other important collective action factors.

In summary, to compare and contrast Chapters 4 and 5: Both chapters consider a case study based on conservation actors and their partnerships working to conserve the snow leopard. A qualitative approach was taken in both chapters, analysing narrative evidence under a social capital framework. Chapter 4 explored the human-related mechanisms by which social capital is created during the process of building links between conservation partners, Chapter 5 explored the human-related mechanisms by which such conservation partnerships operate social capital within their co-working and collaborative action. For added insight and rigour, the analysis of both chapters concomitantly considered other important network factors; Chapter 4, factors known to be important to network-building, and Chapter 5, factors known to be important to collective action.

I found the array of mechanisms that underpin social capital creation to be broadly similar to that by which social capital is harnessed in co-working and collective action. Figures 4 and 5 highlight the main difference: At the link-building stage, there is a Recognising Need mechanism, reflecting the identification of the benefit of forming collaborative links; this formative mechanism is replaced at the collective action stage with the Amplification mechanism, reflecting the more action-related spreading of the benefits of the collaborative work.

With respect to the overarching themes which provide the key conduits for social capital, I found similarities also between link-building and collective action stages: Critical Unique Individuals, Capacity Building and Structure were key in both stages. Diversity of partners' backgrounds and skills was important in each stage - it was positively sought and underpinned link-building, and it fuelled the collective action. Strategic matters were also key in partnership-building and collective action; the forward looking Joint Envisioning and Mapping of Hopes at the link-building stage being replaced by the more action-related Joint Action Planning and Human Factors Enhancing Strategic Implementation. I found Arena for Interaction to be key to the link-building stage - the actors needed a communal place or space in which to forge the links, however, in the collective action scenarios, Human Framework for Problem Resolution, and the aggregate-stabilising Three Commons - a Common Culture emerged as key to sustain partnership action.

In summarising the similarities above with respect to social capital at the link-building and collective action stages, I note the following caveat: Within the identified themes, the subtleties - of how the mechanisms operate when building social capital, or harness it in collective action - are different, as I detail within Sections 4.4, 4.5, 5.4 and 5.5.

6.3 WIDER IMPLICATIONS

In interpreting this study's findings, I have been led beyond its social capital framework. For instance, norms, aggregates of actors and purposeful societies, as empirical concepts, have been variously considered by different schools of the social sciences (e.g. Bender & Swistak, 2001), such as, when trying to attribute meaning to group behaviours and values. I have found traction in thinking from anthropology, sociology - especially institutional, organisational, collaborative, partnership and leadership theories - and psychology to explain my findings. In the spirit of the embracing of diversity that underpins the case study which has fuelled the overall research, I feel that it is by exploring and deeply considering this study's resonances with these other avenues

that we can expand social capital's theoretical and practical relevance**.** I posit that these resonances are looking at the same phenomena, but from different angles - different facets of the diamond; though the viewpoints may be different, as with a cut diamond there is intrinsic link between all. Thus, they offer valuable perspective to the scholarly inquiries of each other.

6.3.1 Psychological Resonances of Social Capital

The findings of Chapters 4 and 5 particularly attest to the deeply-embedded psychological nature of numerous of the social capital mechanisms. Psychological factors are known to predict normative action participation (Chudek & Henrich, 2011; Becker & Tausch, 2015) - and participation in cooperative effort has emotional and identity-related resonances that influence engagement in future effort (Manzo & Perkins, 2006; Becker & Tausch, 2015). The themes and mechanisms identified in this study have underlying positivity. A positive expectation of the behaviour of others is considered to underpin the willingness to be vulnerable within the psychological state of trust (Rousseau et al., 1998; Gong et al., 2010). Contra to Coleman (1988), the norms identified in my study do not attest to social capital as operative for an individual's own private interests or via negative force - quite the reverse. I consider these resonances with evolutionary approaches to understanding norms, institutions and collective action to be highly enlightening - and significant. Considering the genesis of established societies and purposeful assemblages of actors to be our evolved psychology - in essence, processes that allow growth in social ways can spawn beneficial norms, societies and movements (Richerson & Henrich, 2012) - elucidates how social capital has agency to aid parties to achieve impactful outcomes, despite the many 'wicked' scenarios faced in conservation.

6.3.2 Contribution to Social Capital Knowledge via Synergies with Institutional and Partnership Action Viewpoints

Previously, the extent of commonality in interests and principles has been seen to govern the amount of social capital between parties **-** and to have been indicative of future successful action (Pargal, Huq, & Gilligan, 2004). That being said, social capital scholars have more commonly addressed the concept in relation to collective action, with far less focus upon the processes of actually establishing links - yet these inter-party bonds are the antecedents and, as evinced by my study, vital foundations of subsequent collaborative action. In taking a qualitative approach, my study gives deep and novel insight in to the processes that enable creation - and operation of - social capital, thus making a much-needed contribution to social capital knowledge.

As described in Chapters 1 and 2, the concept of social capital can be variously framed in terms of norms and values - or a socially-focussed view of networks, actors and their linkages. Such considerations have often taken perspectives at a discrete level, for example, the meso (e.g. Garcia-Armado et al., 2012) or the macro (e.g. Galaz et al., 2005). Woolcock & Narayan (2000) proposed a more integrated view - the synergy view - that recognises dynamic and multiple alliances that synergise to create social capital across sectors. My study offers an enhanced synergy view; blending individual, aggregate and overarching perspectives; Chapter 3 offers a macro perspective on the threatened species conservation movement, which is explored at micro and meso levels in Chapters 4 and 5. Foley and Edwards (1999) posit that structural interpretations of social capital are useful to highlight means by which social resources may flow between individuals and groups. This is evinced by the network analysis of the current study. However, without qualitative investigations of individual interactions, the greater depth and understanding of social capital's operation and effects could not have been found, thus illuminating possibilities of engendering wider benefits, action and impacts.

Sociological and institutional theories consider individuals to be defined by their social groups - and social groups to be defined by the individuals within; individuals and their social structure are mutually interdependent (Hodgson, 2006). Social skills are required for day-to-day operation of an overarching assemblage (Jackson, 2010). My study shows the threatened species conservation movement to be a community of practice (sensu, Wenger, 1998), whereby the norms it operates embody the chosen social skills of the community. Lowndes & Wilson (2001) posit that the potential to harness social capital is very much contingent on processes as well as on the societal make-up. In my study, Chapter 4 and 5 highlight norms and values - in the form of the identified social capital mechanisms - common within the subsection of snow leopard network under study. Noting the caveats of extrapolation and representativeness (addressed in detail in Section 6.6), it is possible that these norms may also be present in the wider conservation movement.

Scholars have applied institutional theoretical frameworks in explorations of large-scale, transboundary assemblages of actors undertaking collective action (e.g. Six et al., 2015). Hodgson (2006) highlights the lack of consensus with respect to the definition of an institution, and advocates that the term can embrace highly-varied assemblages both formal and informal, with a key tenet being that such an assemblage embraces systems of practice - norms - that structure its actors' social interactions. Jackson (2010) posits that institutions may be considered as the outcomes of particular aggregates of actors and their exchanges. The boundaries of an informal institution can be regarded as morphous, a type of 'networked society' (Castells, 1996), whereby digitally-communicating populations have increasing mobility across social groups and arenas, thus rendering social structures less hierarchical. Indeed, Chapter 3 evinces that actors can belong to the threatened species conservation movement whose membership is not dependent on more traditional requirements for acceptance - those with pertinent knowledge and abilities, regardless of any 'traditionally-recognised' conservation background. My study has shown actors from multiple sectors and backgrounds acting to conserve threatened species. Rather than acting alone, these actors engaging in conservation link to other actors, carrying out varied practices via organised interactions and involvement, using their aggregated capabilities. If the norms and values, in the form of the identified social capital mechanisms common within the subsection of snow leopard network in my study, also operate in the threatened species conservation movement in general - then they form the social norms it operates - the embodiment of the chosen social skills of the movement. According to the thinking of Hodgson (2006), Jackson (2010) and Six et al. (2015), I posit that recognition of the above institutional traits and parallels infers that the threatened species conservation movement may also be regarded as an type of institution in the wider sense described above - and I propose the descriptive term of 'informal aggregated-emergent-institution' may also be applicable, in this respect, to describe the threatened species conservation movement.

The work of Ostrom (1990) in the field of commons governance and collective action fuelled theorists to question how trust is created and maintained within an institutional framework (e.g. Henry and Dietz, 2011). Six et al. (2015) proposed that trust within an overarching informal institution could only be attained through involved parties trialling the manner by which it can be achieved. The mechanisms in my study lead me to suggest similar regarding the building and operation of social capital in the threatened species conservation movement; and that the mechanisms are transferable and adaptable. Six et al. (2015) proposed that in order to boost collaboration, members of an institution should create structures that encourage members to strive for better ways to sustain trust and to embed these processes as norms - I advocate similarly for social capital. It is pragmatic that there be an element of reflexivity in this process; the mechanisms will be best engaged with when they are contextually apt to each actor. The mechanisms themselves share somewhat reflexive relationships; they fuel and re-fuel one another in a synergy whereby none can be assigned as causes or effects. Since virtually the same array operates, whether

building or harnessing social capital, attention to these same processes offers pathways to enhance both partnership-building and collective action.

Collaboration is posited to yield synergy (Dyer, 2000; Lasker, Weiss & Miller, 2001; Huxham & Vangen, 2005) - the impact of the union is greater than the sum of its constituent parts. The multiple opportunities afforded by cross sector collaboration have been recognised to offer great potential - to create social capital and yield wider benefits to society (Kolk, van Dolen & Volk, 2010). My study attests to this; social capital bestows momentum to union of diverse parties and their eclectic resources and skills towards conservation of the snow leopard, empowering remarkable outcomes against many odds. The findings of Chapter 5 evince that, due to the varied interactions available in the contemporary environment, it is appropriate to reframe collective action (sensu Bimber, Flanagin & Stohl, 2005) as a set of processes that span multiple domains and previously-acknowledged boundaries, for example, that would formerly have separated different facets of public and private lives.

As with previous research, my study uncovers parallels between ecological and social-ecological systems (Holling, 2001; Borgehoff Mulder, 2007). Holling (2001) describes a wheels-within-wheels approach to the complexities of social, ecological and economic systems; dynamic issues impact at individual, organisational, inter-organisational and wider political scales. The interaction of these hierarchies and adaptive cycles protects the overall system whilst allowing positive innovation; the constituent parts operate at their own pace; smaller faster-moving operations bestow energy to the overall system, but are buffered by over-arching larger operations. Thus, the system creates opportunities and is adaptive. My study suggests the diverse threatened species conservation movement might operate likewise. Through these analogies, our collective studies offer pathways for those in biological disciplines to understand the workings of the dynamic, eclectic, evolving conservation movement. It has been proposed that in groups, norms evolve to favour longevity and success (Henrich, 2004). In behavioural ecology, tipping points are considered as the point where momentum is gained over a threshold, yielding resilient system-wide change - scholars have considered their causal factors in socio-ecological systems (Fernández-Giménez et al., 2017). The current study evinces that conservation is clearly a socio-ecological system - and social capital can cause a tipping point.

6.3.3 Parallels Between Social Capital in Natural Resources Management and Biodiversity Conservation

In general, this study affirms the parallels between the agency of social capital in collective action for natural resources and for threatened species conservation. The resonances with the work of Rydin and Holman (2004) provide good illustration. For example, my study also evinces bonding, bridging and bracing social capital doing their different work and the significance of place and scale. Social capital is non-physical; my study evinces it transcend spatial - and many other - boundaries, thus showing the morphous nature of boundaries to bonding and bridging social capital. Perhaps a major contribution to previous knowledge is the elucidation of the nature and operation of bracing social capital - it is overarching, but operates through generation of positive Pride and the Three Commons - a Common Culture, to all who share the common connection. In this way it is, indeed, a particular group of actors, as described by Rydin & Holman, who are being braced - but undeniably, a large one, linked at and between all levels, micro, meso and macro. The uniting of varied parties is another commonality - all the more remarkable given their diversity - as is the key role of the Critical Unique Individuals. In defining the mechanisms by which social capital can be built and operated, I also concur with others (e.g. Coleman, 1988; Rydin & Holman, 2004; Six et al., 2015) that social capital is multifaceted array of strategies: Much like a Swiss Army penknife, it is a vital ally and has a tool for every occasion.

Pretty (2003) recognises that though social capital frequently proves successful in natural resource management on local, regional even nation scale - a growing challenge will be the ability to apply its principles against global environmental

threats and to create conditions to harness social capital's benefits under increasing economic globalisation. Chapters 4 and 5 both offer key understanding in this respect. Social capital exists within inter-personal bonds in every societal context imaginable. Previous scholars (e.g. Woolcock & Narayan, 2000; Rydin & Holman, 2004) have urged the need to understand its antecedents and the mechanisms by which it operates. My study offers this knowledge; understanding the nature of social capital interactions unlocks resources to galvanise and fuel wider development and action for the greater good, without or within formal instruments.

6.3.4 The Value of the Social Capital Concept to this Study

I adopted the social capital concept for this research due to the widespread recognition of its utility to natural resources networks (detailed in Chapters 1, 4 and 5). However, the preceding sections of this chapter evince the extent to which efforts to interpret this study's findings have led me beyond the social capital framework that has previously been crafted and defined by other scholars (detailed in Section 1.2.2). This is perhaps unsurprising, since my study aimed to generate novel knowledge in a previously-uncharted field. Additionally, since I aimed to generate knowledge pertaining to the antecedents, themselves, of social capital, it was inevitable that interpretation of the findings would need to draw on other related fields.

Nevertheless, the typology and aspects of social capital that others - in particular, Woolcock and Narayan (2000), Pretty and Ward (2001), Pretty (2003) and Rydin and Holman (2004) - have posited to make up the framework of social capital have formed a valuable guide to my study (see also Section 1.2.2.5). Though clearly a multidimensional concept, in particular, the four central aspects of social capital postulated by Pretty and Ward (2001) and Pretty (2003) - interpersonal trust, reciprocity and mutual exchanges, norms of behaviour, and connectedness such as in networks - and the typology of bonding, bridging and bracing social capital and associated aspects put forward by Rydin and Holman (2004), have underpinned my research. This social capital framework provided indicator concepts - the aspects and types of social capital - which could be sought during analysis of narrative data. Thus, I have been able to derive themes associated with social capital creation and operation; I have been able to step beyond the recognised social capital typology detailed in Chapter 1, to identify the mechanisms involved in building social capital in conservation partnerships and those involved in social capital operation during conservation partnerships' collaborative action. Thus, the previously-known facets of the social capital concept have guided me to augment social capital understanding. In respect of the aspects of social capital, these proved more directly useful when analysing the narrative data, providing tangible aspects to identify actual mechanisms associated with social capital - for example, participants talking of ways they feel trust, or what might encourage them to share and reciprocate. In contrast, the bonding, bridging and bracing typology served great utility by way of situating the identified social capital mechanisms within the larger picture - for example, whether the mechanism in question was operating between members of an organisation, or between organisations, or over a wider span of many organisations.

6.4 Implications to Conservation Policy, Management & Practice

My study draws upon on multiple disciplines to uncover the mechanisms of how social capital is harnessed in conservation partnerships - and recognises pivotal roles played by various overarching concepts and processes. Through these mechanisms and related key themes, it provides framework to embrace social and political aspects of participation.

Chapter 3 provides a novel perspective on the composition of the extant threatened species conservation movement. It demonstrates that allowing diversity in actor type and evolving and devolving to embrace new types of actors, renders previously-unavailable capabilities to the movement, unleashing latent capabilities to tackle the previously unforeseen (sensu Thelen, 2004). It also bestows adaptability to address the 'wicked' issues which face all in biodiversity conservation constantly (Balint et al., 2011; Sharman & Mlambo, 2012). This infers that acceptance of the skills and backgrounds of conservation players should know no bounds - anyone and everyone are capable of playing an important role in conservation of threatened species. All who are in positions of influence in conservation would do well to embrace diverse parties and their skills, in order that the movement, like the species we strive daily to save, may adapt to maintain fitness for purpose. The results can be used by conservation actors from all backgrounds and sectors, such that they may pursue pathways and actors highlighted within this study to widen the aggregates of those working to the conservation goals and thus, increase conservation outcomes and impact.

This is also the first known study to determine the complex drivers of social capital that operate in the building (Chapter 4) and collective action (Chapter 5) of conservation collaborations. These findings are important for leaders and managers of conservation initiatives since they show that successful outcomes of conservation endeavours are not solely rooted in people's professional skills, biological or otherwise, but underpinned by the human dimensions. I offer a framework for understanding the human dimensions of people's interactions within the overall conservation arena and within the wider societal contexts that it operates; a social capital-informed model of themes and mechanisms that integrates multiple domains and analysis levels. This model can accommodate multiple backgrounds, cultures and sectors, thus making it pertinent to the ecological, social and political aspects of building conservation partnerships and to their subsequent collaborative action.

The framework detailed within Chapters 4 and 5 is significant since it represents means by which the resource of social capital, by virtue of its numerous 'human nature-rooted' and practical mechanisms, can be built, accessed and operated by all, bestowing vital adaptability to address threatened species conservation's frequently changing and 'wicked' scenarios. Understanding in this regard can both strengthen existing conservation partnerships and provide transferable knowledge - to aid threatened species for whom cohesive effort is lacking (such as highlighted in Chapter 3, by the comparative lack of effort evinced, for example, for Critically Endangered small-bodied cats).

I recommend that, to improve success of conservation outcomes and impact, much greater emphasis be placed on the human dimensions highlighted by this research. These human-related mechanisms vested in those working in conservation must be supported by those working in conservation, especially those in recognised positions of leadership. These human attributes should be enhanced or, even, taught if necessary**.** Due to their intrinsic or highly practical nature, their application is applicable to conservation spanning diverse social, political and economic contexts. We will do well to encourage conservation actors to reflect on how best they can embody them. In this way (sensu Six et al., 2015 regarding trust), the uptake will generate a positive atmosphere that will best support collaboration.

I hope that the many examples included in the Results of Chapters 4 and 5 offer practical pathways and templates, as advocated by Beaver (2000) and Knight (2013), to guide practitioners wishing to harness social capital in similar scenarios. I recommend that attention be paid to the following, in order to channel social capital to enhance both partnership-building and collective action in conservation:

- Recognising Need
- Convening Conversations and Ongoing Communication

- Respect
- Contextual Understanding
- Empathy
- Common Ground and Common Values
- Empowerment
- Innovation
- Proactivity
- Showing and Sharing Examples
- Investment of Time
- Generation of Pride
- Amplification

In-depth recommendations are beyond the scope of this particular publication, however they can be found in the forthcoming related publication, 'Empowering Conservation Partnerships: A Toolkit for Multi-Party Conservation Collaboration'.

Meanwhile, the over-arching themes identified by this study can be found within an array of everyday processes and situations. Conservation managers and leaders, at many levels, will find them naturally, frequently-occurring platforms in which to enhance partnership endeavour. These represent accessible vehicles and opportunities to variously embody the key social capital building and operating themes. They are summarised below, along with brief key notes:

Critical Unique Individuals

- It is of key importance to remember the agency to conservation of Critical Unique Individuals; all around us, there are people who hold pivotal influence to conservation outcomes, and they are not only found in formally-recognised positions of power. It is crucial to recognise that all in conservation have the potential to be CUIs.

- The findings of this study attest that the power of one person can transmit a long way - evinced by the concept of the CUIs found in so many every-day situations. In the words popularly attributed to the anthropologist, Margaret Mead (1901-1978),

  "*Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has*".

- Conservation leaders can boost colleagues' feelings of respect by using their influence and resources to facilitate and maintain empowering working conditions.

Diversity Positivity and Diversity in Action

- This study recognises the intrinsic need for working with and valuing human dimensions in conservation. In respect of this theme, this introduces a paradox; a positive attitude to diversity enhances collaborative output - without that positivity, diversity renders parties pulling in different directions, uncompromising of each other's needs, contexts and values. The conservation movement as a whole needs to adopt a positive attitude to embracing varied actors and their efforts, to maximise talent to aid threatened species. Conservation leaders and those in positions of agency must look wider, to more eclectic sources for collaborative partners and sources of guidance.

- We would be well-advised to instil a new paradigm with respect to diversity in conservation collaboration to maximise impactful action.

- Another pivotal contribution to conservation collaboration can be made by funding bodies - who can insist on diverse collaboration as a prerequisite of granting funding.

Arena for Interaction

- The salient point here is that opportunities to create and harness social capital occur in everyday processes and situations - the key point is for all to be proactive in identifying these platforms.

Capacity Building

- Due to the resonances identified, there is much merit in embodying servant leader principles (Greenleaf, 1982; Lanctot & Irving, 2010; Paris & Peachey, 2013), both as individuals and organisations. We can try to craft a caring conservation movement, where formal position is not a descriptor of the agency to give or to empower; a society where creative opportunities are enhanced and actioned - to the benefit of the individuals and the overall conservation movement.

- Over two decades ago, Aubrey & Cohen, (1995) advocated the union of professional and personal development to aid individuals' working development. This study attests that attention to the more personal qualities can empower collective, ever-changing conservation. It is key to empower conservation personnel in human-related skills; these are just as vital as other professional skills. Conservation is an active arena; this focus can have direct impact if it is within the operational, practical realm, in organisational and group settings. An entry point whereby the academic community can have huge impact is within the teaching of degrees; conscious effort must be made to incorporate knowledge regarding the importance of these human dimensions of collaboration into university conservation and environmental courses.

- Learning within the conservation arena can be enriched by looking wider, reaching out to novel sources.

- There is boundless scope for capacity building within the strategic processes below.

Joint Envisioning and Mapping of Hopes, Joint Action Planning, Human Factors Enhancing Strategic Implementation

- Here it is key to remember that strategic matters take place in manifold scenarios - from joint project planning between students, colleagues, community members, NGO personnel - to broad swathing political agendas at national and international level. All afford opportunities for social capital to be created and harnessed.

Human Framework for Problem Resolution

- Diverse viewpoints - and each other's' failures and successes - equip us to better face challenges together.

The Three Commons - a Common Culture

- Though culture may be considered as a philosophy or the ideas, customs and behaviour of a particular group or society, it is also possible to generate and nurture another wider, yet intrinsic culture, a culture uniting collaborative partners, despite presence in and/or allegiance to other domains, thus amplifying the size of partnership aggregates and success of initiatives. Through acknowledgement of common ground and definition of common goals, we can craft the deeper

levels, raising the thoughts and addressing previously-unaddressed situations to uncover - or build - common values. Thus we build and sustain a Common Culture - which can brace our wide-spread efforts.

Structure

- A wide, open-patterned network without hierarchical structure allows social capital to bridge ongoingly outwards, a conduit for capacity built and joint strategy to have ever-widening outreach.

Echoing a theme brought to our attention by Borgerhoff Mulder (2007), there are numerous parallels between ecological and human scenarios that can make the channelling of social capital feel natural to wide-ranging parties. Conservation, like social capital, is underpinned by context: There is not only one human view or one anthropogenic need and approach, there are hundreds. Hence the efficacy of the identified social capital mechanisms to help wildlife in diverse scenarios; holistic conservation with people - all people, those who live alongside, and those who work for wildlife and those in any and every overlapping arena.

It is notable that, for the most part, resonances with themes and findings of previous conservation studies occur in the scenarios of community-based conservation. For example, Mishra, (2016) has written extensively about the benefit and need for certain fundamental human-based factors within community-based conservation partnerships. My study is novel in its exploration of the human dimensions of conservation collaboration across the diverse actors - spanning social, jurisdictional, political and natural boundaries - and diverse backgrounds that operate to conserve threatened species. The theatre of conservation inherently operates to solve 'wicked' problems (Balint et al., 2011; Sharman & Mlambo, 2000). These authors posit that the solutions to these problems lie not with technology or science, but in the domains that can harness the more human realms such as philosophy, politics and institutional engagement. This study does not disagree, however it highlights that, through the social capital mechanisms, the solutions to aid biodiversity conservation can lie with all who are embraced within the conservation movement. My study reinforces the vital need for policymakers, practitioners and all in positions of influence - agency which this study shows may be vested in all of us - to seek ways to support all who wish to make positive contribution to biodiversity conservation.

6.5 Directions for Future Research

The findings of Chapters 4 and 5 root the understanding of the creation and operation of social capital in the realms of psychological knowledge. Thus, future studies of social capital, partnerships and collaborative endeavour may do well to consider the benefits that harnessing the synergies between these theoretical areas of inquiry can offer - to further explore social capital and, indeed, to deepen the findings uncovered by this study. It would also be interesting to undertake a study similar study to mine, but in a different arena, to see if, indeed, similar mechanisms are found to underpin the building and operation of social capital in other fields of collaborative endeavour.

It seems advantageous to advancement of social capital operational theory that future studies be of qualitative nature; only in this way will further nuances be uncovered. Where quantitative network and social capital studies are undertaken, concomitant qualitative interviews can elucidate quantitative findings.

This study shows the efficacy of considering varied media platforms when investigating collective action. Future collective action studies may wish to do similarly, following the methods of Chapter 3, in order to cast a wider net to embrace novel actors united by a cause.

The very varied aspects of conservation offer rich possibilities to future research. Scholars increasingly advocate understanding and embracing the human dimensions in order to benefit conservation outcomes - and that conservation social science become as much an accepted part of conservation effort as the biological aspects (Bennet et al., 2017a,b). My study evinces the value of such an approach.

Social skills and human sensitivities of conservation actors are vital in crafting the partnership bonds that will subsequently underpin whatever form of conservation action they co-undertake. The importance, to conservation outcomes, of rigorous understanding of the human dimensions of crafting partnerships cannot be overemphasised. It would be advantageous to run additional case studies, in a manner similar to Chapters 4 and 5, but focussing on other species. Comparison of such studies' findings with the findings generated by my snow leopard study could add rigour to my findings - and show whether, indeed, as I postulate, my findings can be applied more widely. It would also likely generate further insight to the social capital mechanisms that I have identified.

Chapter 3, with its focus on threatened felids, highlights a panoply of conservation actors making diverse contributions. It would be interesting to conduct a similar study on other taxa. In particular, questions could explore; how the array of actors and effort differs between iconic and lesser-known members of the taxa, and how body size affects the array of actors and effort for a species. The results could be compared with those of Chapter 3; if similar bias to large-bodied and iconic species exist, the findings could provide further evidence in support of increased effort for the lesser-supported species.

Chapter 3 also highlights that the extant threatened species conservation movement has diversified to embrace an eclectic array of actors and effort, including novel actors and innovative contributions from backgrounds not previously associated with threatened species conservation - and, from actors commonly-recognised within conservation, diversification to offer innovative contributions. These novel actors and innovative contributions are valuable additions to the conservation arena - their contributions may well increasingly underpin the conservation movement as it adapts to meet the complex changes faced by wildlife (detailed in Chapter 1). The snow leopard case study showed synergy between numerous such novel actors and innovative contributions and those more commonly-recognised in conservation to be of great benefit to conservation partnerships and their working outcomes. Indeed, there is growing recognition of the value of novel skills and avenues to support conservation goals (e.g. Duthie et al., 2017; Veríssimo et al., 2017). I feel that novel conservation actors and innovative contributions are areas which should be explored further without delay. For example, from the data gathered within Chapter 3, novel actors and innovative contributions could be identified for other felids - and narrative evidence gathered from the involved parties to ascertain how the partnerships were formed. Such findings could guide the future embracing of other novel actors and innovative contributions to benefit conservation.

Another valuable future research avenue could focus upon online conservation actors. Chapter 3 highlighted that for less-supported species/subspecies, online actors comprise a relatively higher proportion of their supporters than for high profile species in receipt of greater amounts of overall effort. Therefore online actors can be key conservation aids in this respect, particularly to species currently passing 'under the radar'- new, innovative individuals could raise awareness if linked up to other

conservation organisations. The contributions of the online actors highlighted in my research could be further investigated, perhaps by inviting them to participate in an online survey exploring the extent and manner of matters covered within their online awareness-raising. The results could enable other conservation actors, particularly NGOs, to guide the online actors, to increase their coverage and effectiveness.

Chapter 3 also offers a wealth of data on threatened felids which could be subjected to social network analysis, in the manner undertaken for the snow leopard (Section 3B). To undertake this using the data gathered for all the threatened felids would be an extremely lengthy and detailed task. However, generating network and node statistics for the aggregated conservation actors identified for each felid would enable some interesting comparisons. Many questions could be asked of the data. For example, with respect to each network as a whole: how centralised is the network; are 'mini-hubs' and 'clusters' present and, if so, how many; how densely populated is the network with linkages? The sociometric values for the networks could be compared, to look for common patterns, perhaps pertaining to body size and/or level of endangerment. This may highlight particularly beneficial structural patterns which could be employed to benefit conservation of those felids for which cohesive effort is somewhat lacking. With respect to the nodes (actors), lines of enquiry could investigate the betweenness and closeness centralities of actors, and multi-edged node pairs - highlighting influential actors and the different types of effort being exchanged, respectively. It would be especially enlightening to identify the sectors to which actors with high betweenness and closeness centralities belong - since (as detailed in Section 3B.4) these values indicate actors with particular positions of influence within the network.

6.6 Further Methodological Critique and Study Limitations

It is considered important to employ qualitative social science methods to explore and understand conservation issues (Drury et al., 2011). This thesis emphasises the value of doing so, particularly to mine previously-unexplored or complex matters. Chapters 4 and 5 highlight the power of qualitative methods to contribute novel understanding to complement existing knowledge. Such methods may be harnessed by conservation researchers and practitioners to address 'wicked' issues. A caveat here is that thorough working knowledge of such methods is often lacking (Drury, 2011). Therefore, including training in qualitative social science methods within university courses and within continuing professional development is worthwhile.

Studies have shown efficacy in recognising the core elements of grounded theory, but extrapolating the approach to suit the particular study (Bulawa, 2014; Sarker, Lau & Sahay, 2001; Charmaz, 2009). In particular, the meta-theoretical framework employed can be varied to suit the study, utilising the structure which provides best fit to link identified categories into a theory (Sarker, Lau & Sahay, 2001; Merriam 2009). In my study, I employed such variation, linking social capital with concepts from other frameworks. Perhaps, therefore, my contributions form an adapted social capital theory.

By way of methodological critique regarding coupling of data gathered via online methods with a curated dataset: Edwards et al. (2013) argue for augmentation of conventional research by social media analyses, especially in regard of 'networked society'(Castells, 1996), whereby digitally-communicating populations have increasing mobility across social groups and arenas, thus rendering social structures less hierarchical. My study evinces the value, for a given study, of complementing social network data, for example, curated via narrative evidence, with examination of data identified via online methods.

With respect to issues of representativeness: My study has taken varied perspectives on the threatened species conservation movement - from the macro level of Chapter 3 to the exploration at meso and micro levels in Chapters 4 and 5. I have combined a wide-angle view of conservation collaboration in a section of the cross-sector, multi-actor, multi-background, threatened species conservation movement (Chapter 3) with exploration of individual viewpoints and of social capital mechanisms in conservation collaboration (Chapters 4 and 5). I have done so by using threatened felids (species of big, medium and small wild cats), and the snow leopard in particular, as proxies. Therefore, my study raises certain issues of representativeness, including:

1) How representative is the array of conservation actors and effort for threatened felids
    - with respect to those for other threatened taxa,
    - with respect to other, perhaps non-threatened, species within the wider conservation movement?
2) How representative are;
    - the findings generated from analysis of narrative data gathered from the subsection of snow leopard conservation actors interviewed, with respect to the remainder of the snow leopard conservation network,
    - the above snow leopard findings with respect to other felids,
    - the findings about a threatened felid relative to threatened species in general,
    - findings about threatened species conservation relative to wildlife conservation in general?

In answer to 1): As highlighted in Chapter 1, felids are emblematic, engendering wide-ranging conservation effort, support and study data (e.g. Nowell & Jackson 1996; MacDonald, Loveridge & Nowell, 2010; Roberge, 2014). The conserving of felids is incentivised by the fact that, as apex predators, felids play key roles in maintaining the health of their ecosystems (Nowell & Jackson, 1996; Ray, 2005; MacDonald, Loveridge & Nowell, 2010) - achieving successful conservation outcomes for felids has wider benefits for species that share their habitats. Felids - and other carnivores - face particular survival challenges (Macdonald et al., 2010; Ripple et al., 2014); biological traits render felids especially extinction-prone (Cardillo et al., 2004; Purvis et al., 2000), most species persist at naturally low densities and have widespread home ranges (Nowell & Jackson, 1996). In light of the above and since felid populations are in decline, globally (Di Marco et al., 2014), a wide-ranging array of strategies is recognised as necessary, and present, within the felid conservation toolbox (e.g. Kleiman & Rylands, 2002 and see Chapters 3, 4 & 5 for more details).

Threatened felids formed my study sample for Chapter 3 - felids classified by the IUCN Red List for Threatened Species as Critically Endangered, Endangered or Vulnerable (IUCN 2015). As noted in Chapter 1, a diverse array of threats face wildlife - indeed, different species face varying threats to differing degrees (e.g. Baillie et al., 2010; Böhm et al., 2013; Ripple et al., 2014). To account for this, the Criteria and Categories used in the IUCN Red List assessment process (IUCN, 2001) are designed to offer utility in assessing diverse taxa occurring in widely varying habitats via core threat-identifying and threat-calculating protocol that remains stable, to enable comparison over time and between taxa (IUCN, 2001). Different taxa will undoubtedly yield specific differences in actors and effort, marine versus terrestrial species, for example. However, the array of actor types and efforts identified by my study is extremely wide-ranging - reflecting diverse conservation strategies. It, therefore, likely encompasses the sectors and types of actors and categories of effort that would be found for other species and taxa classified as threatened by the IUCN under the related criteria. I, therefore, also propose that it is reasonable to consider an exploration of conservation actors and effort for threatened felids to yield a reasonably representative picture of the array of constituent parts of the wider conservation movement.

However, it is likely that, due to the particular felid traits and aspects noted above, the vast array of actors and effort identified by my research may generously reflect those available within the wider conservation movement. As evinced by the findings within Chapter 3, this rich array is not available to all species. For example, I found, in concurrence with others (e.g. Macdonald et al., 2010), that iconic, larger-bodied felid species tend to engender greater levels of support - irrespective of level of endangerment. Being classified as Critically Endangered (IUCN, 2015) does not necessarily galvanise a large and cohesive conservation response; I found numerous Critically Endangered and Endangered small- and medium-bodied cats seemingly passing 'under the radar' in this respect. Therefore, it follows that certain species from other taxa, less popular, or less well-known than the felids, likely do not benefit directly from the extent of the wide-ranging array of actors and effort identified in this study. However, in the same manner as effort for an iconic felid can aid other species that share its habitat (Ray, 2005; MacDonald et al., 2010), some less well-known species of other taxa may benefit from the efforts on behalf of their better-known sympatric species, or better-known taxa members.

The manner of exploration - data mined from the Internet - (the benefits and caveats of which are discussed in Section 3.5), enabled a particularly wide-angled view of the conservation movement for threatened felids - and facilitated identification of actors whose membership of the movement is not dependent on more traditional requirements for acceptance - those with pertinent knowledge and abilities, regardless of any 'traditionally-recognised' conservation background. My study was designed to examine the array of conservation actors and effort that may be present in the extant threatened species conservation movement; it does, indeed, show that all categories identified in these respects are not available to all - but it does, however, highlight the categories that may be made available. My findings do seem to indicate that the level of profile - how well-known, or how iconic, a species is - may well be an indication of the level of its conservation support, indeed others have also proposed so (Veríssimo, MacMillan & Smith, 2011). Therefore, with respect to actors and effort available for wildlife not classified as threatened, it is reasonable to propose that my findings may be extrapolated with the same caveats as above.

In answer to 2): The case study research structure is considered strong in contextual (or 'ecological') validity - the extent to which the situation under which the research is carried out represents 'real life' (Newing, 2011c). The case study method is recognised as a valuable tool to elicit holistic explanations of social and behavioural issues and has shown particular utility to studies on societal and community issues (Johnson, 2006). Though qualitative case study results are not necessarily expected to offer transferability to other scenarios (Yin, 2003), rigour and validity can be improved by careful attention to research design, for example by employing triangulation to corroborate data (Newing, 2011c) - comparing both recurrent and idiosyncratic patterns can expand confidence in external and internal validity.

In my research detailed in Chapters 4 and 5, the targeted sampling strategy used for participant selection involved several stages. It is detailed in Section 4.3.3, however, in summary: From initial identification of over 700 actors involved in snow leopard conservation, stages of qualitative social network analysis allowed identification of collaborative conservation-related initiatives, programs and scenarios - collaborative aggregates of snow leopard actors, or 'mini-networks'. Further analysis of these mini-networks enabled selection of a subsection embracing as wide a variety as possible regarding actors and effort, from which participants were carefully selected to represent a cross-section of sectors involved in these collaborative mini-networks, varied backgrounds, levels of role and all types of effort. Since inter-party interactions were a pivotal focus of the research, I considered it particularly important to choose participants who shared involvement in various scenarios of collective endeavours, to gain differing perspectives of the same situation. Details can be found in Section 4.3.3.

Data validity was increased by employing a high degree of triangulation during narrative data gathering (Newing, 2011a). Within-subject triangulation was used to corroborate data during an interview; similar aspects were addressed in modified form, from different angles at different stages, to allow later comparison of results. This also helped guard against potential order bias. By selecting participants who were party to various collective endeavours and scenarios, between-subject triangulation was utilised on the questions, comparing answers to further increase data validity (see Section 4.3.3). Data gathering continued until reaching the point of theoretical saturation, whereby the data was yielding no new themes (Glaser & Strauss, 1967).

Therefore, due to the reasons put forward in the preceding two paragraphs - in particular, the between-subject triangulation - and by virtue of the human nature of the mechanisms and themes in the study findings, it is likely that the findings generated by analysis of the data from the subsection of the snow leopard network can be applied to the wider snow leopard conservation network - and transfer more widely, to the conservation movement as a whole and wider. Indeed, this latter postulation is supported by the many parallels with social capital studies in natural resources management. It is also supported by the, albeit, small, additional element of between-subject triangulation described in 4.3.2.2 (whereby in addition to the snow leopard data, using the same thematic guide, supplementary interview data was gathered from actors on pertinent scenarios involving other felids (n = 11) and two other non-felid threatened species). The thematic findings from the data gathered in respect of these species, though a small sample, concurred with that pertaining to the snow leopard. It is acknowledged that to improve rigour on the above matter, it would be advantageous to run comparable case studies - if time and funding resources allowed.

Agrawal (2001) argued for a move towards more quantitative overviews of collaborative endeavour, as opposed to single case studies, to enable transferable results. It is true that external validity is not expected to be high in case studies. However, to achieve my research aims, I deem a case study using predominantly qualitative methods to be the most effective way to uncover the nuances of social capital building and operation.

In the spirit advocated by Borgerhoff Mulder (2007), this research has been enhanced by my own multidisciplinarity - and the varied attributes it bestows. Through a career that has spanned three and a half decades and various arenas, my own transferable experience across most aspects of conservation, at all levels and with parties from very diverse backgrounds - including communities, NGOs, governmental parties, the private sector, consortia - has given particular theoretical insight. My broadcasting years bestow particular attributes to the qualitative data gathering and interview processes, including the ability to be impartial and reflexive. This is important since it is advocated that conservation researchers be conscious of the effect they exert on their subject (Inskip, 2013). The breadth of my various leadership roles in conservation, animal welfare and broadcasting - and embracement of knowledge and skills from other fields - also gives valuable insight.

6.7 CONCLUSION

This thesis casts conservation in an optimistic narrative; in my humble opinion, a stance all too rarely taken. Multiple and complex issues - social, economic, political - impact survival of threatened species. My study attests to the impact of an optimistic approach towards our goals. Rooted in the power of optimism and positively-framed, empowered hope that is advocated to fuel conservation effectiveness and action (Knight, 2013), this research evinces novel pathways to understand the human dimensions of conservation collaboration, thus providing much-needed knowledge to aid conservation outcomes.

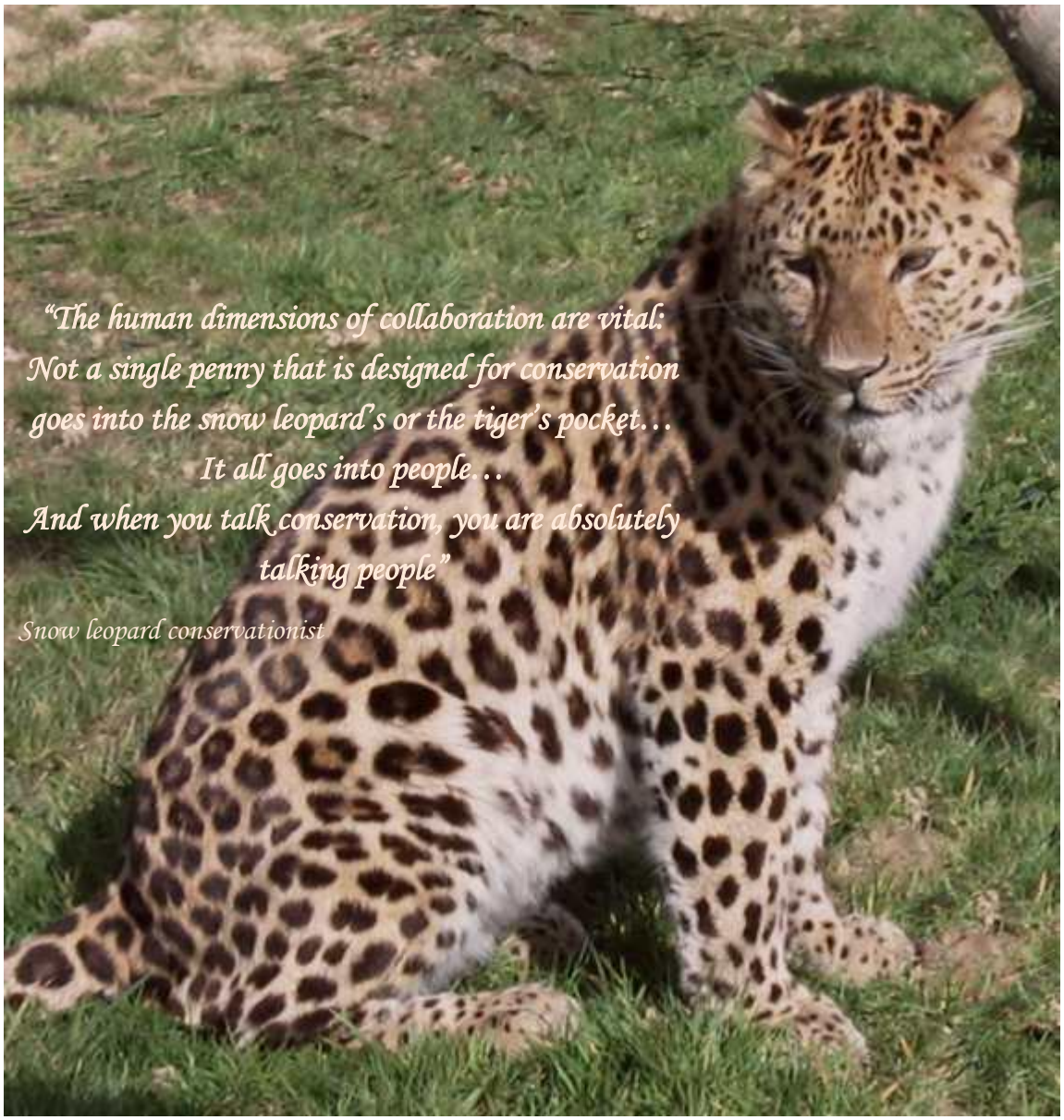
This study recognises the convergence of schools of thinking that can inform conservation; for example, synergies with differing thoughts on collaboration, such as from institutional (e.g. Ostrom, 1990) and evolutionary (Richerson & Henrich, 2012) perspectives. It also affirms parallels with social capital thinking in natural resource management (e.g. Rydin & Holman, 2004; Rydin & Falleth, 2006; Cramb, 2005). Other scholars advocate interdisciplinary collaboration (Borgerhoff Mulder, 2007; Chan et al., 2007) and have suggested pathways that may enhance doing so. These authors have been formative the conception of this project; I am indebted to them and all whose endeavours have stimulated this body of work. In taking up the baton, I now suggest that conservation requires us to think beyond any boundaries (and I would like to print the word 'any' in bold).

Chan et al. (2007) argue for better acknowledgement of social issues that surround conservation; I do agree. This thesis bears witness to what can be accomplished by doing so - and offers pathways. However, my view of these issues is a holistic one, which considers how each person in a collective impacts the other, no matter their background - conservation worker, herder, politician, academic. This study's findings show how we can allow social capital to imbue conservation efforts, no matter the societal background. The social capital that can aid threatened species conservation can be built by refusing to see any differences - social, cultural, geographic, economic, political, religious, professional or other - as boundaries. By embodying and practicing the mechanisms identified by this body of work, the conservation movement can engage all who are willing in empowering collaborative endeavour to aid threatened species, concomitantly aiding each other - and beyond.

The study witnesses the exchange of many resources between diverse conservation actors (individual and organisational) - however, I venture to suggest that the social capital vested in the links between these actors is the most fundamental of all resources. Within this threatened species conservation study, social capital is seen to be an extraordinary fuel to collaborative endeavour: It does incur some costs in its use - but these are far and away exceeded by the benefits it brings. Moreover, this study highlights a remarkable quality - social capital is a fuel that in its use is not consumed, but replenished exponentially - enabling its impact to be potentially boundless.

This study not only provides framework for practitioners of all sorts in conservation - but also transferable knowledge to aid partnership-building and globalised collective action embracing multiple backgrounds, cultures, sectors in any discipline and theatre. Numerous bodies, globally, from diverse backgrounds - governmental, NGO, zoo, academic, private sector, community groups in many felid range countries - and individuals are eagerly awaiting the recommendations arising from this research: 'Empowering Conservation Partnerships: A Toolkit for Multi-Party Conservation Collaboration'. This is highly encouraging - optimism is a 'good infection' worth catching. The conservation movement will benefit from nurturing efforts to change the conservation paradigm: Working together, we must more diligently help human interactions - supporting and empowering people to build good relationships - so that we can empower outcomes for wildlife and achieve our biological goals.

The problems conservation faces in staving biodiversity loss are 'wicked'; they require innovative solutions, time on time. This requires unprecedented collaboration - novel in its array of parties. This requires courage of all who decision-make and hold responsibility - at any level. It does not, however, require cold, steely, single-minded determination, but an altogether more valiant strength and bravery: To tackle the problems we are causing our wildlife, not at all costs, but in a holistic and caring way, whilst looking after our fellow humans - however, in the course of conservation, we may come across them. This is not the holy preserve of those who are somehow ordained as conservationists: Anyone can help and all help must be welcomed - there is not one skill or attribute that the conservation movement would not benefit from receipt of. Let the conservation movement be a bricolage of all that can be sought and willingly given; in this way, we have hope of our endeavours both stopping biodiversity loss and generating sustainable, wider benefits for our world.


"The human dimensions of collaboration are vital.
Not a single penny that is designed for conservation
goes into the snow leopard's or the tiger's pocket…
It all goes into people…
And when you talk conservation, you are absolutely
talking people"
Snow leopard conservationist

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APPENDIX A. NODE STATISTICS RESULTING FROM NETWORK ANALYSIS OF THE SNOW LEOPARD CONSERVATION PARTNERS AND THEIR AGGREGATES

(Top 250 of 770 actors, ranked by betweenness centrality)

Sector of Actor	Betweenness Centrality	Closeness Centrality	Edge Count	Indegree	Outdegree	Partner of Multiedged Node Pairs
NGO (*HUB A)	0.67471258	0.65217391	783	391	392	390
Alliance	0.34703665	0.56064073	332	166	166	164
Zoo (*HUB B)	0.14570977	0.40652655	177	89	88	88
NGO	0.11364139	0.49131016	168	83	85	83
Alliance (*HUB C)	0.05923242	0.48196721	109	55	54	54
Zoo (*HUB D)	0.01691898	0.3594132	137	69	68	68
Academic	0.0155526	0.36153468	14	7	7	7
NGO	0.01202092	0.4226567	34	17	17	17
GO	0.01165052	0.45794393	41	17	24	17
NGO	0.01059533	0.37634409	39	20	19	19
Academic	0.0103968	0.36082474	10	5	5	5
NGO	0.01000799	0.45314427	32	17	15	15
NGO	0.00908455	0.43007607	34	18	16	16
Alliance	0.00876624	0.44170673	41	13	28	13
GO	0.00812513	0.36242604	12	6	6	6
Academic	0.00780826	0.36047082	8	4	4	4
Community	0.00765937	0.40318157	25	13	12	12
NGO	0.00637241	0.44680851	29	15	14	14
NGO	0.00628535	0.44844417	33	17	16	15
GO	0.00612074	0.41292135	22	11	11	11
GO	0.00604856	0.41222658	25	13	12	12
GO	0.00592812	0.45036765	28	13	15	13
GO	0.00533163	0.36386139	12	6	6	6
GO	0.00526296	0.40924276	14	7	7	7
NGO	0.00522182	0.44330519	22	11	11	11
Academic	0.00521616	0.44038346	12	6	6	6
NGO	0.00521616	0.36011759	6	3	3	3
Academic	0.00521261	0.36011759	6	3	3	3
Community	0.00518122	0.41785105	22	11	11	11
Community	0.00495756	0.42048055	24	12	12	12
GO	0.00452152	0.41107383	19	10	9	9
GO	0.00429296	0.37196356	12	6	6	6
Academic	0.00383308	0.36064769	8	4	4	4

Academic	0.00369114	0.36805208	16	8	8	8
NGO	0.00362062	0.36064769	8	4	4	4
NGO	0.00352323	0.36117936	10	6	4	4
NGO	0.00346647	0.45652174	24	12	12	12
NGO	0.00332565	0.37234043	12	6	6	6
NGO	0.0033117	0.44518474	24	12	12	12
Alliance	0.0032989	0.40340285	194	186	8	8
GO	0.00326777	0.41525424	10	5	5	5
NGO	0.00319907	0.37290715	20	10	10	10
NGO	0.0031533	0.36458333	18	9	9	9
NGO	0.00311191	0.37945276	18	9	9	9
GO	0.00309626	0.36768384	12	7	5	5
GO	0.00296128	0.36585366	21	11	10	10
NGO	0.00294144	0.36314229	19	11	8	7
GO	0.00293736	0.40810661	17	9	8	8
Community	0.00276212	0.400982	16	8	8	8
GO	0.00260985	0.36100196	7	3	4	3
NGO	0.00260985	0.35976505	4	2	2	2
Academic	0.00260985	0.35976505	4	2	2	2
NGO	0.00246095	0.45258621	32	16	16	16
NGO	0.00242153	0.36512668	18	9	9	9
ZOO	0.00237043	0.45680547	18	9	9	9
NGO	0.00232587	0.44572468	19	10	9	9
Community	0.00229493	0.3990228	16	8	8	8
Alliance	0.00219689	0.39859002	194	186	8	8
NGO	0.00218635	0.44303797	20	10	10	10
NGO	0.00213182	0.36047082	11	5	6	5
Zoo	0.00191063	0.33731069	8	4	4	4
NGO	0.00184466	0.36916123	19	10	9	9
NGO	0.00182094	0.3675	10	5	5	5
GO	0.0017296	0.36350148	15	8	7	7
NGO	0.00170852	0.3740458	19	10	9	9
Academic	0.00168445	0.46081505	20	10	10	10
Academic	0.0015271	0.36117936	10	5	5	5
NGO	0.00150658	0.37290715	14	7	7	7
Zoo	0.00148752	0.41038526	12	6	6	6
Alliance	0.00140519	0.40562914	14	7	7	7
NGO	0.00133535	0.36224741	10	6	4	4
NGO	0.00125605	0.36621824	16	8	8	7
Academic	0.00125005	0.36117936	10	5	5	5
Community	0.00124778	0.33393912	12	6	6	6
Individual	0.00124128	0.45454545	12	6	6	6
NGO	0.00124116	0.3617126	8	4	4	4

Alliance	0.00111518	0.36971831	22	11	11	11
NGO	0.00105154	0.37252914	14	7	7	7
Community	0.00101927	0.36676647	10	5	5	5
NGO	9.23E-04	0.44653706	22	11	11	11
Academic	9.18E-04	0.36047082	12	6	6	6
GO	8.84E-04	0.33018868	11	6	5	5
Zoo	8.72E-04	0.40833333	6	2	4	2
Zoo	8.72E-04	0.40833333	6	2	4	2
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Zoo	8.72E-04	0.40833333	6	2	4	2
Zoo	8.72E-04	0.40833333	6	2	4	2
NGO	8.67E-04	0.3721519	14	7	7	7
Academic	8.57E-04	0.36047082	12	6	6	6
Academic	8.42E-04	0.36011759	8	4	4	4
Zoo	8.39E-04	0.40765391	4	2	2	2
Zoo	8.39E-04	0.40765391	4	2	2	2
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Zoo	8.39E-04	0.40765391	4	2	2	2
Zoo	8.39E-04	0.40765391	4	2	2	2
NGO	8.08E-04	0.36011759	5	2	3	2
Zoo	7.30E-04	0.28959811	4	2	2	2
NGO	6.88E-04	0.32250987	16	8	8	8
GO	6.86E-04	0.32944868	14	7	7	7
NGO	6.54E-04	0.36842105	14	7	7	7

GO	6.30E-04	0.36296296	8	4	4	4
NGO	6.19E-04	0.36768384	10	5	5	5
GO	6.05E-04	0.36011759	4	2	2	2
NGO	6.02E-04	0.31276596	6	3	3	3
Individual	5.88E-04	0.33093201	4	2	2	2
GO	5.21E-04	0.32768613	12	6	6	6
NGO	5.08E-04	0.33242877	10	5	5	5
GO	5.04E-04	0.32637655	8	4	4	4
Alliance	4.92E-04	0.42857143	16	8	8	8
NGO	4.91E-04	0.37925697	18	9	9	9
Zoo	4.90E-04	0.44117647	12	6	6	6
GO	4.54E-04	0.3209607	10	5	5	5
Zoo	4.53E-04	0.33303126	10	5	5	5
Community	4.39E-04	0.33242877	18	9	9	9
NGO	4.09E-04	0.39601293	7	3	4	3
NGO	4.08E-04	0.33137962	10	5	5	5
GO	3.97E-04	0.33152909	16	8	8	8
NGO	3.60E-04	0.33870968	15	8	7	7
GO	3.50E-04	0.36621824	8	4	4	4
GO	3.24E-04	0.31144068	6	3	3	3
GO	3.16E-04	0.36011759	4	2	2	2
NGO	3.15E-04	0.45342381	10	5	5	5
NGO	2.86E-04	0.31818182	5	2	3	2
NGO	2.63E-04	0.37252914	10	5	5	5
NGO	2.58E-04	0.44117647	15	7	8	7
GO	2.27E-04	0.36011759	4	2	2	2
GO	2.27E-04	0.36011759	4	2	2	2
GO	2.24E-04	0.36011759	4	2	2	2
GO	2.23E-04	0.3664008	10	5	5	5
GO	2.18E-04	0.32827155	6	2	4	2
GO	2.14E-04	0.32930108	15	7	8	7
GO	1.92E-04	0.36047082	4	2	2	2
Private	1.84E-04	0.34377923	14	7	7	7
GO	1.80E-04	0.35976505	4	2	2	2
Community	1.72E-04	0.27292982	10	5	5	5
NGO	1.69E-04	0.44091182	8	4	4	4
NGO	1.60E-04	0.36135693	8	4	4	4
GO	1.43E-04	0.36135693	4	2	2	2
Community	1.43E-04	0.33152909	14	7	7	7
GO	1.23E-04	0.3269573	10	5	5	5
NGO	1.13E-04	0.36296296	8	4	4	4
GO	1.13E-04	0.33303126	11	6	5	5
GO	1.09E-04	0.36011759	4	2	2	2

GO	1.09E-04	0.36011759	4	2	2	2
NGO	1.04E-04	0.36823647	10	5	5	5
Academic	9.37E-05	0.3713997	12	6	6	6
GO	9.30E-05	0.32681192	10	5	5	5
Zoo	8.75E-05	0.44011976	6	3	3	3
Zoo	8.75E-05	0.44011976	6	3	3	3
Zoo	8.75E-05	0.44011976	6	3	3	3
Academic	8.40E-05	0.37083754	8	4	4	4
GO	8.30E-05	0.32871199	11	6	5	5
NGO	8.30E-05	0.32194481	10	5	5	5
Zoo	8.07E-05	0.41478555	6	3	3	3
GO	7.88E-05	0.36153468	6	3	3	3
GO	7.88E-05	0.36153468	6	3	3	3
Zoo	7.83E-05	0.37102473	4	2	2	2
Zoo	7.83E-05	0.37102473	4	2	2	2
NGO	7.30E-05	0.33242877	10	5	5	5
GO	7.26E-05	0.31396839	8	4	4	4
Zoo	7.15E-05	0.3493346	4	2	2	2
Zoo	7.15E-05	0.3493346	4	2	2	2
GO	7.13E-05	0.30135301	9	5	4	4
GO	6.66E-05	0.35994123	4	2	2	2
GO	6.66E-05	0.35994123	4	2	2	2
GO	6.66E-05	0.35994123	4	2	2	2
GO	6.66E-05	0.35994123	4	2	2	2
GO	6.47E-05	0.36047082	4	2	2	2
GO	6.47E-05	0.36047082	4	2	2	2
GO	6.47E-05	0.36047082	4	2	2	2
GO	6.27E-05	0.32724844	8	4	4	4
Community	5.57E-05	0.33212833	8	4	4	4
NGO	5.41E-05	0.33288043	6	3	3	3
Community	5.24E-05	0.27830367	8	4	4	4
GO	5.01E-05	0.36135693	6	3	3	3
GO	5.01E-05	0.36029412	4	2	2	2
GO	5.01E-05	0.36029412	4	2	2	2
GO	5.01E-05	0.36029412	4	2	2	2
GO	5.01E-05	0.36029412	4	2	2	2
GO	5.00E-05	0.33048561	6	3	3	3
NGO	4.68E-05	0.33063428	4	2	2	2
GO	4.38E-05	0.31694696	11	6	5	5
GO	4.15E-05	0.32623169	8	4	4	4
Community	4.07E-05	0.27394707	8	4	4	4
Academic	3.64E-05	0.33137962	6	3	3	3
GO	3.50E-05	0.36189069	6	3	3	3

Community	3.50E-05	0.33123028	8	4	4	4
GO	2.95E-05	0.31956522	6	3	3	3
NGO	2.77E-05	0.32026144	6	3	3	3
GO	2.68E-05	0.33137962	6	3	3	3
NGO	2.58E-05	0.32536521	3	2	1	1
NGO	2.23E-05	0.36100196	3	1	2	1
NGO	2.04E-05	0.36713287	6	3	3	3
GO	1.95E-05	0.26913219	6	4	2	2
Private	1.80E-05	0.32124126	6	3	3	3
GO	1.60E-05	0.27579737	8	4	4	4
NGO	1.34E-05	0.31873374	4	2	2	2
Community	1.16E-05	0.26736995	5	3	2	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
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Zoo	1.04E-05	0.39772727	6	2	4	2
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Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
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Zoo	1.04E-05	0.39772727	6	2	4	2
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Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2
Zoo	1.04E-05	0.39772727	6	2	4	2

Zoo	1.04E-05	0.39772727	6	2	4	2

Actor Sector Key : NGO - Non-Governmental Organisation; GO - Governmental Organisation; Academic - Academic Institution; Alliance - Alliance body spanning more than one sector; Zoo - Zoological Institution; Community - Community Organisation; Individual - Individual actor not under auspices of any organisation

APPENDIX B. SAMPLE INTERVIEW GUIDE FOR CHAPTERS 4 & 5

Pre-recording: Greetings and thanks. Brief summary as to purpose of interview and structure, along with reassurance that comments will only be reproduced anonymously, or drawn upon to be analysed within the body of narrative data.

[Interview to follow interviewee's natural flow of thoughts; order variable; bullet points are prompts only.]

……

Are you happy to for me to start recording?

Please feel free to answer questions from whatever working perspective feels most appropriate, unless I specifically ask about a certain scenario.

1. To start with please can you give me a few sentences that describe how you mainly spend your working time with respect to the snow leopard?
2. Thank you. Now I'd like to ask you, briefly, about your working interactions: To clarify here, I'm not yet specifically asking about partnerships and collaborations, but any interchanges, at all in the course of your work. These interactions may be in person or virtual. What types of backgrounds do the people come from with whom you interact in the course of your conservation work?
3. Thank you. Now I am looking at collaborations and partnerships:
    - What do you feel are some of your major collaborative initiatives?
    - Can we take an example of one of these collaborations that you feel is really successful?
        - How did this collaboration begin?
        - What were the major factors driving you to collaborate?
        - Who started it?
    - Can you tell me about your input to the collaboration?
    - What are the major factors keeping the partnership going?
    - What do you think are the human-related reasons for the success of this collaboration - what qualities of the people help you work with them?
    - How do these human-related reasons help the outcomes of your collaborations?
    - What encourages you to invest time and effort?
    - What do you think gives your partners confidence to invest time and effort?
    - How does working in this collaboration make you feel?
        - What works well?
        - What doesn't work so well - and how could this be changed?

(*Q.3 repeated for particular scenario in certain cases, for triangulation purposes.*)

4. Can you tell me about one of your conservation collaborations that you consider more unusual?
        - What caused it to come it to about?
        - What are the incentives driving you to collaborate?
        - What are the major factors keeping the partnership going, giving momentum?
    - What qualities of the people help you work with them?
    - How do these human-related reasons help the outcomes of the collaboration?
    - Bearing in mind the nature of these initiatives, what gives you confidence to invest time/effort?
    - What do you think gives your partners confidence to invest time/effort with you?

- What are the key things that are different that are brought to the collaboration
    - Who brings these different contributions?
    - How are they facilitated?

5. Following on; across all the organisations and groups that you work with - with which body do you work with most? It may be one you've mentioned, it may not:
    - How would you describe the mission of this organisation/body?
    - How is it embodied in practice?
    - How do you feel about this mission and practice? Do they align with yours?
        - If so, in what way?
        - If not, what are the differences and how do you overcome them?
    - How does this impact your conservation outcomes?
    - Can you think of a partnership that doesn't go so well - no need to tell me who the parties are - why doesn't it go well? Any idea what would help fix it?
6. You work in partnership with bodies from very different backgrounds:
    - How often do you seek new collaborations?
    - What do you look for in working partners?
        - Is there anything else you look for to give you confidence to work together?
    - How do you build trust with new partners?
        - Any special practices specific to working together in the early days?
        - Does this differ according to the partners' backgrounds?
7. In what settings did you mainly interact with:
    - Repeat for each of: Governmental bodies/NGOs; Community members/groups/ zoos/ academic bodies / other conservation actors?
        - What practices do you find particularly helpful for engaging them?
    - What (else) do you do to understand the needs of your collaborators?
8. Do the characteristics of people that make you feel comfortable to work with them differ, depending on their background or any other factors?
9. What tends to hinder collaborations?
    - How do you help to overcome or accommodate these difficulties between parties?
    - How do you deal with practices, cultural, or otherwise, that may be counter to conservation goals - or things you don't understand?
10. Do you have a preference for collaborating with particular types of conservation actors?
    - If so which, and for what reason?
11. Now please can we look at collective working from a strategic viewpoint: I'd like to look at [*pertinent scenario given, for purposes of triangulation with responses of other collaborating parties*]
    - What processes did you go through to establish this working strategy with your partners?
        - In what setting did they take place?
        - Can you describe the importance of these processes to you and your work?
    - Did all parties develop the working strategy together?
        - Did any party lead on this?
        - Were there costs to you, if so what were they and their impacts on your work?
    - How was/is the implementation of this strategy aided by the partners?

- Were all implementing parties involved in the development of the strategy?

- (If not already addressed) In strategy development and implementation, by what mechanisms do you help to overcome or accommodate inter-party difficulties/resolve differences, conflicts?

12. What do you feel that you give to other people you encounter in conservation?
    - What do you feel other people you encounter in conservation give to you?
13. I'm looking now at flows of knowledge and working outputs, both formal and informal:
    - How do you, personally, share your knowledge and working outputs; where, with whom?
    - Do you personally, or in organisational capacity, use an online space for conservation purposes?
        - If so, how, in what circumstances? (If not, why?)
    - What are your sources of knowledge?
        - Where and how do you learn?
        - Do you learn collaboratively?
14. Do you meet with people from the wider snow leopard conservation network?
        - What form do these meetings take; are these formal and/informal activities?
        - How often?
        - What do you feel you gain from these meet-ups?
15. Is there a body/person within your conservation network that you regard as a focal point?
    - If so, why, what do they do?
16. There are people who once would have been regarded as unusual conservation actors, contributing highly effectively to efforts: How do you feel about them and their contributions?
17. To conclude, a look at individuals in conservation:
    - Please could you think of a person that you very successfully interact with outside your immediate working environment - no need to tell me who they are. How would you describe the qualities and ethos of this person?
    - How do these qualities help make your interactions successful?
    - Do any of their qualities hinder the interactions?
    - What is their role within their organisation?
18. What qualities do you think people working in conservation should possess?
    - Do you think these qualities are nurtured in you?
        - If so, how? If not, how could that be achieved?
19. What types of training and opportunities for growth do you receive?
20. Can you tell me about the qualities of people that inspire you?
        - How does this help your work?
21. And finally, please can I ask what you see as your personal goal conservation-wise?
22. Is there anything else that you'd like to tell me?

Thank you very much - for your time and this valuable contribution.

[Explanation of next stages of research and farewells.]

Appendix C. Summary of Participants (Chapters 4 & 5), Identified by Contributor Code, Sector and Effort

[REDACTED]

APPENDIX C

[REDACTED]

APPENDIX D. CODES USED IN NVIVO ANALYSIS

Code name
Ability to be a conduit, a bridge
Acknowledgement
Adaptation, change
Allowing others a personal inside view
Alignment of values
Altruism
Altruism paradox
Advocacy
Ambassador
Amplification
Beyond conservation arena
Bonding
Bracing
Brand value
Bridging, inc. across backgrounds, making pathways
Building social capital in difficult circumstances
Collaboration - interpersonal, other aspects
Collaboration - inter-organisational, other aspects
Conduit for problem resolution
Context - efforts to understand and acknowledge it
Convening conversations
Courage
Communication - bringing people together
Communication - listening *and* speaking, two-way
Communication - keeping channels open
Common culture
Common framework
Common goals
Common ground, common values
Common learning
Confidence
Creation of common values
Creativity
Critical individuals - key aspects
Cross-sector
Costs of collaborating
Courage, resilience
Demonstrable desire for good outcomes
Desire to make a difference
Desire to collaborate
Desire to give
Desire to reciprocate
Diverse offerings filling gaps
Different pathways to common goal

Differing types of gifts, reciprocity in differing forms
Diplomacy
Diversity in partners
Ecological-human parallels
Empathy - individuals
Empathy as a common culture
Empowerment
Encouragement
Enhancement of joint strategic implementation
Ethical treatment
Examples - showing tangible
Existing trust relationships
Existing partnerships
Facilitation
Feeling comfortable
Fuelling trust
Gifts beyond focal area
Giving to each other
Goals
Good 'peer pressure'
High standards - behavioural
Hindrances to interpersonal bond-making
Hindrances to inter-organisation bridging
Honesty
Hopes for future
Humility
Indigenous pathways
Influencing behaviour
Influential individuals
Informality - behaviour
Informal physical arena
Incentives to collaborate
Innovation, pushing boundaries, space to explore and take risks
Inspiration, motivation
Integrity
Interaction space
Internet
Investment in collaborative action
Investment in human dimensions
Impacts of lack of trust
Iterative review
Joint envisioning
Joint planning
Joint strategy development-linked action
Jointly-recognised priorities
Key actors' gifts
Knowledge exchange
Lack of compromise
Lack of boundaries

Lack of hierarchy
Lack of obstructive ego
Language
Leadership
Leading by example
Leverage
Media
Mist effect, common culture
Morphous boundaries
Mutual respect
Neutral arena
New norms, and the establishment thereof
New perspectives
Non-material exchanges
Norm-reciprocity link
Norms of behaviour fuelling action
Norms - other aspects
Open-mindedness
Openness
Operating social capital in difficult circumstances
Optimism
Overcoming differences
Ownership
Passion
Pattern of linkages
Paradoxical relationships
Personal goals
Physical presence
Positive energy
Potential bridges
Practicality leading to reciprocity
Practicality leading to common action and/or impact
Pride
Problem-solving
Proactivity
Reaching out
Receptiveness, non-judgemental stance
Reciprocity
Recognition of everyone's importance
Recognition of inter-actor differences
Recognition of different needs
Religion and religiosity
Respect
Responsiveness, practical steps, action
Room to grow
Satellites
Scoping arena
Seeing need
Shared ethos

Sharing experiences
Sharing expertise across different backgrounds
Showing solidarity
Simple gifts
Social media
Some common ground, some differences
Sources of knowledge
Specific purpose
Standing together in difficult circumstances
Strength in diversity
Strategic development
Strategic thinkers
Strategy as an inter-personal bond-maker
Strategy as an inter-organisational bridge
Strategic development as a human capacity builder
Strategy-linked arenas
Tangible examples
Teaching
Team empowerment
Time, timing, persistence
Transboundary
Transparency in communication
Training, capacity building
Trust built by reciprocity
Trust (interpersonal)
Trust framework
Trust-fuelled action
Trust - other aspects
Turning strategy into action
Unspoken norms
Value added
Valuing others
Vision
Virtual arena
Weathering the costs
Wider ripples