

Exploring the well-being and ecosystem services relationship through the capability approach

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As a thesis for the degree of

Doctor of Philosophy in Geography (Human)

In August 2016

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Abstract

This thesis investigates the relationship between ecosystem services and human well-being through a case study in Cornwall, UK. The study examines how aspects of the economic and socio-cultural environment interact and influence participants' constructs of well-being, as well as mediate, through mechanisms of access, their ability to benefit from ecosystem services. The research design is informed by Sen's capability approach as well as insights from literatures on access theory, human well-being, and ecosystem services. While Sen's approach potentially offers a novel means to explore the ecosystem services and well-being relationship, it is currently underutilised in this research context.

Adopting an in-depth qualitative research approach, data collection took place over 21 months with the same cohort of participants, who face various types of socio-economic disadvantage. Focus groups, life history interviews, photo elicitation, and semi-structured interviews were used to (a) elicit local constructs of well-being, (b) explore the role of ecosystem services for well-being, and (c) identify mechanisms of access that mediate participants' ability to benefit from valued ecosystem services.

The analysis shows that capabilities are interlinked and multidimensional. Therefore, existing socio-economic constraints have important implications for capability formation, and also lead to a series of trade-offs in converting capabilities into well-being. The findings deliver new insights into existing conceptualizations of the ecosystem services and well-being relationship, highlighting the role of cultural practices as sources of well-being, and identifying cultural ecosystem services as an overarching theme rather than a discrete service type. Four types of access mechanisms emerge from the data, including psychological mechanisms, demonstrating that physical distance is an insufficient indicator of exposure to ecosystem services.

The thesis concludes by suggesting that developing a capability theory for ecosystem services could aid disaggregated analyses and deliver more nuanced insights into the complex links between ecosystem services and well-being, by shifting the focus from outcomes to opportunities and the processes that contribute to particular outcomes.

Table of Contents

Acknowledgements..... **Error! Bookmark not defined.**

Chapter 1. Introduction.....	10
1.1 Introducing the research problem: the empirical and theoretical gap	10
1.2 Research aims and questions.....	14
1.3 Thesis outline	16
1.4 Summary	18
Chapter 2. Ecosystem services' contribution to well-being: insights from the literature	19
2.1 Introduction.....	19
2.2 Different conceptualizations of well-being	20
2.2.1 Is more, better? The economics of well-being.....	20
2.2.2 Happiness, life-satisfaction and subjective well-being: lessons from the field of economics and psychology	21
2.2.3 Sen on happiness and utility	25
2.2.4 Fact or fiction? The 'poor, but happy paradox'	27
2.2.5 Some explanations from the literature: aspirations and adaptation	28
2.2.6 A need for a more holistic conception of well-being	32
2.3 Ecosystem services' contribution to well-being	34
2.3.1 From metaphor to paradigm: ecosystem services and human well-being	34
2.3.2 The promises and perils of the economic valuation of ecosystem services	40
2.3.3 Disaggregating ecosystem services.....	41
2.3.4 Cultural services and benefits: recognizing multiple values.....	43
2.4 A tale of two worlds: well-being and ecosystem services in developed and developing countries.....	44
2.4.1 Ecosystem services for poverty alleviation.....	45
2.4.2 Health, healing and well-being in natural environments	46
2.5 Theoretical framework: from ecosystem services to capabilities	49
2.5.1 A capability approach to ecosystem services and well-being	51
2.6 Conclusion.....	55
Chapter 3. The Cornish 'well-being paradox'	57
3.1 Introduction.....	57
3.2 Conceptualizing poverty, deprivation and disadvantage in a developed country setting.....	57

3.3	A brief overview of economy and industry.....	60
3.4	Is Cornwall poor, but happy?	66
3.4.1	Objective well-being: monitoring deprivation	66
3.4.2	Subjective well-being: Life in the UK 2012	72
3.5	Summary	74
Chapter 4.	Research design and methods	75
4.1	Introduction.....	75
4.2	Research design.....	75
4.2.1	Ontology and epistemology underpinning data collection and analysis ..	75
4.2.2	Case study approach.....	76
4.2.3	Sampling and participant recruitment.....	77
4.2.4	Ethical considerations.....	80
4.3	Data collection	81
4.3.1	Data collection approach rationale	81
4.3.2	Focus group workshops: local construct of well-being and capabilities ..	83
4.3.3	Photovoice: well-being sources and valued capabilities	88
4.3.4	Semi-structured interviews I: life histories and photo elicitation.....	91
4.3.5	Semi-structured interviews II: capabilities and access	94
4.3.6	Participant observation: additional insights	96
4.4	Data analysis	96
4.4.1	Participants as active data analysts	97
4.4.2	Thematic analysis	98
4.5	Summary	99
Chapter 5.	The pursuit of well-being: freedoms, constraints and multidimensional capabilities.....	102
5.1	Introduction.....	102
5.2	Local constructs of well-being	103
5.2.1	Valued capabilities	104
5.2.2	Capabilities, relatively speaking	105
5.3	Capability formation	108
5.3.1	Access.....	108
5.3.2	Affiliation	111
5.3.3	Security	120
5.4	Negotiating well-being	123
5.4.1	‘We don’t live our lives in compartments’: multidimensional capabilities.....	124

5.4.2	'You can't always come to an agreement on how you'd like to live': trade-offs between capabilities.....	131
5.5	Irreducible social capabilities: socially and contextually conditioned well-being	133
5.6	Summary	138
Chapter 6.	From social constructs to capabilities: bridging the gap between ecosystem services and well-being.....	139
6.1	Introduction.....	139
6.2	Environmental encounters	140
6.2.1	Situating encounters.....	140
6.2.2	What determines engagement with natural environments?.....	141
6.2.3	Constructing ecosystem services.....	144
6.3	Sources of well-being	145
6.3.1	Well-being from ecosystem services.....	145
6.3.2	Well-being from cultural practices	151
6.4	Types of well-being.....	157
6.4.1	Satisfying fundamental needs.....	158
6.4.2	Positive emotions	159
6.4.3	Relationships.....	163
6.4.4	Ecosystem services as sources of learning and inspiration.....	165
6.4.5	Healthy environments and salutogenic ecosystem services.....	169
6.5	Reframing the ecosystem services and well-being relationship: the role of culture and social constructs.....	174
6.6	Summary	180
Chapter 7.	Access and capabilities	182
7.1	Introduction.....	182
7.2	Access to environmental spaces.....	184
7.2.1	Rights-based access: 'I got the feeling that I was trespassing'	185
7.2.2	Physical mechanisms: 'As you get on in years, a ten minute walk is not short'	190
7.2.3	Structural and relational mechanisms: 'I haven't been on the beach in years, because I don't have anyone to go with'.....	194
7.2.4	Psychological mechanisms: 'When it's on your doorstep, you sometimes don't go'.....	198
7.2.5	The interlinkages between access dimensions, ecosystem benefits and agency freedom.....	203
7.3	From environmental spaces to well-being experiences: the need for a socially differentiated approach.....	205

7.3.1	Access to environmental spaces – more than proximity?	205
7.3.2	Placing access within the ecosystem services and well-being relationship	208
7.4	Summary	211
Chapter 8. Conclusion.....		213
8.1	New insights into ecosystem services and well-being	213
8.2	Synthesis of empirical findings.....	215
8.2.1	Local well-being constructs.....	215
8.2.2	Ecosystem services and well-being relationship	217
8.2.3	Access mechanisms	220
8.3	Placing the social in ecosystem services	221
8.4	Conclusion.....	225
Bibliography.....		235

List of figures

Figure 2.1: GNP and subjective well-being in the US between 1947 and 1998.	23
Figure 2.2: Aesop's fox and the grapes.	32
Figure 2.3: Three dimensional well-being: from a static (outcomes) model to a dynamic (processes) understanding.....	34
Figure 2.4: The MEA's classification of ecosystem services and components of human well-being	36
Figure 2.5: The cascade model of the delivery of benefits by ecological processes ...	37
Figure 2.6: The UK NEA's conceptual framework	38
Figure 2.7: Cultural ecosystem services conceptual framework	39
Figure 2.8: SPACES conceptual framework: social and ecological links between ecosystem services and well-being	40
Figure 2.9: Socially mediated capabilities	51
Figure 2.10: Empirical and theoretical gaps in current conceptualizations of the ecosystem services and well-being relationship - demonstrated using the MEA conceptual framework.....	56
Figure 3.1: Example of Great Western Railway publicity promoting Cornwall	64
Figure 3.2: House price/Income affordability for low income/low cost property.....	66
Figure 3.3: Second homes across Cornwall in 2009	66
Figure 3.4: IMD 2010 for Cornwall	69
Figure 3.5: IMD 2015 for Cornwall	70
Figure 3.6: Number of people received emergency food supply from foodbanks - a regional breakdown	72
Figure 4.1: Layered approach to data collection: getting to the core of the ecosystem services - well-being nexus.....	84
Figure 4.2: Pile sort – well-being components.....	86
Figure 4.3: Spider diagram drawn during a focus group workshop.....	87
Figure 4.4: Example of pairwise ranking results	88
Figure 4.5: Example timeline.....	93
Figure 5.1: Ranked capabilities	106
Figure 5.2: Three mediating factors of capability formation	109
Figure 5.3: 'The beach is my life' - Cornish beaches and identity. Porthmeor beach in St Ives (left) and Gwithian beach (right)	117
Figure 5.4: From valued capabilities, through effective opportunities to well-being ..	137
Figure 6.1: Environmental spaces through which ecosystem services are experienced	142

Figure 6.2: Three types of supporting services contribute to well-being (from left to right): habitat provision, natural features and compost/nutritious soil. Photos by Laura, Wendy and Marie	147
Figure 6.3: Regulating sense of place (from left to right): after the storm – the empty harbour, harbour bulks protect from the force of the stormy sea, order is restored....	149
Figure 6.4: Changing seasons not only inspire changing perceptions, but also contribute to cultural benefits	151
Figure 6.5: Porthminster Beach, St Ives: a landscape full of memories	154
Figure 6.6: Sensory landscape: 'everything about Cornwall I love'	155
Figure 6.7: Cognitive nature (from left to right): magpie in Dan's garden, Charlie's bird heaven and David's discovery.....	156
Figure 6.8: 'Running across the beach...makes you feel happy'. Photos by Louisa (left) and Wendy (right)	161
Figure 6.9: 'Grateful to be alive': sensory experiences and positive emotions. Photos by Wendy.....	162
Figure 6.10: Social spaces: 'that's where we all come together'	165
Figure 6.11: Inspiration in unexpected places: 'I saved him and made him into something'. Photo by Marie.....	167
Figure 6.12: Art as a coping strategy: 'It's something I've done since I've been ill. Photo by Charlie	168
Figure 6.13: A quest for inspiration. Photo by Laura	168
Figure 6.14: Photographs contribute to the sense of achievement. Photo by David .	173
Figure 6.15: Reframing existing mainstream conceptions of the ecosystem services and well-being relationship.....	179
Figure 7.1: The four access mechanisms influencing people's ability to access ecosystem services	186
Figure 7.2: Definition of coastal margin, to include beaches, Source: The Access to the Countryside (Coastal Margin) (England) Order 2010	189
Figure 7.3: Interlinkages among the different access mechanisms	204
Figure 7.4: From environmental spaces to well-being experiences	211

List of tables

Table 2.1: Two components of subjective well-being.....	26
Table 2.2: Key terms in aspiration theory	31
Table 2.3: 3D model of well-being	33
Table 2.4: Inventory of key definitions applied in the thesis	55

Table 3.1: Summary of key terminology and concepts used to discuss poverty and disadvantage in the UK.....	61
Table 3.2: Economic indicators for 2012: Cornwall vs. England	65
Table 3.3: IMD domains, Source: Department for Communities and Local Government, 2011.....	68
Table 3.4: Cornwall on the UK Happiness Index	74
Table 4.1: Overview of 12 study participants (including 4 partial participants)	80
Table 4.2: Photovoice captions and aims	91
Table 4.3: Overview of research methods	102
Table 5.1: Ten valuable capabilities identified in the study and corresponding capability categories	105
Table 7.1: Explanation of elements demonstrating the ecosystem services and well-being relationship in Figure 7.4	212

List of boxes

Box 6.1: Cultural practices as the explanatory link between ecosystem services and well-being: bird watching.....	176
Box 6.2: Cultural practices as the explanatory link between ecosystem services and well-being: gardening.....	178

List of appendices

Appendix 1: Participant recruitment brochure/information leaflet	227
Appendix 2: Informed consent form	228
Appendix 3: Life history and photo elicitation.....	229
Appendix 4: Interview II: Capabilities and access to ecosystem services.....	231
Appendix 5: Examples of photo cards used as prompts during Interview II, Part 2 (access to ecosystem services)	233
Appendix 6: A detailed typology of access mechanisms governing the ability to benefit from ecosystem services	235

Chapter 1. Introduction

1.1 Introducing the research problem: the empirical and theoretical gap

This thesis investigates the complex interactions between ecosystem services and well-being. There is a growing body of research and literature - mostly within international development and environmental studies - which suggests that ecosystem services underpin and support human well-being. However, many of these generalized claims derive from research at a socially aggregated level. Therefore, this research draws on the capability approach (Sen, 1985; Nussbaum, 2000; Robeyns, 2005a) and conducts an in-depth and inductive inquiry into these complex linkages in order to fill existing theoretical and empirical gaps in the literature.

Measuring well-being is a common concern for governments, policy makers and researchers, who aspire to reveal and understand people's well-being within a particular geographic context at any particular time. A range of surveys is available internationally and nationally to fulfil this purpose, for example the European Social Survey, the Gallup World Poll or the Life in the UK reports (e.g. ONS, 2012, the results of which were published at the outset of this research). Most of these aim to provide quantitative evidence about the extent of human well-being, using data collected from representative samples of respondents. While today most well-being surveys aim for a comprehensive design, which incorporates objective and subjective dimensions of well-being, the information continues to be collected, analysed and interpreted in a rather reductionist fashion, providing little opportunity for new or unexpected insights to emerge. Survey questions are motivated by the purpose of quantification, generalization and comparison to a population, limiting scope for exploring how people construct their well-being. Instead, a top-down understanding or definition is applied to assess people's well-being within a deductive framework. Consequently, such approaches portray well-being as a static outcome or state. However, well-being is increasingly viewed as a process which continuously produces various states of being (Gough *et al.*, 2006; White, 2015). Following this rationale, my thesis employs a dynamic approach to studying well-being, focusing on the processes

that lead to well-being outcomes and experiences, rather than aiming to ascertain the outcomes themselves. The capability approach (Nussbaum, 2000; Robeyns, 2005a; Sen, 2008) serves as the overarching evaluative framework guiding the research design, methods and the analysis and interpretation of empirical data.

The terminology used to discuss different notions of a good life varies across the literature, ranging from quality of life (Costanza et al., 2007), through happiness (also referred to as subjective well-being or life satisfaction) (Diener, 1984; Diener, 2000; Ryan & Deci, 2001; Camfield, 2006) to economic well-being (Samuelson, 1947). While these are often used interchangeably (e.g. Easterlin, 2003), their meanings are qualitatively quite distinct. They do, however, each promote an interest in the different physical and mental states (e.g. being healthy or happy) that people can achieve. In contrast to such outcome-based interpretations of well-being, the capability approach emphasizes the opportunities people have to live the life they value (Sen, 1999b), lending itself to analyses which acknowledge the dynamic processes – specific to the contexts and circumstances of different stakeholder groups – that mediate the attainment of well-being outcomes.

By placing the focus on the effective opportunities (Robeyns, 2005a), the capability approach represents an epistemological departure from outcome-centred well-being research. What sets the capability approach apart is an interest in the range of options people have and the freedom and agency they are able to exercise in pursuing valued goals. Sen rejects both objective (utilitarian or economic) and subjective (happiness) perspectives on well-being as insufficient (Sen, 1983), because they fail to consider the processes by which the outcomes they describe are created. First, the utilitarian view assumes that income (Gasper, 2004) and the ownership of goods and commodities (Sen, 1999a) are a fair reflection of well-being. Second, Sen highlights that people sometimes report high levels of happiness or self-perceived well-being despite living amidst objectively poor conditions or even poverty (Sen, 1983), thus arguing that happiness is a mental state or functioning at best (Sen, 1985). Drawing on this line of reasoning, my research focuses on the opportunities available to participants, the contemplative processes leading to particular

choices about which alternatives to pursue, and whether these decisions are made in the space of freedom or whether they are impeded by constraints.

A growing body of literature suggests that interaction with the natural environment plays a key role in fostering well-being (e.g. Dasgupta, 2001; Haines-Young & Potschin, 2010; Keniger *et al.*, 2013). The concept of ecosystem services (Ehrlich & Mooney, 1983; MEA, 2005) explicitly highlights the relationship between the natural environment and human well-being. Several iterations of this relationship have been developed (MEA, 2005; Haines-Young & Potschin, 2010; UK NEA, 2011), which emphasise human dependence on the state of ecosystems and the availability of services. This anthropocentric and instrumental approach to nature, however, leads to a one-directional conceptualization of the process by which ecosystems contribute to well-being outcomes, paying little attention to people's subjectively perceived needs and perceptions of ecosystem services.

Therefore, the main objective of my research is to illuminate the complexities of the well-being - ecosystem services relationship through a capability lens (Sen, 1985). Ecosystem services are defined by the Millennium Ecosystem Assessment (MEA) (2005) as 'the benefits people obtain from ecosystems' (p.5). Although it is clear that ecosystem services contribute to human well-being, an improved understanding of the processes by which benefits from services occur is needed. In order to develop novel insights into how people experience benefits as a result of interactions with the environment, I treat ecosystem services as a socially constructed phenomenon, mediated by values, relationships and the social-cultural context (Latour, 2004; Barnaud & Antona, 2014; Chan *et al.*, 2016).

The MEA (2005) views well-being as a context-dependent multidimensional phenomenon. Although the MEA framework - building on Narayan's *Voices of the poor* (2000) - alludes to Sen's conceptualization of well-being in encompassing ideas of freedom of choice and action, to date, research focus remains mostly restricted to the more tangible aspects of well-being, which are easier to assess and measure (e.g. basic material for good life, health etc.) (e.g. Pereira *et al.*, 2005; Butler & Oluoch-Kosura, 2006; Calvet-Mir *et al.*, 2012). As a result, human freedoms to pursue valued goals continue to be somewhat neglected. My thesis aims to fill this gap and explores the ecosystem services and well-being

relationship *vis-à-vis* participants' freedoms, which are mediated by the broader socio-economic and cultural context.

The counterintuitive, and paradoxical, relationship between the high prevalence of socio-economic deprivation (South West Observatory, 2012; Cornwall Council, 2013c) and high self-reported well-being (ONS, 2012) in Cornwall, UK, provides the opportunity to empirically interrogate existing knowledge about the links between ecosystem services and well-being through a capability lens. The apparent 'well-being paradox' would suggest that people in Cornwall are happy regardless of socio-economic constraints. However, due to the inherent limitations of sampling design, it is unclear whose views are reflected by the Cornish results of the UK Happiness Index as the results are aggregated and it is not possible to differentiate between different constituents of the Cornish population (e.g. wealthy incomers versus deprived communities). The dataset is also only available at the county/unitary authority level. Explaining the 'well-being paradox' was not the motivation of the ONS study, and the presentation of these results in an aggregated and generalized manner means that doing so is beyond their remit.

It is important to note that while the contradiction between Cornish socio-economic and happiness statistics points towards a paradox, Sen (1983) highlights that it is not uncommon for people with poor socio-economic means to report higher levels of well-being than expected. Cornwall boasts an abundance of natural amenities, including areas of outstanding natural beauty and highly valued landscapes. Therefore, I explore the role of Cornwall's distinctive natural environment in mitigating the impact of socio-economic constraints on people's experiential well-being. The benefits of exposure to the natural environment are well-documented in the health literature (Hartig *et al.*, 1991; Kaplan, 1995; MEA, 2005; Mitchell & Popham, 2008; Wheeler *et al.*, 2012; White *et al.*, 2013a; Bell *et al.*, 2015). Some of these authors explicitly suggest that these benefits are felt more strongly by the most disadvantaged or deprived (Mitchell & Popham, 2008; Wheeler *et al.*, 2012).

Existing research on the environment - well-being linkages assumes that the aggregate availability of natural amenities and people's physical distance from

them are a fair reflection of interaction between people and the environment (e.g. Mitchell & Popham, 2008; Wheeler *et al.*, 2012). This parallels the underlying assumption of the MEA conceptual framework, which implies that the availability of ecosystem services inevitably leads to particular well-being outcomes. As such, both the MEA and existing research fail to differentiate between various groups of stakeholders who have different needs for and access to these services (Daw *et al.*, 2011).

A move beyond aggregate indicators is therefore required, warranting a context-specific disaggregated analysis. The disaggregated approach employed in this research recognizes that context matters for people's constructs of well-being (Deneulin & McGregor, 2009), their ability to access ecosystem services (Ribot & Peluso, 2003; Daw *et al.*, 2011) and their ability to convert these into benefits (Sen, 1985; Robeyns, 2005a; Polishchuk & Rauschmayer, 2012). Drawing on the capability approach, the thesis reveals how aspects of the socio-economic and cultural environment interact to influence people's constructs of a good life, as well as mediate their ability to attain desired 'beings' and 'doings'. By employing participatory and qualitative methods, I elicit a rich contextual understanding of the interaction between ecosystem services and well-being. As the capability approach to well-being shifts the focus from outcomes (functionings) to opportunities (capabilities), my research has the potential to deliver new insights on the dynamic processes by which ecosystem services contribute - alongside other factors - to well-being.

1.2 Research aims and questions

The research aims to illuminate the complexities of the well-being – ecosystem services relationship through the adoption of a capability lens (Sen, 1985). I depart from the outcome-based notion of well-being, which underpins the MEA conceptual framework, and instead focus on the effective opportunities (capabilities) available to participants and their freedom to achieve valued goals.

The empirical component of the study is organized around three questions and several sub-questions:

- 1) How do disadvantaged people living in Cornwall conceptualize well-being?**
 - a) Which capabilities are valued?
 - b) What underpins the formation of capabilities?
 - c) What affects the conversion of capabilities into functionings?

The question sets out to develop a bottom-up contextual understanding of what it means to live a good life and which capabilities are instrumental in attaining well-being objectives. Capabilities are the effective opportunities participants have, whereas functionings are achieved states of being (well-being, or the lack of well-being). Of interest is the process of converting capabilities into functionings - i.e. opportunities into outcomes. I explore whether decisions and choices regarding which capabilities to pursue are made in the space of freedom or whether they are restricted by constraints. This reveals the extent to which well-being freedom and/or agency freedom are being exercised (Sen, 1985).

- 2) How do ecosystem services (if at all) contribute to participants' well-being?**
 - a) How are ecosystem services linked to well-being?
 - b) Which ecosystem services are most salient?

Beyond the empirical objective of establishing whether and how ecosystem services are conducive to well-being, the question also serves a purpose at a theoretical level. It interrogates existing conceptualizations of the well-being and ecosystem services relationship, including the MEA (2005), Haines-Young and Potschin's cascade model (2010) and the UK NEA (2011). Treating ecosystem services as socially constructed contrasts the linear and one-directional interpretation advocated by the aforementioned frameworks.

- 3) Which factors support/hinder access to ecosystem services?**
 - a) What types of access mechanisms mediate this process?
 - b) What is their relevance within a capability approach to ecosystem services?

The positive implications of exposure to natural environments are empirically linked with health restoration (Ulrich, 1984; Hartig *et al.*, 1991; Hartig, 2007; White

et al., 2013b; Hartig *et al.*, 2014) and experienced happiness (MacKerron & Mourato, 2013). A relationship between physical proximity (usually measured ‘as the crow flies’) to environmental spaces and positive health or well-being outcomes is assumed in a number of existing studies (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). While these studies make an important contribution to knowledge, they do not consider the access mechanisms which mediate people’s ability to benefit from environmental services. However, they do differentiate between different socio-economic groups, concluding that interactions with natural environments (e.g. parks, coastal areas) reduce income related health inequalities and most positively affect people within the most deprived quintile (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). However, this positive correlation is established based on the assumption that physical proximity inevitably leads to exposure and active engagement with such environments. This resonates with the MEA (2005) conceptual framework’s presentation, which suggests that the aggregate availability of ecosystem services leads to particular well-being outcomes. An implication is that vital differences between stakeholder groups might not be recognized (Daw *et al.*, 2011). The third research question thus challenges this simplistic view and aims to explore the mechanisms that affect the extent to which participants engage with their environment in Cornwall.

1.3 Thesis outline

The thesis consists of eight chapters, of which three report findings from empirical work carried out between Oct 2013 and July 2015 in Cornwall, UK.

Chapter 2 interrogates theoretical, conceptual and empirical work from the literature on well-being and ecosystem services. Different approaches to conceptualizing well-being are explored, and the merits of each of these are critically evaluated. The chapter then delivers a historical overview of the ecosystem services concept and its link to well-being. Sen’s capability approach is identified as an alternative to existing (outcome based) well-being theories, in that it acknowledges the importance of the opportunities people have for pursuing a desired way of life. The chapter concludes by identifying the capability approach as the underlying theoretical framework for the study, including a survey of existing research linking the capability approach to well-being and ecosystem

services. For clarity, the chapter also provides a list of definitions for key concepts used throughout the thesis.

Chapter 3 introduces the hypothesised Cornish 'well-being paradox' (high levels of socio-economic deprivation coupled with high self-reported well-being). As context plays a key role in determining participants' constructs of well-being and their ability to engage with and benefit from environmental services, this chapter provides a detailed overview of the economic and social-cultural history of Cornwall.

Chapter 4 outlines the research methods used for data collection. The selection of research methods is justified with an overview of existing applications, demonstrating their compatibility with the theoretical framework and overall research aims. The qualitative and participatory methods used here are well-suited for inductive and exploratory research approaches which allow for new insights to emerge.

Chapter 5 presents a list of valued capabilities deemed essential by participants for the achievement of well-being objectives. Here the focus is placed in the broad sense on all capabilities, including those not related to the environment. The chapter also elicits those factors that influence the formation of important capabilities. Finally, it explores whether decisions made in regard to which capabilities to pursue are made in the space of constraints or in the space of freedoms. Findings presented in the chapter highlight the multidimensional and interlinked nature of capabilities and trade-offs, and the implications of these for participants' ability to pursue valued 'beings' and 'doings'.

Chapter 6 focuses on participants' well-being, experienced as a result of interaction with the natural environment. From analysis of the empirical data, I elicit the multiple ways by which different ecosystem services contribute to well-being. Ecosystem services are treated as socially constructed, rather than 'given' or provided by nature. As such, new insights on the ecosystem services and well-being relationship are uncovered, challenging simplistic linear approaches.

Chapter 7 presents analysis of the mechanisms by which environmental spaces are accessed, as these mediate participants' ability to benefit from ecosystem services. Both access enablers and barriers are identified and classified into four overarching themes or access categories. These also include psychological mechanisms of access, which are currently under represented in the scientific literature on ecosystem services.

Chapter 8 synthesises the findings from the three empirical chapters and links these with the gaps in existing knowledge identified in Chapter 1. The chapter reflects on the empirical, theoretical and methodological merits of the research, and briefly highlights its implications for policy. It concludes by identifying the key contribution of the work and the novelty of the approach. I propose a possible future avenue for better integrating the capability approach into ecosystem services - well-being research.

1.4 Summary

The current chapter introduces the research problem by identifying the empirical and theoretical gaps in existing knowledge about the interlinkages between ecosystem services and well-being. I define and justify the three research questions, which guided the empirical aspect of my thesis, as well as provide a summary of the thesis structure for the benefit of the reader. As my work draws on different conceptualizations of well-being, various iterations of ecosystem services theories and the capability approach, I proceed by presenting a comprehensive review of this literature (Chapter 2).

Chapter 2. Ecosystem services' contribution to well-being: insights from the literature

2.1 Introduction

This chapter reviews current knowledge about ecosystem services and well-being and identifies existing gaps in the literature, which this thesis sets out to address. As a universally valid definition of well-being does not exist, first, this chapter provides a comprehensive overview of existing theories of well-being. I introduce two rather different sets of ideas around conceptualizing well-being - one of which is founded in economics, while the other grew out of psychology and advances happiness as equivalent to well-being. I then present an alternative vision of human flourishing proposed by Amartya Sen (Sen, 1985, 2008), who opposes both the economic and happiness approach.

As the objective of this thesis is to develop new insights into the multiple processes and mechanisms by which ecosystem services contribute to well-being, I discuss the overall merits and demerits of the ecosystem services framework and its current application. The potential for ecosystem services to contribute to human well-being is explored based on experiences from developed and developing country contexts. The thesis applies these terms to discuss the differences between the global south and global north. While these concepts are not perfect, as it is impossible (and incorrect) to conceive of these geographic contexts as neatly separated, this terminology dominates current discourse in the literature presented here. This distinction is also important because of differences in the extent of direct dependence on ecosystem services within these contexts. These differences are reflected in existing literature through an emphasis on particular themes and issues. For instance, research focusing on the global south emphasizes the potential contribution of ecosystem service to poverty alleviation (e.g. Pagiola *et al.*, 2005) , whereas similar work in the global north highlights the health benefits of ecosystem services (e.g. Wheeler *et al.*, 2012; White *et al.*, 2013a) which are often linked to recreation, leisure time activities and aesthetic experiences.

Finally, I review insights from recent work which applies the capability approach for better understanding the ecosystem service and well-being relationship. The chapter concludes by developing a conceptual framework for the thesis, and highlights the merits of applying the capability approach as the theoretical framework for unpacking the complex links between ecosystem services and human well-being.

2.2 Different conceptualizations of well-being

A large body of literature advances various conceptions of well-being. These range from purely economic conceptions, which equate welfare with well-being, to multi-dimensional theories, which consider the objective and subjective aspects of well-being. While traditionally governments and policy were guided by the more limited economic approach to well-being, there is an evident move towards alternative, more subjective, conceptions. A well cited example of this is Bhutan, where well-being is assessed based on a happiness index, as opposed to indicators of economic performance. This section discusses the merits of economic and subjective approaches to well-being and concludes by presenting an alternative vision: the capability approach. The capability approach rejects both economic utility and happiness as adequate indicators of well-being and champions a move from outcomes (whether assessed subjectively or objectively) to people's effective opportunities (i.e. what people can do and be).

2.2.1 Is more, better? The economics of well-being

Since the middle of the 20th century, per capita Gross Domestic Product (GDP) has been widely used to compare quality of life across countries, implying that economic output inevitably leads to the improvement of well-being. While GDP is not a measure of progress, changes in economic output over time are often interpreted to mean progress, and thus GDP is used as a proxy for well-being. Despite this, GDP is an inadequate reflection of well-being for a number of reasons. Firstly, GDP is an estimate of market throughput which is expressed in the value of the final goods and services produced in a given country and traded for money in a given period of time. It encompasses the flow of payments by households for goods and services, government expenditure, the value of net

exports and the value of a nation's stock of capital goods in a circular economy (Costanza *et al.*, 2009). It is thus evident that GDP is rather a measure of economic activity than a representation of well-being.

Secondly, this traditional conception of economic activity fails to account for the wider social and environmental context within which human economic activity takes place, and, even more importantly, which it relies upon (Costanza *et al.*, 2009). Conceptualizing well-being as GDP not only implies that economic growth - i.e. a positive change in GDP - leads to the improvement of well-being, but encourages activities which are destructive and jeopardise quality of life. For example, it justifies the depletion of natural resources to fuel growth, thus degrading ecosystems which produce much needed services for human survival.

In addition, GDP poses the danger of overlooking inequalities within society (Costanza *et al.*, 2009) by relying on aggregate country-level data which provides no information about the distribution of wealth within a given country, leaving little opportunity for intra-country social comparison. Furthermore, the environmental impacts of growth are not reflected in the metric of GDP. This is evidenced by the strange anomaly which sees environmental disasters boosting GDP due to the investment associated with rebuilding the affected infrastructure (e.g. following Hurricane Sandy in 2012 or the Deepwater Horizon oil spill in 2010) (Costanza *et al.*, 2014b). Does this, however, create well-being?

2.2.2 Happiness, life-satisfaction and subjective well-being: lessons from the field of economics and psychology

Therefore, is more also better? This question is best answered by interrogating the implications of the economic growth paradigm on well-being at the individual level. Economists use revealed preference theory (Samuelson, 1947) to measure *welfare* through people's consumption choices and assert that utility arises as a result of these choices (Sugden, 1993). It would be reasonable to expect then that with the rise of income, people's consumption will increase and so will their well-being. Diener and Seligman (2004), however, show that despite a steady increase in economic output following World War II, life satisfaction remained relatively unchanged in the United States (Figure 2.1).

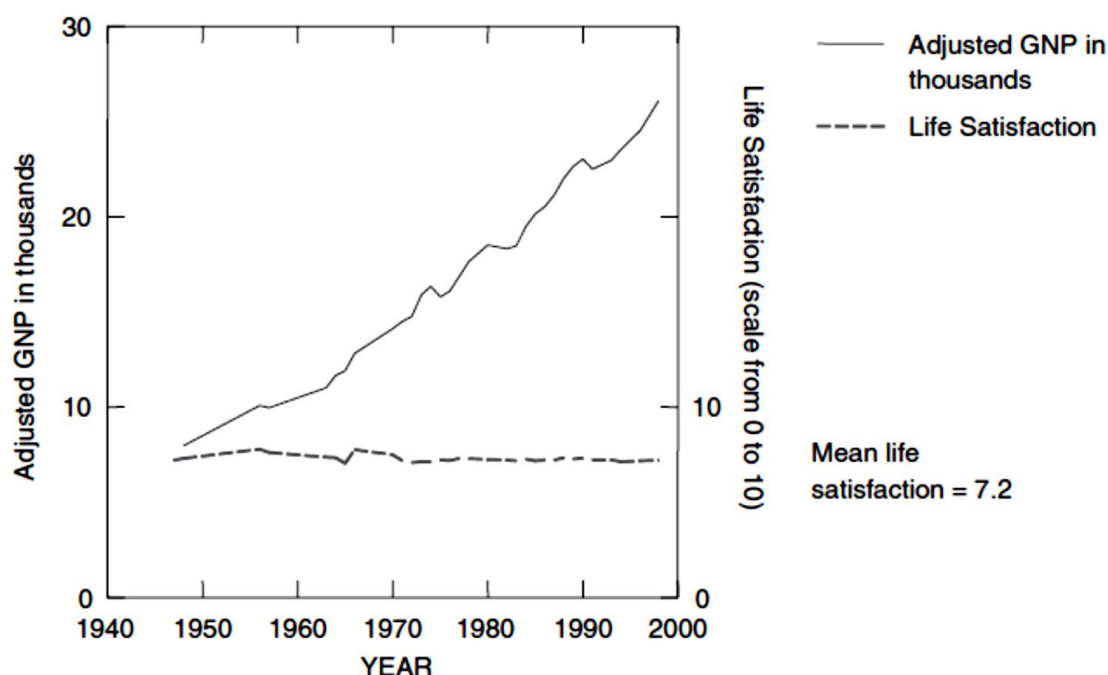


Figure 2.1: GNP and subjective well-being in the US between 1947 and 1998. Source: Diener and Seligman (2004).

Richard Easterlin (2003) also reveals evidence to this end using social survey data to examine subjective well-being. Easterlin uses the terms happiness, life satisfaction, well-being, utility and welfare interchangeably, to discuss experienced well-being (Easterlin, 2003). His results suggest that, in fact, as income increases and levels off, happiness remains relatively unchanged. This relationship is also referred to as the ‘happiness-income paradox’ or ‘Easterlin paradox’ (Easterlin, 1973). Kahneman and Deaton (2010) determine that an annual income of around \$75,000 corresponds to the income-happiness threshold, where ‘further increases in income no longer improve individuals’ ability to do what matters most’ (p.16492). In response to emerging criticism about the paradox, Easterlin and colleagues (2010) expand their analysis by including countries from five continents (some of which were rich, poor, ex-communist and capitalist) and subsequently prove that the paradox is upheld regardless of the political-economic context.

Elsewhere, Blanchflower and Oswald propose that well-being is U-shaped through the life course and focus on age, as opposed to income, as the key explanatory variable (Blanchflower & Oswald, 2008). Drawing on data from the General Social Surveys of the United States and the Eurobarometer Surveys, they find that well-being improves in older age, while people report the lowest

levels of satisfaction with their lives around the mid-40s in Europe and between their late 30s and early 50s in America. While these authors are not able to present a robust explanation for why this might be, it is suggested that aspirations and adaptation might influence experiential well-being (see section 2.2.5). It is worth, however, bearing in mind the role of time and temporality in well-being. People's understanding of what is well-being naturally changes throughout the life-course, together with their perception of whether or not it had been achieved (White, 2010).

In neoclassical economics an individual's utility is manifest in the extent to which his or her preferences are satisfied (Dolan *et al.*, 2008). People reveal their preferences through their market behaviour, when they make decisions regarding which goods or services to purchase and consume. In effect, these goods and services are the sources of human utility, or well-being. The utilitarian position – pioneered by the philosopher Jeremy Bentham – views well-being as a favoured state of mind (Dodds, 1997), which equates well-being with well-feeling or pleasure (Gasper, 2004). This follows from hedonic philosophical traditions which conceptualize well-being as happiness or pleasure (Ryan & Deci, 2001) that individuals seek to achieve. It is assumed by economists that individuals are rational, fully informed and self-interested agents seeking to maximize their utility (Dolan *et al.*, 2008). Kahneman and Krueger insist that subjective well-being should not be conflated with utility under any circumstances, as the former is designed to 'measur[e] features of individuals' perceptions of their experiences, not their utility' (Kahneman & Krueger, 2006: 4). The revealed preferences approach is concerned with consumption choices observed by a third party, instead of concentrating on individuals' own evaluation and judgement regarding their experiences (Easterlin, 2003).

Can, therefore, the choices manifested in revealed preferences be seen as adequate indicators of well-being? Philosophers promoting eudaimonic traditions would argue that they cannot be, as 'not all desires that a person might value would yield well-being when achieved' (Ryan & Deci, 2001: 145). Some outcomes may produce pleasure, yet not lead to well-being. For example, the consumption of alcohol and drugs, or smoking cigarettes might invoke feelings of hedonic pleasure in an individual and at the same time cause damage to his or her

physical health. On the contrary, eudaimonic conceptions refer to well-being as separate from happiness, unlike the hedonic approach which takes happiness, pleasure and well-being to mean the very same thing (Ryan & Deci, 2001; Gasper, 2004).

Despite this rejection of happiness as subjective well-being, the term continues to be used not only in the economics literature, but also in other scientific disciplines, including psychology. As Diener had noted, 'subjective well-being...in colloquial terms is sometimes labelled "happiness" (Diener 2000: 34). However, he refers to a normative definition of happiness - which is distinctive from the hedonic and utilitarian understanding of the concept - where it is not seen as a subjective state, but as possessing some desirable quality (Diener, 1984). This leads us back to the Aristotelian eudaimonic perspective which asserts the need for distinguishing between subjectively felt needs and those that are objectively valid (Ryan & Deci, 2001). This strand of thought also posits that happiness is not a separable output (e.g. utility as a result of the consumption of desired goods or services), but rather a form of fulfilment through acting in harmony with one's best potentials to engage in valued and meaningful activities (Gasper, 2010). Nevertheless, happiness in the normative sense is not established from people's self-judgements, but based on the value framework of the observer (Diener, 1984). This does, however, remove the 'subjective' from subjective well-being. Yet, from a practical, or empirical, perspective, subjective well-being focuses on people's own evaluations of their lives (Diener, 2000) through self-reports of life experience (Costanza *et al.*, 2007; White *et al.*, 2012), and relies on respondents' own standards to determine what constitutes a good life (Diener, 1984).

Veenhoven (1991) also equates happiness with 'life-satisfaction', and according to his definition it entails people's evaluation regarding how well they like the life they lead. Insights from the literature in psychology reveal that people's subjective evaluation of well-being are influenced by the inherent traits of their personality (Kahneman & Krueger, 2006). Therefore, 'happiness...[is] both a trait and a state' (Diener, 1984: 550), where the 'trait' implies a predisposition to experience certain levels of affect (Diener, 1984) that leads to a genetically predetermined level of happiness, also referred to as a 'set point of happiness' (Lucas *et al.*, 2003; Lykken & Tellegen, 1996). Diener (1984) and Veenhoven (1991) both conclude

that the evaluation of life-satisfaction should, therefore, be founded on two components: a) hedonic - the proportion of positive and negative affect¹ one experiences, and b) contentment - a cognitive assessment of how well one's goals and aspirations are met. Table 2.1 presents a summary of subjective well-being and its respective components.

Subjective Well-Being	
Cognitive Component: Life satisfaction	Affective Component: Happiness
<i>Contentment</i> - the degree to which one's aspirations are being met, or to what extent one has what one wants in life	<i>Hedonic</i> - the proportion of positive and negative emotions one experiences
<i>Judgement</i> - involves implicit self-reflection and assessment	<i>Experiential</i> - the extent to which one finds one's life enriching or fulfilling and the emotions one encounters in conjunction with life experiences

Table 2.1: Two components of subjective well-being. Adapted from: Diener, 1984; Veenhoven, 1991; Dodds 1997.

2.2.3 Sen on happiness and utility

Sen rejects both utility and happiness as appropriate indicators of well-being, or as he refers to it, the *standard of living* (Sen, 1983). According to him, Samuelson's revealed preferences approach is insufficient on two levels. First, it suffers from a 'physical condition neglect' (Sen, 1999a), being fully based on the mental attitudes of people. Second, it fails to account for the deliberative process that lies behind a person's choice between the different alternatives available to him - 'valuation neglect' (Sen, 1999a). Moreover, the utility approach implies that well-being is well reflected by people's income (Gasper, 2004), or their ownership of commodities and assets (Sen, 1999a). Sen argues that the 'right focus is neither commodities,[...], nor utility, but something that may be called a person's capability' (Sen, 1983: 160). Capability resides in a person's '*ability* to achieve valuable functionings' (Sen, 1985: 300), where functionings are understood to be the various 'beings' and 'doings' one can achieve, either in the form of activities (eating, reading, resting), or states of existence and being (being well-nourished,

¹ Affect in this context refers to the feelings and moods a person experiences as a result of life events. These can relate to life as a whole or to specific life domains (e.g. marriage or health).

being able to appear in public without shame, being free from disease)(Sen, 1985). Sen thus conceives of well-being as something that consists of *doing*, through human freedom and agency, and *being*, which involves both mental and physical states (Dodds, 1997).

According to Sen (1983) and Veenhoven (1991) a happy life is not necessarily a good life; people can be subjectively happy in objectively bad conditions. This may be due to adaptation through some form of social conditioning – such as religious and cultural indoctrination (Clark, 2009). The example of a ‘starving wreck, ravished by famine, buffeted by disease, [...] made happy through some mental conditioning (say, via the "opium" of religion)’ (Sen, 1985: 188), illustrates this well. It is feared by Sen that religious or cultural beliefs may well result in the justification and acceptance of hardships on poor people’s part. According to Sen (1985), happiness is, therefore, a mental state which ignores other aspects of a person’s well-being: ‘A grumbling rich man may well be less happy than a contented peasant, but he does have a higher standard of living than the peasant’ (Sen, 1983: 160).

To highlight the right focus for evaluating well-being, Sen proposes the example of having a bicycle. A bicycle is a good, or commodity, which can be owned, and which may bring utility or happiness to its owner. It also lends its owner the *ability* to move around in ways s/he could not do without it (e.g. faster, travel longer distances). This ability to move around, therefore, may result in happiness or utility through the person’s capability to function in a way that s/he desires or values. He warns, however, that the ownership or mere availability of a given commodity does not reflect what a person can effectively do (Sen, 1983). Let us suppose that the person in question is physically disabled and thus cannot use the bicycle. How could s/he then derive utility or happiness from having a bicycle s/he cannot, in fact, use? As Sen explains, utility as such does not concentrate on the use of the commodity itself, but rather on the person’s mental reaction to it. Therefore, if s/he is of a cheerful disposition, s/he may experience a mental reaction in the form of happiness, yet lack the ability to do the things s/he might value (such as moving around on a bicycle). Hence, while s/he is a happy person, s/he may not have a high standard of living.

Consequently, neither utility, nor happiness can serve as an adequate representation of well-being. Instead, Sen considers happiness to be a functioning, or a valued mental state (Sen, 2008). The failure to achieve happiness, according to him, can arise from two sources. Firstly, from within one's own life (e.g. through being ill, undernourished), and secondly, from external sources (e.g. the pain from sympathising with someone else's misery). Equally, one may experience happiness through the pursuit of 'other regarding objectives' (Sen, 2008: 277) - e.g. from the freeing of political prisoners in distant countries. While this may enhance the person's well-being - through the achievement of a valued functioning (happiness) - it does not contribute to raising his or her living standard, as it primarily concerns the lives of others'. Therefore, Sen asserts that 'other regarding objectives' should be excluded from the assessment of well-being (Sen, 2008).

2.2.4 Fact or fiction? The 'poor, but happy paradox'

The limitations of equating happiness with well-being have already been recognized by Campbell *et al.* (1976) in their book, *The Quality of American Life*, as they compare the connotations of the terms 'happiness' and 'satisfaction'. They have established that while happiness resonates an 'experience of feeling or affect', satisfaction implies a 'judgemental or cognitive experience', thus they have come to conceptualize satisfaction as the 'perceived discrepancy between aspirations and achievement' (Campbell *et al.*, 1976: 8).

Empirical evidence supports that the 'poor, but happy' phenomenon does seem to occur in practice. Biswas-Diener & Diener (2006) test the limitations of adaptation theory in three case study locations (two in towns in the USA and one in Calcutta, India), using homeless people as their subjects. They were interested in finding out whether those without a home adjust their expectations and adapt to the difficulty of their life circumstances. They find - counter-intuitively - that the sample of pavement dwellers in Calcutta demonstrate a higher level of subjective well-being than either of the two groups in the United States, although the latter are living in better conditions compared to those experienced by the homeless in India. The same authors report a similar observation about the East African Maasai, who - despite lacking access to health care, indoor plumbing or electricity

- reveal a comparable degree of subjective well-being to that of the 400 wealthiest Americans on the Forbes list (Diener & Biswas-Diener, 2003).

According to Clark (2009) adaptation to adverse material conditions should not be taken for granted. He asserts that while the 'poor and disadvantaged often report high levels of happiness and life satisfaction, they are still capable of imagining, articulating and demanding a substantially better or "good" form of life' (Clark, 2009: 26). To this end, White (2013) - largely drawing on Sen's work - introduces the concept of 'inner well-being' as a means to explore subjective perspectives on what people feel and think they are able to be and do. She uses a mix of quantitative and qualitative methods to tease out the subtle differences and inter-relations between various (e.g. economic, social relations) aspects of well-being in four extremely poor settlements in central India. She finds that while the quantitative survey instrument supports Sen's (1983) 'happy peasant' hypothesis, in-depth qualitative interviewing reveals people's awareness regarding the limitations of their economic circumstances. In accordance with other researchers (Diener & Biswas-Diener, 2003; Biswas-Diener & Diener, 2006), she finds two possible explanations for the dissonance between people's objective circumstances and the subjective evaluation of these. Judgements about the standard of living are based on social comparison, and hence they are inherently context-specific. Social relationships, as well as a sense of belonging and 'relatedness' (Ruta *et al.*, 2006), serve as a buffer against the negative effect of economic deprivation. It is thus evident that adaptation to circumstances can lead people to adjust their aspirations to more modest and achievable levels, while they do remain aware of their limitations.

2.2.5 Some explanations from the literature: aspirations and adaptation

2.2.5.1 Aspirations

The Oxford Dictionary defines aspirations as the 'hope or ambition to achieve something' (oxforddictionaries.com). Building on Arjun Appadurai's work, Ray uses the term to reflect the 'social grounding of individual desires' (Ray, 2006: 409). In his seminal essay *The Capacity to Aspire* Appadurai (2004) highlights

the significance of culture in shaping human ideals about desired future outcomes. According to him, aspirations are not formed in a vacuum; they are always born in interaction and are embedded in the cultural norms of social life. They emerge from a system of local ideas and beliefs about matters such as life and death or the significance of material goods versus social relations, to only name a few. Appadurai illustrates the subsequent variation in aspirations across different cultural contexts with the following example:

‘... aspirations about the good life, about health and happiness, exist in all societies. Yet a Buddhist picture of the good life lies at some distance from an Islamic one. Equally, a poor Tamil peasant woman’s view of the good life may be as distant from that of a cosmopolitan woman from Delhi, as from that of an equally poor woman from Tanzania’ (Appadurai 2004: 67).

For Ray (2006) the question of interest concerns not merely the circumstances under which aspirations are formed, but how they affect behaviour. He goes on to argue that it is neither aspirations themselves, nor the person’s standard of living that influence future behaviour, but rather the aspiration gap which is manifest in the discrepancy between the actual and desired standard of living. Observing peers within one’s cognitive window gives rise to aspirations, as well as informs one’s behaviour in pursuit of those aspirations. In essence, actions arise based on social comparison. For one, the lives, experiences and achievements of role models in one’s socioeconomic and spatial neighbourhood will ignite one’s motivation to attain a better standard of living - comparable to that of peers. On the other hand, it will also lead people to imitate and emulate the behaviour of role models. Table 2.2 presents an overview of key definitions within the theory of aspirations.

Ruta and colleagues’ (and the ESRC Research Group on Wellbeing in Developing Countries’) definition of quality of life is founded on a similar ‘gap’ hypothesis whereby ‘[q]uality of life is the gap between what a person is capable of doing and being, and what they would like to do and be’ (Ruta *et al.*, 2006: 10). Evidently, their approach to well-being is a convergence between aspirations theory and Sen’s capability approach, from which the notion of *expected or desired capability* was constructed. Thus quality of life is conceptualized as ‘the

gap between capability reality and expectations' (Ruta *et al.*, 2006: 10) – i.e. the things a person is actually capable of doing and being versus those that he or she would like to do.

Aspirations theory: Key terms and definitions	
Aspirations	Individual desires and hopes formed in a cultural and social context.
Aspirations window	The individual's cognitive neighbourhood – a zone of similar, attainable individuals. Aspirations are drawn from the lives, experiences and achievements of those in our aspiration window.
Aspirations gap	The gap that exists between the standard of living one aspires to and one's actual standard of living. The greater the gap, the harder it becomes to close it. The gap is closed through deliberate action – e.g. investment in education.
Capacity to aspire	A future oriented 'navigational capacity' which is unequally distributed among the poor and rich in society. The better off possess a wider array of resources, experiences and a better understanding of the relationships that exist between aspirations and opportunities in society.
Frustrated aspirations	If aspirations are formed based on unattainable peer examples, there is little incentive in taking action towards their achievement, leaving people unhappy and frustrated.

Table 2.2: Key terms in aspirations theory. Sources: Appadurai, 2004 & Ray, 2006.

2.2.5.2 Adaptation to circumstances

Aspirations are affected by people's 'adaptive preferences' (Elster, 1982) under which people align their aspirations with their possibilities. Elster uses the allegory of 'sour grapes' - inspired by Aesop's fable 'The fox and the grapes' - to explain the notion of adaptation. In Aesop's story the fox encounters some ripening grapes whilst strolling through the orchard (Figure 2.2). He leaps at the bunch, but after several failed attempts he surrenders and walks away muttering under his nose: "I am sure they are sour". Sen's reasoning that '[o]ur desires...adjust to circumstances, especially to make life bearable in adverse circumstances' (Sen, 1999b:62) offers an apt interpretation for the moral of the fable.



Figure 2.2: Aesop's fox and the grapes. Web source: [University of Massachusetts](#).

Clark (2009) distinguishes between two possible adaptation pathways. First, people adjust their aspirations downward as a result of their difficult circumstances. Secondly, they may embrace the example of successful peer achievements and align their aspiration upward. The first type of adaptation has frequently been the focus of attention in development literature (Elster, 1982; Sen, 1999b; Biswas-Diener & Diener, 2006; Clark & Qizilbash, 2008; Clark, 2009), because it strips people of the autonomy to choose (due to the constraints inherent to their situation) the kind of life they would value. Through Sen's capability lens this is indeed an undesirable outcome, one that impedes the achievement of well-being freedom, i.e. the freedom to pursue and achieve a valued objective, or functioning, and enjoy the corresponding well-being (Sen, 1985). Yet, as a result of downward adaptation, people living under deprived conditions might report high levels of life satisfaction and appear to be happier, or at least just as happy, as their better-off counterparts.

Diener (2000), writing in the field of psychology, attributes adaptation to the 'hedonic treadmill' (Brickman & Campbell, 1971) effect, which suggests that people's expectations rise with the increase of their accomplishments and possessions. Findings from research by Diener and Seligman (2004) are also indicative of this phenomenon (see Figure 2.1). According to this hypothesis, people also adapt to misfortune and adjust their aspirations and preferences to a level which is more within their reach, resulting in a state of 'hedonic neutrality' in the long-term (Diener, 2000). 'Setpoint theory' provides a possible explanation for adaptation (e.g. Easterlin, 2003; Lucas *et al.*, 2003; Lucas *et al.*, 2004; Diener *et al.*, 2006). It asserts that how people feel about life is largely determined by

genetics and personality, rather than external circumstances alone (Easterlin, 2003). For instance, major life events (e.g. accidents, divorce, and unemployment) only temporarily affect people's well-being, before returning to baseline levels – i.e. hedonic adaptation takes place. People become accustomed to their new circumstances and adjust their expectations accordingly.

2.2.6 A need for a more holistic conception of well-being

Evidently, economic and subjective theories present contrasting and partial accounts of well-being. Considering the subjective and objective aspects of a person's being in separation can bring about the 'poor, but happy' paradox (see Chapter 3), which, assumes that people can be subjectively happy amidst objectively bad conditions. However, as I demonstrate in this thesis, despite living in poor conditions, people can, and do, express a desire for a better way of life. Therefore, adaptation to circumstances and the acceptance of misfortune are insufficient for explaining the 'poor, but happy paradox'. Alternative, more inclusive approaches to well-being are called for.

To bridge the existing divide between purely objective and subjective approaches, the Wellbeing in Developing Countries Research Group (WeD) at the University of Bath proposes a more holistic framework of well-being. This is referred to as the three dimensional (or 3D) model of well-being. According to this framework, well-being is a social process which features three aspects (Table 2.3): material, relational and subjective (White, 2010).

Well-being dimensions	Components
1. Material	Assets, Welfare, Standards of living
2. Subjective	People's Perceptions of their positions (material, social and human)
	Cultural values and ideologies
3. Relational	Social: social relationships, access to public goods
	Human: capabilities, attitudes to life, personal relationships

Table 2.3: 3D model of well-being. Source: White, 2010.

The framework also presents these components in an interlinked fashion, as they do not exist in isolation from each other. Accordingly, well-being arises as a result of what people have, what they can do with their assets, and how they feel about the resulting outcomes and experiences. Thus, the objective circumstances of people and their evaluation of these are constructed in the context of social and cultural relationships (Gough *et al.*, 2006; McGregor *et al.*, 2007; McGregor, 2006). Coulthard and colleagues (2011) introduce the concept of ‘social well-being’ to emphasize the role of the societal context in constructing well-being.

In her recent paper, White (2015) proposes the term ‘relational wellbeing’, presenting an evolved version of the three dimensional model. The key difference lies in the dynamic representation of well-being (Figure 2.3), which is now seen as a ‘process or flow, something that happens, rather than a state to be achieved’ (White, 2015: 10). However, the idea that well-being is not merely an outcome, but a process which is continuously producing states of well-being is not novel, as it is recognized in earlier work by others (e.g. Gough *et al.*, 2006).

Relational wellbeing is governed by three types of processes: personal, societal and environmental (White, 2015), which conceptualizes these as a flow of reciprocally linked processes. Evidently, this refined model supports the consideration of the intimate links between environmental systems and processes, and human well-being (White, 2015).

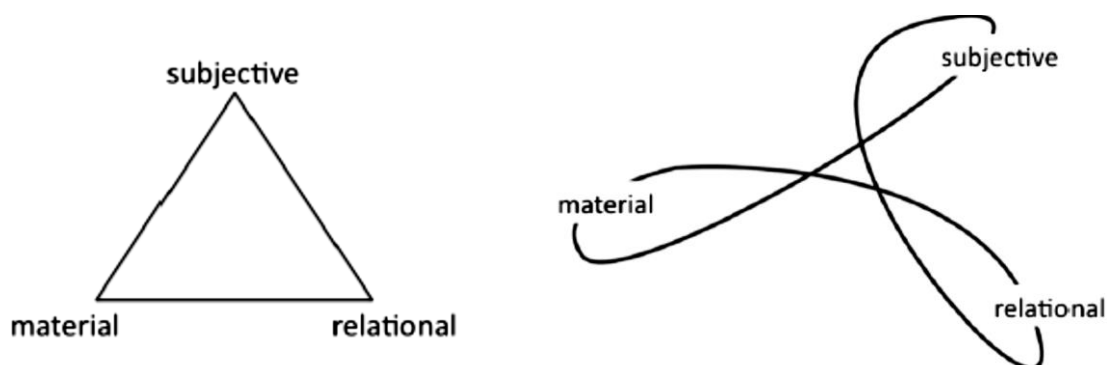


Figure 2.3: Three dimensional well-being: from the earlier static (outcomes) model to a refined and dynamic (processes) understanding. Sources: White, 2010 and White, 2015.

White (2015) compares relational well-being to the capability approach, as both approaches recognize the vital importance of context for well-being formation. The key difference between the two approaches, according to White (2015), resides in the 'view of the human subject' (p.5). While the capability approach takes an individualistic stance (Robeyns, 2000; Stewart & Deneulin, 2002; Robeyns 2005a; Alkire, 2008; Deneulin & McGregor, 2009), relational well-being is produced at the broader societal level at the interface of personal, social and environmental factors (White, 2015). While White admits that the capability approach is sensitive to the importance of context, she later seems to suggest that when applied in practice, the approach fails to reflect social and environmental processes. This is, however, contested by Robeyns (2005a) who postulates that the capability approach does in fact account for social structures and the environment through the very distinction between capabilities and functionings, and through the notion of conversion factors by recognizing the role of social and environmental factors.

This thesis, therefore embraces White's (2015) suggestion that well-being should be seen as a process, rather than an achieved state, and combines this with the principles of the capability approach, thus moving away from outcome-centred notions of well-being.

2.3 Ecosystem services' contribution to well-being

As the overarching objective of this thesis is to interrogate existing assumptions surrounding the contribution of ecosystem services to well-being, I now turn to reviewing and discussing the evolution of the ecosystem services concept into a paradigm that now shapes research and policy.

2.3.1 From metaphor to paradigm: ecosystem services and human well-being

Though the idea that nature provisions important services for humankind dates back as far as Ancient Greece, the ecosystem services concept only entered the modern scientific agenda during the late 1970s and early 1980s (Westman, 1977; Ehrlich & Mooney, 1983), and was initially intended as a metaphor to highlight

our dependence on the plethora of services derived from various natural processes. Ehrlich and Mooney explore the scope for substituting those services that become 'extinct' due to anthropogenic influences (e.g. desertification or deforestation) and conclude that substitution is not a sustainable long-term solution. Instead, the preservation of ecosystem integrity and biodiversity is essential (Ehrlich & Mooney, 1983).

The idea that human well-being depends on the integrity of ecosystems and their services was later seminally articulated by the MEA (2005) (Figure 2.3). The MEA defines well-being as 'experiential', rooted in what people value being and doing (MEA, 2003), and, building on Narayan's *Voices of the Poor* (2000), distinguishes between five main components (see Figure 2.4). The MEA's definition of ecosystem services, 'the benefits that people obtain from ecosystems' (MEA, 2005: 5), became widely adopted in science and policy following the publication of the report. Following the publication of the MEA, criticism of the framework and its application began to emerge (e.g. Boyd & Banzhaf, 2007; Wallace, 2007; Gómez-Baggethun *et al.*, 2010; Norgaard, 2010; Potschin & Haines-Young, 2011; Daw *et al.*, 2011; Chan *et al.*, 2012a).

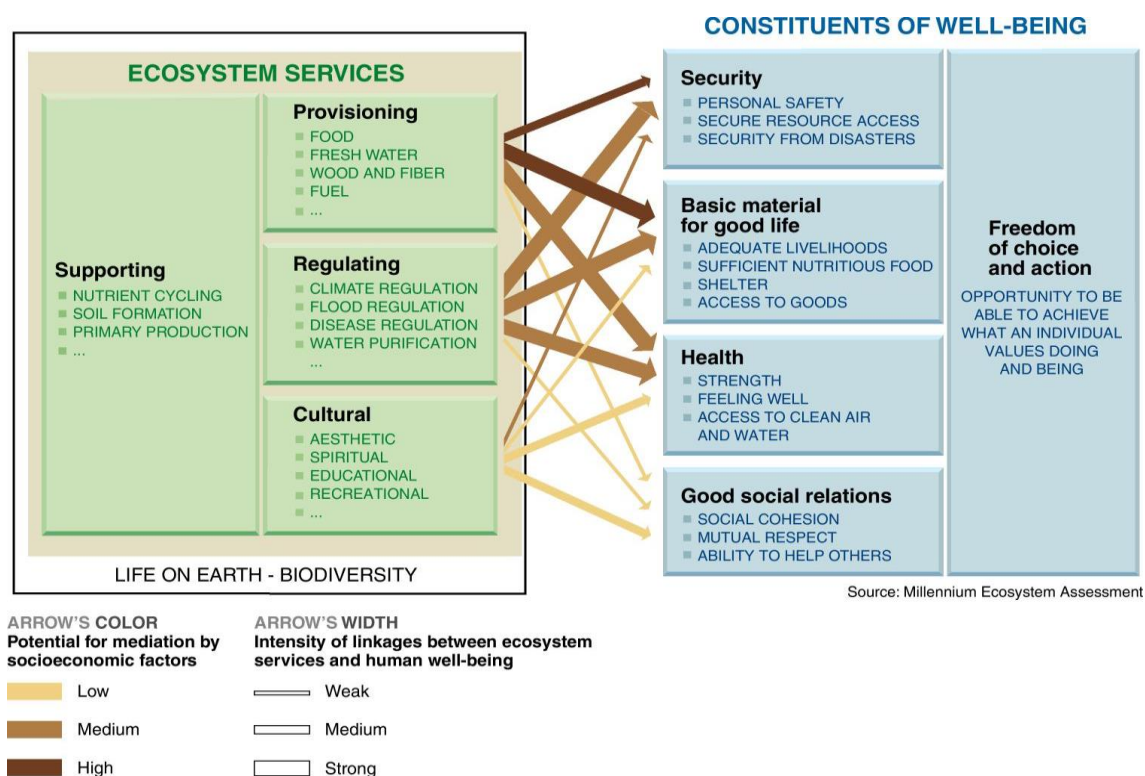


Figure 2.4: The MEA's classification of ecosystem services and components of human well-being. Source: MEA, 2005.

Some suggest that the MEA definition conflates the terms ‘services’ and ‘benefits’. The distinction between these is critical for monetary valuation if we are to avoid double counting (Wallace, 2007). As benefits are the actual improvement of a human’s well-being, they should be the ultimate focus of interest, and need to be distinguished from ecosystem services (Daw *et al.*, 2011). Fisher and Turner devise a more nuanced definition, mostly building on the works of Boyd & Banzhaf (2007) and Wallace (2007), which describes ecosystem services as the ‘aspects of ecosystems utilized (actively or passively) to produce human well-being’ (Fisher & Turner, 2008:1168). This refined definition represents an advancement on the MEA’s ‘stock and flow’ approach (Norgaard, 2010), which sees ecosystems as stocks that provide flows of services to people. Instead, the role of ‘beneficiaries’ in the generation of services is beginning to be recognized, i.e. that there are no services without people (Fisher & Turner, 2008; Rounsevell *et al.*, 2010; Potschin & Haines-Young, 2011).

In an attempt to further clarify the process by which ecosystems lead to human well-being, Potschin and Haines-Young develop the so called ‘cascade model’ (Haines-Young & Potschin, 2010; Potschin & Haines-Young, 2011), which presents the connection between biophysical processes and well-being in the fashion of a production chain, separating services from benefits (Figure 2.5).

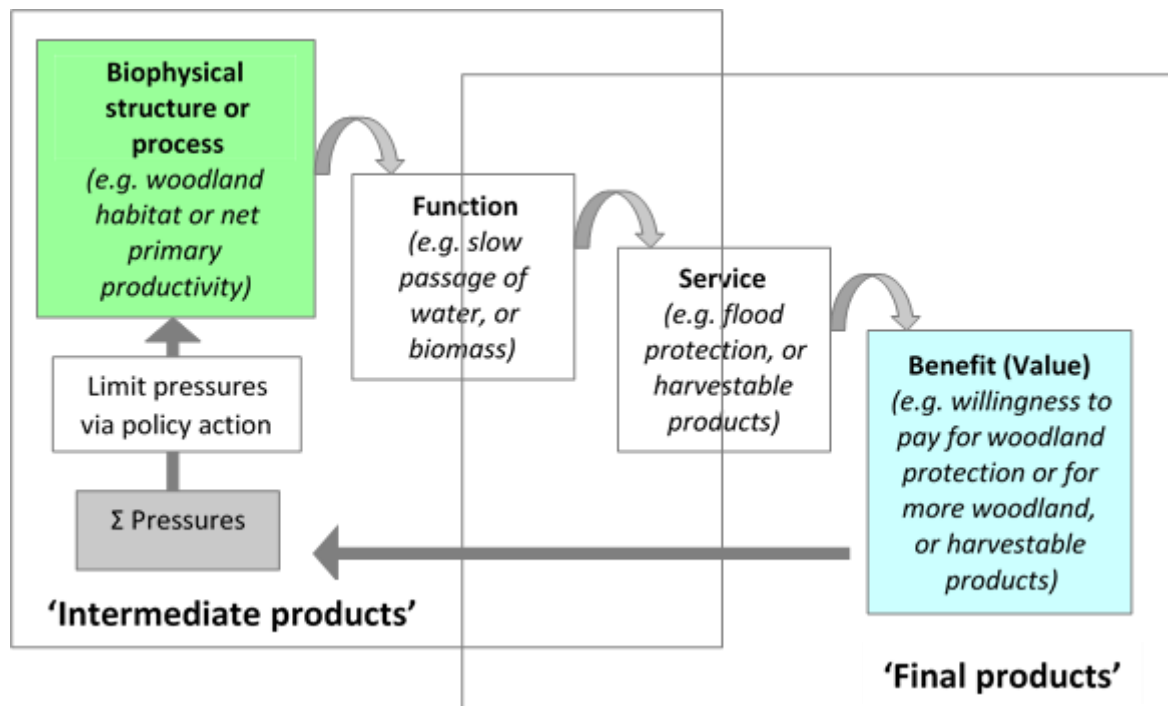


Figure 2.5: The cascade model of the delivery of benefits by ecological processes. Source: Haines-Young & Potschin, 2010

The UK's National Ecosystem Assessment (UK NEA) further fine-tunes the classifications put forward in the MEA and the cascade model and articulates a three-fold distinction between (i) ecosystem processes and intermediate services, (ii) final ecosystem services and (iii) goods (UK NEA, 2011). This framework accounts for the role of humans in co-producing ecosystem goods by acknowledging capital inputs. The framework also recognizes multiple types of values, which are broadly categorised into individual, incorporating an economic (£) and health (+/-) aspect, and shared social values (😊).

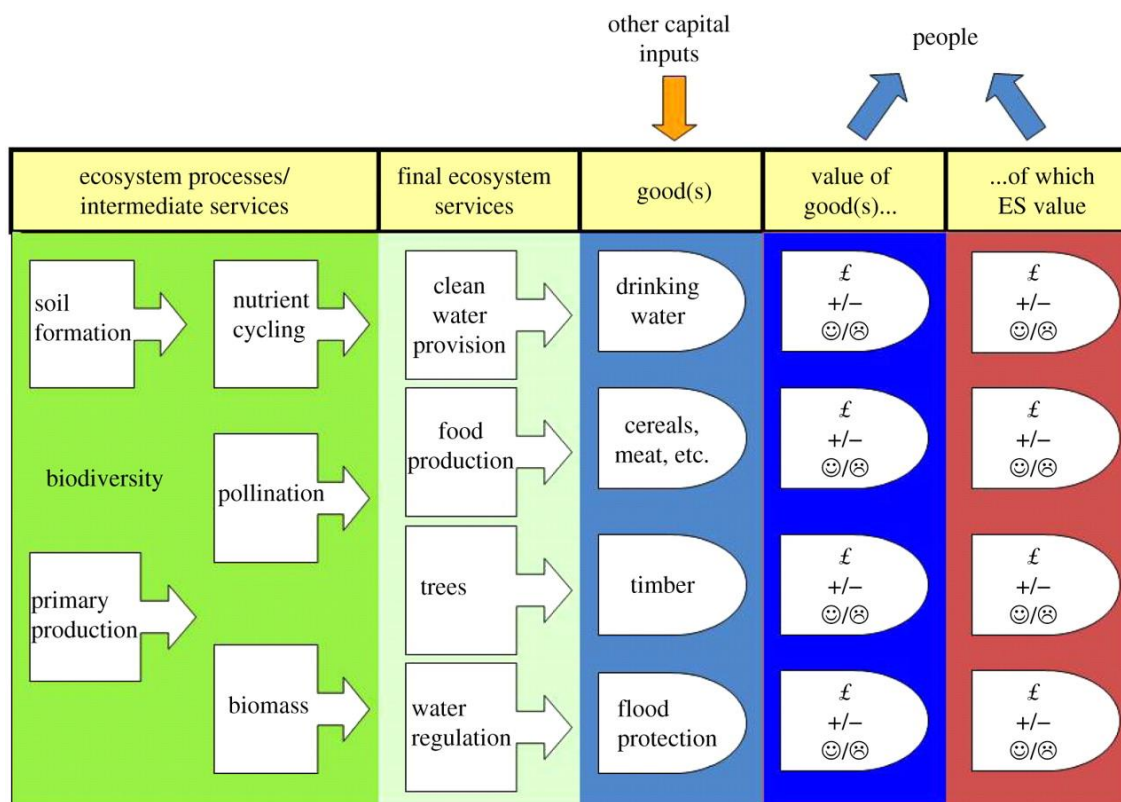


Figure 2.6: The UK NEA's conceptual framework. Source: UK NEA, 2011

Here, ecosystem processes play a key role in underpinning the formation of final services which, in turn, bear a direct effect on people's experienced well-being through a variety of goods that they deliver (Figure 2.6). The concept of goods also includes those aspects of well-being that do not have a market price but imply direct use of the environment (such as outdoor recreation) and ecosystem services with non-use values where no direct interaction with nature occurs (e.g. knowledge that rainforests exists and are being preserved – existence value) (UK NEA, 2011). Although the UK NEA does not use the term 'goods' in the limited economic sense of commodities, the articulation of other, non-economic, values is somewhat incomplete. It stops short by referring to these as shared cultural

values guided by aesthetic and ethical principles, which lead to cultural ecosystem services (UK NEA, 2011). This, however, reinforces existing constraints in integrating the intangible aspects of ecosystem services into the monetary valuation discourse. Despite this, the UK NEA makes an important step towards interrogating mainstream economic approaches to the monetary valuation of ecosystem services by pointing out that shared values transcend self-regarding concerns of utility maximization and encompass ethical principles and altruistic motives, proving that human well-being is a much richer and deeper concept than welfare (i.e. well-being in the economic sense) (Fish *et al.*, 2011; Kenter *et al.*, 2015).

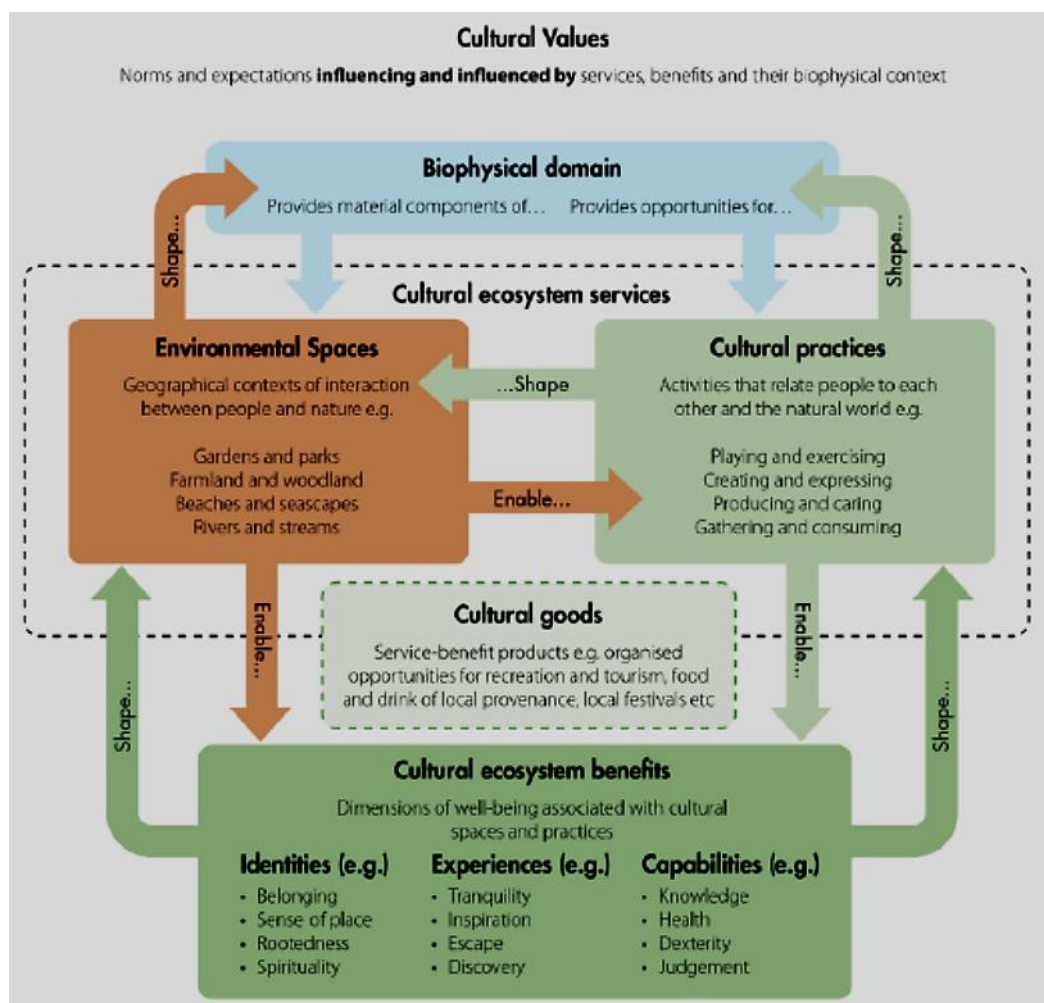


Figure 2.7: Cultural ecosystem services conceptual framework. Source: Church *et al.*, 2014.

In order to improve the representation of cultural services in the policy discourse, the UK NEA's follow-on report (2014) introduces a new conceptual framework (Figure 2.7) which elucidates the role of shared social and cultural values in shaping people's interaction with and experience of the natural environment,

leading to cultural ecosystem benefits in the form of identities, experiences and capabilities (Church *et al.*, 2014). While the framework is intended to unpack the complexities of cultural services, I argue that a similar conceptualization could be fruitfully applied in regards to all other services types, as these all contain intangible aspects (Chan *et al.*, 2012b).

The latest iteration of the ecosystem services and well-being relationship emerges from the Ecosystem Services for Poverty Alleviation (ESPA) funded ‘Sustainable Poverty Alleviation from Coastal Ecosystem Services’ (SPACES) project, which represents a departure from existing frameworks in two important ways (Figure 2.8). First, the framework recognizes that ecosystem changes have important implications for human well-being, and develops the concept of ‘ecosystem services elasticity’ to describe this relationship. Second, the authors view ecosystem services as social and ecological in nature, shaped by people’s individual circumstances and immediate context (Daw *et al.*, 2016). Therefore, the framework embraces and makes space for the disaggregation of different beneficiaries (Daw *et al.*, 2011). While making important advances in conceptualizing the well-being and ecosystem services relationship, the framework retains the characteristics, in most part, of a linear flow model. Although some feedbacks between various stages of the flow are highlighted, the linear conceptualization restricts the exploration of interaction between different ecosystem services in producing well-being.

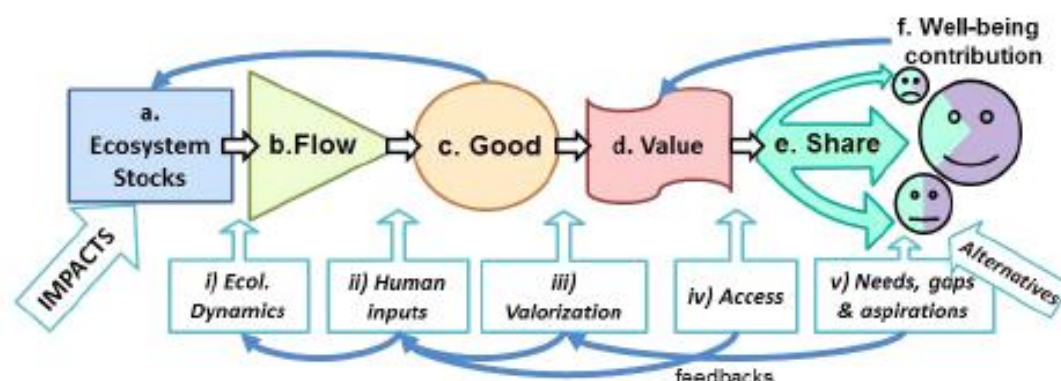


Figure 2.8: SPACES conceptual framework: social and ecological links between ecosystem services and well-being. Source: Daw *et al.*, 2016.

2.3.2 The promises and perils of the economic valuation of ecosystem services

The theoretical work which resulted in the development of the conceptual frameworks discussed here aims to advance our understanding of the interdependence between the natural environment and human well-being. However, their application in research and practice is often guided by the dominant neoliberal economic paradigm, and only considers the tangible economic benefits that these deliver. This, in turn, justifies economic approaches of monetary valuation due to their potential for bringing the environment to the policy table, where the language of neoclassical economics drives debates (Reid *et al.*, 2006; Costanza *et al.*, 2014a).

Daily and colleagues (2000) note that ecosystem services tend to attract appreciation only once they have been subject to degradation and loss. To highlight their immense importance, a comprehensive valuation of global ecosystem services is attempted by Costanza *et al.* (1997) who estimate that ecosystems contribute to the world population's well-being with an average of \$33 trillion annually, 1.8 times the GNP at the time. While the notion of monetary valuation of ecosystem services attracted some criticism over the years, branding it a 'commodification of nature²' (McCauley, 2006: 27), others defend the approach by asserting that monetary valuation does not imply the privatization or sale of ecosystem services (Reid *et al.*, 2006; Costanza *et al.*, 2014a). Rather, valuation is seen as unavoidable both for the purpose of raising awareness about the essential role these services play for well-being³, and for developing more effective management strategies (Costanza *et al.*, 2014a). They further argue that in order to better integrate ecosystem services into the decision making process, we must express their worth, at least partly, in monetary terms (Costanza *et al.*, 1997; Daily *et al.*, 2000).

² Commodification entails the marketing and commercializing of goods or services previously absent from market trade. The four stages of commodification of ecosystem services include: economic framing, monetization, appropriation and commercialization (Gómez-Baggethun *et al.*, 2010).

³ It is important to note that well-being is conceptualized by these authors relative to how well the economy is doing. This is evident from the use of economic terminology such as welfare, as opposed to well-being in a broader sense (Costanza *et al.*, 1997; Costanza *et al.*, 2014a).

However, monetary valuation necessitates the development of discrete categories of services, which obscure the complex and interlinked relationships connecting various ecological processes with non-ecological ones in the production of ecosystem services (Vatn, 2000; Norgaard, 2010); and thus well-being.

2.3.3 Disaggregating ecosystem services

The MEA rightly notes that well-being is not solely derived from ecosystem services; on the contrary, a multitude of factors affect its achievement. For example, health does not only depend on ecosystem services, but also on education and health services (Capistrano *et al.*, 2005). Fisher and Turner assert that whether an ecosystem service is a benefit also depends on the beneficiary's perspectives (Fisher & Turner 2008), therefore, it should not be assumed that a particular ecosystem service will lead to uniform well-being outcomes across distinct groups of people. Well-being is experienced and perceived differently across cultures and socioeconomic gradients and should be treated as context dependent (Capistrano *et al.*, 2005). Similarly, different people have different perceptions and needs of ecosystem services, as well as differential access to them (Díaz *et al.*, 2011).

An aggregate perspective on the delivery of services for well-being does not account for the social differences and disparities in capitals, power or access. Yet much ecosystem services research is conducted at the societal or aggregate level, and thus interprets the contribution of ecosystem service benefits to human well-being without explicit reference to different groups who can be characterised by socio-economic status, ethnicity, time or geographic location (Daw *et al.*, 2011). Such an approach overlooks winners and losers in terms of who derives benefits from which ecosystem services, dynamic mechanisms of access to ecosystem services that determine who gets to benefit, and individual circumstances that influence people's ability to translate services into benefits (Daw *et al.*, 2011). Therefore, Daw and colleagues call for disaggregated analyses which examine the multiple mechanisms that facilitate, or hinder, access to ecosystem services.

Access is defined as the 'ability to benefit from things' (Ribot & Peluso, 2003: 153), where ability supersedes rights and includes *de facto* or extra-legal mechanisms of access (Ribot, 1998). Access analysis aims to explore the intricacies of who benefits from things, where, under what conditions and when (Ribot & Peluso, 2003). Fundamentally, access is gained through rights attributed and sanctioned by law (e.g. property rights), whereas extra-legal means include access to technology, markets, capital, knowledge, social relationships and social identity. The latter are also referred to as structural and relational mechanisms of access (Ribot & Peluso, 2003).

It is vital that a distinction is made between the aggregate availability of resources and ecosystem services and people's actual access to them, as these are qualitatively different (Sen, 1981; Leach *et al.*, 1999; Daw *et al.*, 2011; Fisher *et al.*, 2013). Building on Sen's work on entitlements in the context of famine (Sen, 1981), Leach and colleagues (1999) developed the environmental entitlements framework, which emphasizes the role that people's personal circumstances play in the ability to access and benefit from environmental services. The approach explicitly links the environment with well-being. Access mechanisms are grouped under the collective term of endowments, which constitute the rights, means and resources which facilitate access to ecosystem services. The resulting sets of benefits essential for well-being are referred to as entitlements (Leach *et al.*, 1999). However, the environmental entitlements approach advances a narrower view of access, which focuses on rights and effective command over resources. Whereas, Ribot and Peluso's (2003) theory of access also encompasses wider contextual factors, including social relationships. This thesis, therefore, employs their broader and more comprehensive approach.

Despite existing conceptualizations of access - which encompass physical, legal and relational aspects - access to environmental spaces and ecosystem services is often evaluated solely through the metric of physical proximity (e.g. Mitchell & Popham, 2008; Kessel *et al.*, 2009; Wheeler *et al.*, 2012). While some empirical explorations of other types of access mechanisms are emerging (e.g. symbolic

barriers of access⁴ in Kessel *et al.*, 2009), more work is needed in this area. For instance, we need to interrogate how more subtle mechanisms, such as symbolic or psycho-social barriers, interact with traditional means of access (e.g. distance, relationships, economic means etc.).

2.3.4 Cultural services and benefits: recognizing multiple values

Purely economic perspectives do not capture the intangible aspects of ecosystem services, especially cultural services, which deliver a plethora of benefits to humans. The MEA provides a somewhat ambiguous definition of cultural services as the 'non-material benefits people obtain from ecosystems' (MEA, 2005: 29) and proceeds with a list of services broadly consisting of Western constructs of recreation and aesthetic beauty (Pröpper & Haupts, 2014). Not only does it assert a linear and deterministic relationship between ecosystems and culture, but reduces culture to a service provided by nature in a non-reciprocal fashion (Fish, 2011). In doing so, it fails to recognize different kinds of values founded on principles other than utilitarian benefit, such as ethical and moral virtues (Chan *et al.*, 2012a). Such values are borne out of relationships with things, instead of arising as a direct result of them (Chan *et al.*, 2016). This line of thought resonates with critique of the neoliberal ideas with which the ecosystem services framework has become associated (Gómez-Baggethun *et al.*, 2010; Dempsey & Robertson, 2012). For instance, McCauley (2006) warns against the perils of using monetary valuation to inform conservation strategies as these could wrongly imply that 'nature is only worth conserving when it is, or can be made, profitable' (p.28). On the contrary, he argues, the intrinsic value of nature should suffice as justification for protection and conservation (McCauley, 2006).

Consequently, the current anthropocentric (McCauley, 2006; Schröter *et al.*, 2014), unidirectional (Fish, 2011) and utilitarian (Gómez-Baggethun *et al.*, 2010; Haines-Young & Potschin, 2010; Chan *et al.*, 2012a) framing of the ecosystem services and well-being relationship fails to fully incorporate the variety of

⁴ These contrast tangible physical means of access and include intangible aspects, such as symbolic meanings (e.g. perceptions about what is being accessed, whether people can see themselves using a place and concerns about appropriate behaviour in the countryside).

complex social and cultural perspectives that surround it. Daniel *et al.*, (2012) highlight the importance of social constructs for eliciting ecosystem services. A social constructivist view of nature implies that ecosystem services do not exist as such, neither are they given by nature, but instead they are socially constructed (Descola & Palsson, 1996; Castree, 2001; Latour, 2004). Such a view also contributes to a better understanding of the role of cultural services in relation to other ecosystem services. A refined definition thus presents cultural services as ecosystems' contribution to the non-material benefits (e.g. capabilities and experiences) that arise from human-ecosystem relationships (Chan *et al.*, 2011). They provide a 'filter of value' through which other ecosystem services are attributed meaning and importance (Chan *et al.*, 2016). Most other ecosystem services (including provisioning, supporting and regulating) also have intangible dimensions and produce non-material benefits (Chan *et al.*, 2012b). Therefore, Chan and colleagues suggest that cultural services should be perceived as final benefits, which are produced through different types of services (Chan *et al.*, 2012a). This thesis builds on the work of Chan and colleagues, and explores the non-material aspects of different ecosystem services, as well as the possible interaction between various services types in producing benefits to human well-being. As pointed out earlier, cultural services are not directly conducive to quantification or monetary valuation, and thus often overlooked in policy circles. However, re-conceptualizing cultural services is likely to produce fresh insights into the ecosystem services and well-being relationship.

2.4 A tale of two worlds: well-being and ecosystem services in developed and developing countries

Existing literature on ecosystem services can be characterised in terms of a thematic divide between developing and developed countries. On the one hand, work in the global south can be summarised in terms of its concern with the direct dependence of people on ecosystem services and the implications of this for livelihoods and poverty, as well as the potential of services for poverty alleviation. On the other hand, much of the literature in the global north emphasizes the health benefits of ecosystem services, which are often linked to cultural ecosystem benefits (e.g. through recreational or aesthetic experiences). I provide a review of existing empirical work from both, developed and developing country

contexts, focusing more extensively on literature in the global north, due to its direct relevance for empirical aspects of this thesis.

2.4.1 Ecosystem services for poverty alleviation

Ecosystem services have attracted considerable attention in the international development field due to their perceived potential for poverty alleviation (e.g. Ecosystem Services for Poverty Alleviation research programme; Daw *et al.*, 2011; Fisher *et al.*, 2013; Fisher *et al.* 2014; Suich *et al.*, 2015). Researchers working in countries of the global south have tended to focus on provisioning services and their contribution to the material and security components of well-being. This is in part due to the direct dependence of the rural poor on ecosystem services for meeting their livelihood needs (Cavendish, 2000; Fisher, 2004; Fisher *et al.*, 2013; Suich *et al.*, 2015). This is exacerbated by constrained access to other forms of capital faced by the poorest in society (e.g. financial, technological and other barriers of access) (MEA, 2005), which further constrains the substitution of ecosystem services for other sources of well-being.

Furthermore, the direction of causality between ecosystem services and poverty is not entirely clear, and poverty and the practices of the poor are frequently blamed for environmental degradation (Duraiappah, 1998; Bulte *et al.*, 2008). Payments for Ecosystem Services (PES) schemes emerged as a policy tool based on ecosystem science in order to tackle environmental concerns. It was later suggested that these can also have a beneficial effect on poverty (Landell-Mills & Porras, 2002; Pagiola *et al.*, 2002), presenting an opportunity to simultaneously address development and conservation objectives.

It is, therefore, essential to clarify what is meant by poverty alleviation. Angelsen and Wunder (2003) provide a comprehensive reflection on the concept and meaning of poverty and its implications in practice. They distinguish between two aspects of poverty alleviation. First, poverty reduction takes place when people are successful in escaping poverty by moving above the poverty line. Second, poverty prevention is manifest in sustaining some minimal standard of living, although this may be below the poverty line (Angelsen & Wunder, 2003). Fisher and colleagues (2013), however, note that it is easier to conceive of ecosystem

services contributing to poverty prevention than poverty reduction, unless high value ecosystem services can be monopolised. They suggest that while ecosystem services provide important safety nets that help avoid absolute poverty, they are not sufficient alone for eradicating poverty all together.

2.4.2 Health, healing and well-being in natural environments

The benefits of exposure to natural environments in the developed world are frequently discussed in terms of their health enhancing and restorative properties (e.g. Ulrich, 1984; Hartig *et al.*, 1991; Pretty, 2004; Mitchell & Popham, 2008; Wheeler *et al.*, 2012; White *et al.*, 2013b; Finlay *et al.*, 2015). Correlation analyses of green areas and health in the UK reveal a positive association (Mitchell & Popham, 2007). Those living in greener settings enjoy better overall health, including improved mental health (De Vries *et al.*, 2003). This beneficial effect is especially enhanced among those in lower income groups, leading to the conclusion that exposure to green space can potentially reduce income-related health inequalities (Mitchell & Popham, 2008). It is also suggested that green spaces can contribute to explaining the health differences between urban and rural dwellers (Maas *et al.*, 2006). However, the quality and quantity of greenspace are both important determinants of a positive health effect (De Vries *et al.*, 2003; Maas *et al.*, 2006; Mitchell & Popham, 2007). For instance, Mitchell and Popham (2007) found a negative correlation between the amount of green space and health in low-income suburban areas across England. They propose that this is due to the poor quality and inaccessibility of these spaces (Mitchell & Popham, 2007).

A similar relationship is observed between aquatic - especially coastal - environment and health, also referred to as the 'healthy coast' effect (Wheeler *et al.*, 2012). Living in close proximity to the coast is seen to promote better health outcomes (Wheeler *et al.*, 2012; White *et al.*, 2013a), both in terms of physical and mental health and well-being. As in the case of greenspaces, the condition of the coastal environment affects whether people are engaged with it. For example, a study in Australia found that the perceived quality of coastal environments has implications for the number of recreation visits (Cox *et al.*, 2006).

What contributes to the health promoting potential of natural - blue and green - environments? It is suggested that the characteristics of these places facilitate increased physical activity (Bauman *et al.*, 1999; Abraham *et al.*, 2010; Wheeler *et al.*, 2012). These include suitable spaces for recreation, as well as activities that can be embraced and enjoyed free of charge within an aesthetically pleasing setting (Bauman *et al.*, 1999), thus motivating participation in outdoor undertakings that promote positive health outcomes. An innovative study, which captures people's momentary experiences of their environmental context using a mobile phone application, revealed that the greatest level of happiness is experienced in marine and coastal locations (MacKerron & Mourato, 2013).

One common limitation of these studies lies in their approach to conceptualizing and studying exposure to and engagement with the natural environment, whereby physical proximity is assumed to imply actual engagement with places (Bell *et al.*, 2014). This leads to highly speculative explanations of causation between environmental amenities and health. For instance, green spaces and the coast can be seen as conducive to improved health outcomes (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). Alternatively, these places may simply attract individuals who appreciate the outdoors and physical exercise, and thus already enjoy better health (Bauman *et al.*, 1999).

Beyond health promotion, exposure to nature is also associated with the restoration of ill health. Time spent in natural environments aids stress reduction (Kaplan, 1995), helps build self-esteem and confidence among mental health patients (Pretty, 2004) and supports emotional restoration (White *et al.*, 2013b). A frequently cited example is that of Ulrich's 'view from the window', which showed that patients with a pleasant view from their hospital window recover faster post-surgery (Ulrich, 1984). Over time, several theories have been developed to help understand the restorative impact of nature. These range from Kaplan's (1995) attention restoration theory to Ulrich's (1983) psycho-evolutionary theory. Furthermore, the biophilia hypothesis (Wilson, 1984) is proposed as the underlying rationale for human affiliation to all things natural, which essentially facilitates these experiences of restoration.

Though the salutogenic effect of exposure to natural amenities receives a great deal of attention in the literature, the study of ecosystem services in developed country contexts extends beyond health, and also encompasses other aspects of the ecosystem services and well-being relationship. Pereira and colleagues (2005), for instance, use participatory methods to assess the links between ecosystem services and well-being within a rural community in the mountains of northern Portugal, where historically agriculture has been a key livelihood source. However, a shift in values and the availability of externally sourced substitutes for provisioning goods (e.g. food products) has led to a progressive detachment of well-being from provisioning ecosystem services (Pereira *et al.*, 2005). Using the Falkland Estate in Fife (about 35 miles north of Edinburgh), Scotland as their case study, Fischer and Eastwood (2016) emphasize the joint importance of the physical characteristics of place and the preferences, values and attitudes of its users in the 'co-production' of ecosystem benefits. They assert that merely understanding the biophysical processes governing ecosystems is not sufficient (Fischer & Eastwood, 2016). A study in Val Fosca, Spain, reveals that the home garden agroecosystem is most valued for its cultural services (e.g. hobby, traditional ecological knowledge and aesthetic value), rather than provisioning ones associated with food production (Calvet-Mir *et al.*, 2012). A similar tendency towards non-material values and cultural services is also detected by Bieling *et al.* (2014) across four sites in Austria and Germany.

This idea that industrialized societies attach greater significance to cultural services, as opposed to other service types, is not entirely novel (Milcu *et al.*, 2013). It is perhaps due to the close association of cultural ecosystem services with Western social science that the concept of cultural services is often biased by Western preconceptions, which carry connotations of leisure-time activities and arts practices, for instance, recreation, tourism or inspiration (Pröpper & Haupts, 2014). Therefore, more work is needed that transcends the existing stereotypical framing of cultural services, and explores the meaning and contribution of cultural services and benefits to well-being in a more holistic fashion.

2.5 Theoretical framework: from ecosystem services to capabilities

The capability approach is a framework of thought which is mostly applied for the evaluation of well-being. The approach does not, however, offer a complete theory, therefore, when utilized, it needs to be combined with other social theories (Robeyns, 2005b). Sen declares the approach intentionally incomplete and upholds that this is an advantage (Sen, 1985). The open ended nature of the framework allows for the emergence of plural and context-rich information in empirical applications. Therefore, this study adopts the capability approach as the underlying theoretical framework and interpretive lens to examine the relationship between well-being and ecosystem services.

The approach was developed by Amartya Sen in response to the conventional utilitarian view of well-being, which defines well-being through the maximization of utility and ownership of commodities (Fukuda-Parr, 2003; Alkire, 2008). However, there is an important qualitative difference between the idea of well-being and being well-off (Sen, 1985). Sen also argues that a utilitarian view fails to account for adaptive preferences and is in danger of providing a distorted assessment of well-being, especially in the context of inequality and marginalization (Sen, 1995). Therefore, he highlights the need to focus on what truly matters for well-being, because '[t]he value of the living standard lies in the living, and not in the possessing of commodities' (Sen, 1987: 25). On the contrary, freedoms and agency should be the ultimate focus of any evaluation of well-being (e.g. Sen, 1985, 2008). This emphasis of freedoms, manifest in the act of choice, implies a shift from outcomes to opportunities as the key metrics of well-being (Robeyns, 2000). Sen thus asserts that well-being should be assessed in terms of the capabilities people have and the functionings they are able to achieve as a result (Sen, 1985, 1999b, 2008).

Functionings represent the alternative 'beings' and 'doings' a person has reason to value. These include activities and states of being, for instance, eating, sleeping, being educated, or being healthy (Sen, 1985). The effective opportunities available to people to pursue valued functionings are referred to as

capabilities or capability set (Sen, 1985; Robeyns, 2005a), where the capability set reflects the freedom to accomplish the life one values (Sen, 1990).

Sen does not provide a set list of capabilities due to his belief that these should be produced through a democratic process of discussion and deliberation to generate a list applicable to the context and situation under scrutiny (Sen, 2004). Nussbaum (2000, 2003), however, devises an alternative iteration of the framework that endorses a list of ten capabilities as a benchmark of basic requirements for a dignified life. These include life, bodily health, bodily integrity, senses, imagination and thought, emotions, practical reason, affiliation, other species, play and, finally, control over one's environment (Nussbaum, 2003).

Freedom is manifest in the act of choosing. Hence, two people with identical sets of capabilities will likely achieve different functionings based on the choices they make (Robeyns, 2005a). Choices are affected by people's preferences and ideals of a good life, which are, in turn, shaped by their broader social and cultural context (Sen, 1990; Nussbaum, 2000). Contextual mechanisms also affect people's ability to convert essential goods and services into valued capabilities and functionings. Three types of conversion factors govern this process: personal, social and environmental (Robeyns, 2005a).

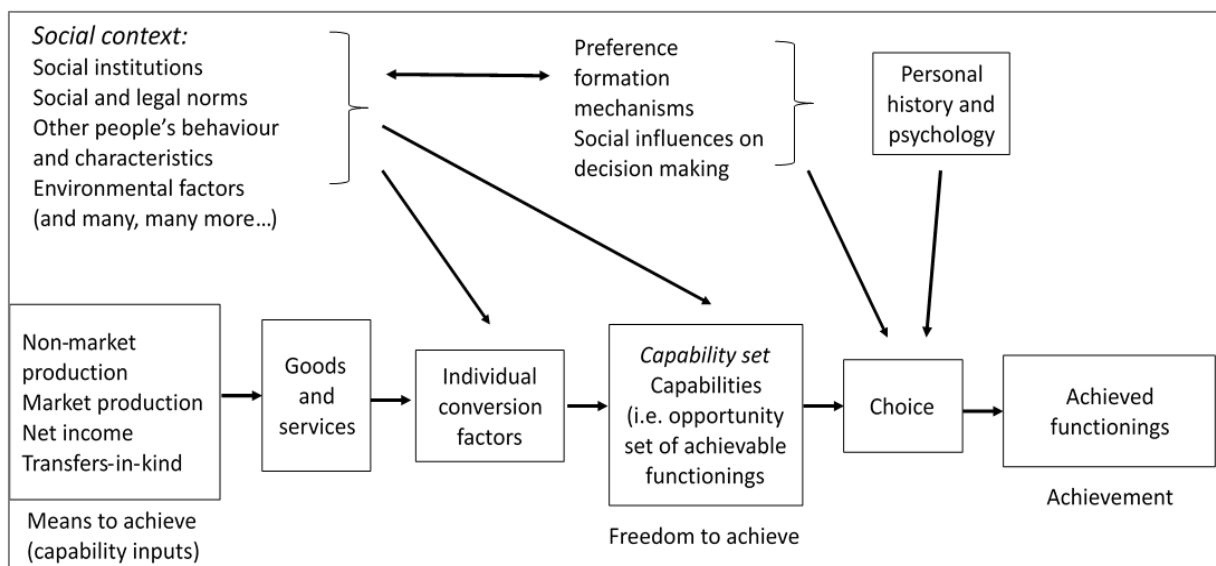


Figure 2.9: Socially mediated capabilities. Source: Robeyns, 2005a

The capability approach is often critiqued for its individualist approach to well-being (Gore, 1997; Robeyns, 2000). Robeyns (2005a) defends the approach by stating that it does, in fact, recognize the role of social structures by acknowledging a variety of social-environmental conversion factors, as well as the role of socially mediated choices, which transform capabilities into achieved functionings (Figure 2.9). This is what Smith and Seward (2009) refer to as 'contextual causality'. Furthermore, the capability approach reflects human diversity, because it emphasizes the plurality of functionings and capabilities as the evaluative space. Therefore, I propose that its application for disaggregated analyses of ecosystem services, which are concerned with the plurality of needs, values and people's abilities to access ecosystem services, could be fruitful.

2.5.1 A capability approach to ecosystem services and well-being

Despite the potential in these ideas, to date, only a narrow body of literature is devoted to applying the capability approach to better understand the ecosystem services and well-being relationship. Sneddon *et al.* (2006) note that the capability approach fails to adequately consider the environment and its ecological processes. While Robeyns (2005a) recognizes the instrumental role of environmental factors in converting goods and resources into valued capabilities and ultimately functionings, the representation of the environment within the capability approach still remains insufficient where ecosystem services are concerned. Polishchuk and colleagues (2012), on the other hand, discuss the contribution of ecosystem services to capability formation in explicit terms and outline multiple roles for these within the capability framework. They note that ecosystem services can be regarded as goods and services, but some ecosystem services also act as conversion factors as they affect how people use available goods. Regulating services are cited as an example, because they are responsible for maintaining those conditions of the environment that facilitate access to other ecosystem services (e.g. climate regulation is an environmental conversion factor and facilitates cultural services etc.). As such, they implicitly allude to the interconnectedness of various service types in the production of well-being.

In recent years, a number of other attempts have been made to better integrate the natural environment into the capability approach using a variety of justifications (Holland, 2008; Ballet *et al.*, 2013; Forsyth, 2015; Dawson & Martin, 2015; Watene, 2016). The capability approach, though often critiqued for being an incomplete theory of justice due to not defining a minimum acceptable set of capabilities (Nussbaum, 2003), is regarded as a framework of thought capable of contributing novel insights for an environmental justice approach. To this end, Holland (2008) suggests that the meta-capability of 'sustainable ecological capacity' would complement Nussbaum's existing list of ten capabilities and help to ascertain the criteria for socially just outcomes thus giving leverage to environmental justice claims. Elsewhere, Ballet and colleagues (2013) also uphold that the capability approach is a suitable evaluative framework for addressing issues of environmental justice, especially where access to ecosystem services is concerned.

Empirical research in Rwanda furthers concerns about justice and applies a capability approach to assessing the contribution of ecosystem services to well-being (Dawson & Martin, 2015). Due to its plural and multidimensional view of well-being combined with its individual focus and compatibility with studies of access, the capability approach is seen as a good fit for a disaggregated analysis (Daw *et al.*, 2011) that embraces the complex nature of social-ecological systems, and accounts for the interface between their social, economic, political and ecological components. Dawson and Martin (2015) identify five key areas of 'social-ecological reductionism' (p.62) and apply the capability approach to address these, simultaneously challenging the conventions of existing ecosystem services analyses. They argue that current ecosystem services analyses fail to consider different types of values, overlook winners and losers due to aggregation, ignore power relations, focus on single land use types, and overlook social drivers of change.

Forsyth (2015) also highlights the depoliticised nature of current ecosystem services research, which tends to assume a fixed cause-effect relationship between people and the environment. He suggests that a shift is needed to move away from conceptualizing ecosystem services in purely ecological terms. Instead, framing these in the Senian sense as 'ecological functionings' (Forsyth,

2015: 234) would emphasize the anthropogenic values of ecosystem services. In this sense ecosystem services are essentially socially valued outcomes (Vira & Adams, 2009). Based on the rationale of Dawson and Martin (2015) and Forsyth (2015) the capability approach seems to offer a more socially comprehensive alternative to utilitarian and ecological approaches to ecosystem services and well-being. However, Watene (2016) suggests that the capability approach in its current form interprets the natural world as an instrument towards achieving well-being goals. She contrasts this human-centred approach with Maori philosophy, which emphasizes a more balanced view of inter-dependence between people and nature.

Despite these attempts, perhaps the most explicit application of the capability approach as a lens for understanding the well-being and ecosystem services relationship, to date, is attributed to Polishchuk and Rauschmayer (2012). While Dawson and Martin (2015) draw on the capability approach for understanding how people value and use ecosystem services and thus derive well-being from them in the context of Rwanda, Polishchuk and Rauschmayer (2012) take a more theoretical approach in exploring how the capability approach could benefit from the incorporation of ecosystem services. They rightly observe that while interest in the links between nature and the capability approach has expanded - as evident from the body of literature reviewed here - a gap in understanding the effect nature has on individual well-being still prevails. This is perhaps due to the fact that most of these authors approach the problem from the angle of needing to integrate nature into the capability framework, rather than asking how can the capability approach and its definition of well-being inform and improve current conceptualizations of the contribution of ecosystem services to well-being. Though this aim is partly achieved in an empirical sense by Dawson and Martin (2015), more work, especially at the conceptual level, is required in this area.

Evidently, the research draws on several theoretical and conceptual frameworks, therefore, a list of definitions of the key terms and concepts, as interpreted and applied in this thesis, is provided in Table 2.4. These are presented in relation to the relevant research question(s).

Concept	Definition	Source(s)
<i>RQ 1: How do people living in Cornwall conceptualize well-being?</i>		
Capabilities	The effective opportunities available to people, manifest in the freedom to choose between alternatives to achieve the life one values. In this study, these are the ecosystem services one can access, as well as other sources of opportunities.	Sen, 1985, 1990, 2008, Leach <i>et al.</i> , 1999
Freedom	The level of freedom is reflected in socially mediated choices which determine whether valued well-being outcomes are achieved. Choices regarding which capabilities to pursue may lead to trade-offs.	Sen 1990, Nussbaum, 2000; Robeyns, 2005a
Conversion factors	Govern the conversion of resources into capabilities and functionings.	Sen, 1985; Robeyns, 2005a
<i>RQ2: How do ecosystem services (if at all) contribute to their well-being?</i>		
Ecosystem services	The aspects of ecosystems utilised actively or passively. What is a service depends on people's perspectives, values and constructs. Services are not 'given' by nature. Instead, they exist as a result of co-production between people and nature – i.e. they are social and ecological.	Descola & Palsson, 1996; Latour, 2004; Fisher & Turner, 2008; Potschin & Haines-Young, 2011
Ecosystem benefits	Ecosystem services' actual contribution to well-being – i.e. where well-being improvement occurs as a result of ecosystem services.	Potschin & Haines-Young, 2011; Daw <i>et al.</i> , 2012
Subjective well-being	Used here to assess the contribution of ecosystem services to participants' well-being experiences. It is defined as people's own evaluations through self-reported experiences.	Diener, 2000; Costanza <i>et al.</i> , 2007; White <i>et al.</i> , 2012
<i>RQ3: Which factors support/hinder access to ecosystem services?</i>		
Access	The ability to benefit from things. Access is mediated by access mechanisms, which are grouped under rights-based and structural-relational. The environmental entitlements framework refers to these as endowments (the rights and resources people have).	Ribot, 1998; Leach <i>et al.</i> , 1999; Ribot & Peluso, 2003

Table 2.4: Inventory of key definitions applied in the thesis

2.6 Conclusion

This chapter presents a review of existing knowledge on well-being and ecosystem services. It highlights several gaps in the literature - both from a theoretical and empirical perspective - and proposes that by applying the capability approach as an evaluative lens we can elicit new insights into the complex processes and mechanisms that link ecosystem services with human well-being. While several iterations of the ecosystem services and well-being framework emerged over the years, the MEA conceptual framework remains the main touchstone for researchers. Therefore, this thesis mainly challenges this dominant framework and highlights several limitations which need to be addressed (Figure 2.10).

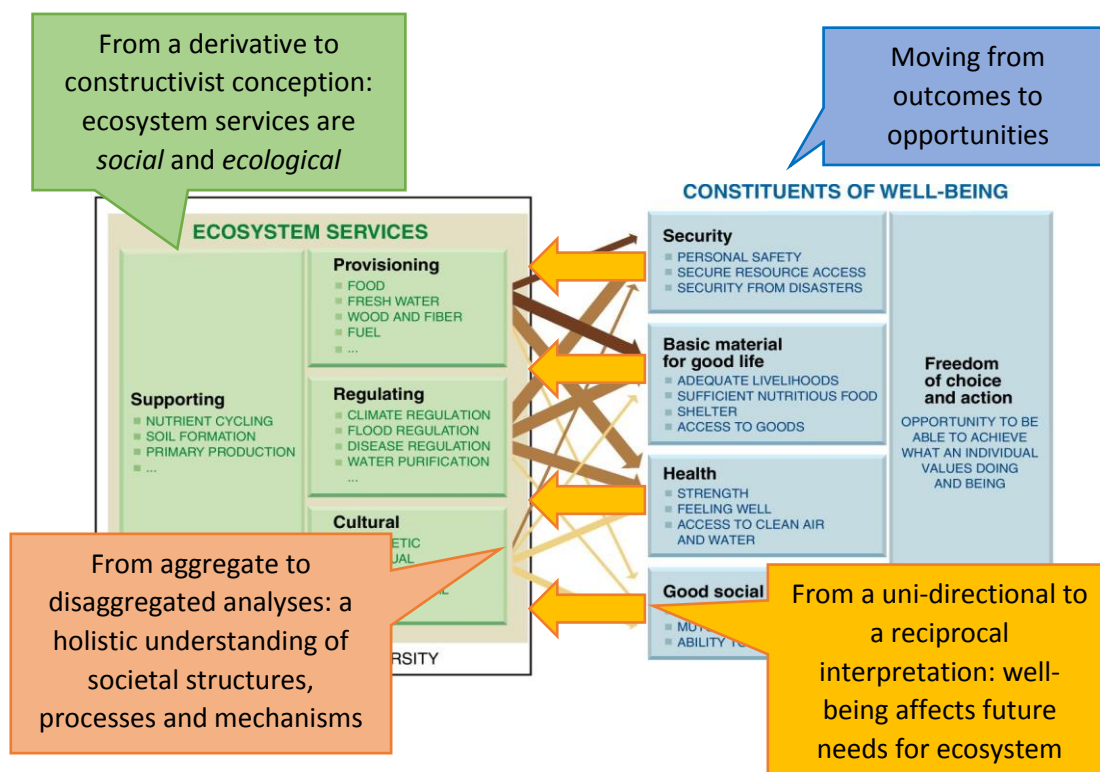


Figure 2.10: Empirical and theoretical gaps in current conceptualizations of the ecosystem services and well-being relationship - demonstrated using the MEA conceptual framework. Sources MEA, 2005 and Author.

The thesis responds to calls for the disaggregation of the ecosystem services and well-being relationship, which articulate the need for the recognition of different groups within society, and the implications of their differences for the distribution of ecosystem services (and dis-services). While this work emphasizes access mechanisms, power relations, differences in people's needs, and trade-offs that create winners and losers (Daw *et al.*, 2011; Dawson & Martin, 2015), they do

not explicitly challenge the dominant conceptualization of the MEA and other frameworks. Informed by lessons from the literature, I propose that disaggregation must go hand-in-hand with the re-framing of how we conceptualize ecosystem services and well-being. First, ecosystem services are traditionally seen as ecological in origin - produced by ecological functions and processes providing a number of different benefits to humans. This, however, leads to 'social-ecological reductionism' (Dawson & Martin, 2015), which disregards the role of humans in the construction of ecosystem services. Second, most well-being approaches focus on the outcomes people are able to achieve and overlook the important processes and mechanism, which constrain people's freedom to live the kind of life they value. Furthermore, the MEA framework, as well as subsequent iterations that derive from it, present the ecosystem services and well-being interlinkage in a uni-directional fashion, often overlooking or only providing an incomplete picture of the interplay between them.

To address the shortcomings of current research, this thesis delivers a disaggregated analysis of the well-being ecosystem services relationship by (a) focusing on the effective opportunities available to participants and (b) evaluating the degree of freedom they are able to exercise in pursuing their well-being objectives. The capability approach is identified as a suitable analytical and evaluative framework. The next chapter introduces the context and the Cornish 'well-being paradox', which inspired and instigated the empirical aspect of this thesis.

Chapter 3. The Cornish ‘well-being paradox’

3.1 Introduction

This chapter introduces the empirical context of my research. I outline the Cornish ‘well-being paradox’ by exploring past and present trajectories of development. This analysis contrasts the county’s industrial past with its current socio-economic challenges, which place Cornwall among the most deprived counties of England. The chapter also considers the meaning of poverty, disadvantage and deprivation in a developed country context, as this is notably different from conceptions of poverty in the global south, where most ecosystem services research takes place. I then discuss evidence from objective and subjective indicators of well-being, which reveal a dissonance between socio-economic performance and experiential well-being in Cornwall.

3.2 Conceptualizing poverty, deprivation and disadvantage in a developed country setting

While the concept of poverty is extensively discussed in the ecosystem services literature (e.g. Angelsen & Wunder, 2003; Daw *et al.*, 2011; Fisher *et al.*, 2013), this is predominantly based on experiences from developing country contexts. Therefore, this section presents an alternative conceptualization of poverty, which is relevant for the UK, and thus my research. This definition contributes to developing the criteria for the selection of participants (Chapter 4, Section 4.2.3), and sheds further light on the divergence between ecosystem services literatures in developed and developing settings (Chapter 2, Section 2.4).

While the UK is one of the world’s most advanced countries, the past four decades have seen a sharp rise in income inequality and poverty. Inequality, expressed by the Gini coefficient⁵, is now one of the greatest among countries of the global north at 0.34 (Equality Trust, 2014). According to Glasmeier and colleagues some of the contributing factors of the rise of social disparity include

⁵ Gini coefficient – measures the extent to which income deviates from perfect equality within a given economy. Thus a value of 0 signifies perfect equality, whereas 1 is perfect inequality.

'the lack of employment opportunities in the 1980s, changing demands of the labour market, a shift towards the service sector, where temporary work and low income is the norm, the disruption of the family, rising immigration and the effect of cumulative social isolation' (2008: 1). However, the root causes of growing inequality are deeper than these socio-economic symptoms would suggest and can be traced back to the political legacy of the past three decades, which saw a succession of governments that failed to tighten the gap between the wealthy and the poor within British society. This is evidenced by recent developments, which saw nationalist political parties rising in prominence, such as the Scottish National Party (SNP) in Scotland or the UK Independence Party (UKIP) in England and Wales, as pressures mount within an increasingly divided society. The dominant political system undoubtedly contributes to rising inequality. Additionally, Lawlor and colleagues (2011) of the New Economics Foundation also attribute responsibility to other causes, including people's socio-economic background and associated privileges (or lack of them) and external influences, such as globalization or liberalisation, that shape our national economic system. For instance, the process of de-industrialization which took place between 1979 and 2009, led to a polarisation of labour. The newly emerging service sector demands a low skilled workforce and rewards it with low wages, while well-paid high-end finance and technical jobs require educated people with specialised technical knowledge and skill-sets (Lawlor *et al.*, 2011), thus further driving growth in inequality.

The incidence of poverty in the UK is measured by the poverty line, which is set at 60% of the national median income (Aldridge *et al.*, 2012). Peter Townsend points out the arbitrary nature of this threshold, however, due to the difficulties in determining a universally applicable cut-off point. He emphasizes the relative nature of poverty. What constitutes poverty tends to vary both in spatial and temporal terms (Townsend, 1979).

The number of people living below the official poverty line in the UK has doubled since 1979 and today nearly one in five (i.e. 21% of the total population) live in poverty (Belfield *et al.*, 2015). Much of poverty is concentrated in rural areas (such as in parts of Cornwall and Wales), coastal areas (e.g. in Norfolk and Kent) and northern urban areas (e.g. South Yorkshire and Tyne and Wear) (Glasmeier

et al., 2008). The term deprivation has become embedded in the academic and policy discourse in discussions of poverty and disadvantage (Cloke *et al.*, 1995). It is favoured as a catch-all term, especially in political circles, due to its less explicit nature; thus it is often used interchangeably with poverty (Cloke *et al.*, 1997). Deprivation can be defined as a 'state of observable disadvantage relative to the local community or the wider society or nation to which an individual, family or group belongs' (Townsend, 1987: 125). However, deprivation does not necessarily amount to poverty. In his later work, Townsend clarifies the distinction between deprivation and poverty by highlighting that while relative poverty is based on incomes, deprivation has several facets beyond the material (Townsend, 1993). This suggestion resonates with the well-being literature, which recognizes the importance of non-material sources (e.g. Gough *et al.*, 2006; White, 2010). People might experience one, or even several, aspects of deprivation without being in poverty or on a low income (Townsend, 1987). An example is social exclusion, which is manifest in poor social contacts and the inability to engage in family and other social relationships (Commins, 2004).

While the terms poverty and deprivation are most frequently utilised in discussions on disadvantage in Britain, some argue that the concept of social exclusion offers a much more accurate and dynamic lens through which these issues can be studied and understood (Commins, 2004). Social exclusion is attributed a more comprehensive meaning, because it moves beyond merely providing a snapshot of a momentary state of being. Instead, it recognizes the dynamic processes through which disadvantage occurs in the first place, thus shifting the attention from outcomes to processes. Consequently, exclusion is deemed a result of societal 'system failures' that hinder the social or economic integration of the individual or household, thus resulting in poverty or material deprivation (Shucksmith *et al.*, 2000; Commins, 2004). Table 3.1 summarises the definitions of these concepts.

Term	Definition	Sources
Social exclusion	Multi-dimensional, dynamic process that hinders the social integration of people. Moves beyond outcomes and recognises the processes that produce and reproduce disadvantage.	<i>Shucksmith et al., 2000; Commins, 2004</i>
Deprivation	State of disadvantage relative to the local community, society or nation. Often used to discuss disadvantage in rural areas of Britain. Seen as an outcome of social structures. People can experience some form of deprivation without being in poverty.	<i>Townsend, 1987; Cloke et al., 1995; Cloke et al., 1997</i>
Poverty	Poverty occurs when people lack the resources to obtain the types of diet, partake in activities and obtain living conditions customary in the society they belong to. Poverty is usually defined by the poverty line, which for the UK (and most of the EU) is set at 60% of the national median income.	<i>Townsend, 1979; Aldridge et al., 2012; Belfield et al., 2015</i>

Table 3.1: Summary of key terminology and concepts used to discuss poverty and disadvantage in the UK

My research adopts the concept of social exclusion and engages those members of the community who have experienced some form of socio-economic disadvantage, which extends beyond material resources to also include the non-material and relational aspects of their lives (e.g. social isolation, mental health). This approach is also compatible with the well-being literature upon which this research draws (Chapter 2).

3.3 A brief overview of economy and industry

Cornwall occupies 3,563 km² of land in the South West of England, with nearly 500 km of coastline. More than 25% (958 km²) of Cornwall is designated as an Area of Outstanding Natural Beauty (Natural England). In fact, over 90% of its total land area is classified as green-space with rich biodiversity and a number of important habitats (Bromley, 2010).

Cornwall is perceived by outsiders as a picturesque tourist destination well-endowed with natural beauty, an attractive coast and relaxed life-style, which offers a tranquil refuge away from the hustle and bustle of hectic urban-industrial dominated counties. This romanticised image is, however, in dissonance with internally constructed understandings of Cornishness and perceptions of what makes Cornwall. Cornish cultural self-perception developed primarily from the

industrial heritage of fishing and mining (Hale, 2001) and the moral principles of Methodism, which became the dominant religion among Cornish working and middle classes (Willett, 2008).

Cornwall was once home to a flourishing mining industry, exporting mainly tin and copper, as well as manufacturing specialist mining equipment (Williams, 2003). Cornish mining dates back to 2000 BC and evolved into a flourishing industry by the 19th century. Despite initial success, the county's economy was transformed a great deal during the 20th century. Following the discovery of minerals on the American continent during the mid-19th century, coupled with the availability of cheap minerals elsewhere, the previously prosperous Cornish extractive industry declined and eventually disintegrated under international economic pressures, such as the frequent fluctuations in metal prices, as well as international competition. Masses of Cornish miners were left without work and decided to leave their homeland in search of new opportunities on foreign soil. It is, therefore, often said that one can find a Cornishman down any mine in the world. The last mine to close was South Crofty in 1998. As the county did not fully develop its secondary sector, industrialisation only took place partially (Williams, 2003). Hence, with the closure of the mines a very different economic landscape emerged.

In addition to mining, agriculture has been responsible for shaping the iconic landscape and economic fortune of the county. The origins of agriculture in Cornwall date back to the Iron Age. Over the centuries farming has gone through a series of transformations due to a variety of drivers, such as the changing climate, economic shifts and agricultural policies (Cornwall Council, 2016). The county was once a major producer of meat and dairy, however, due to the quotas imposed by the Common Agricultural Policy, the growth of dairy farming slowed down during the latter half of the 20th century, and so did poultry and pig farming. On the other hand, horticultural production thrived in the years between 1984 and 1994, mainly involving the cultivation of larger crops (e.g. sugar beet, maize, potatoes) and flowers (e.g. daffodils). Farm sizes remained relatively small throughout the history of Cornish agriculture, rarely exceeding 100 acres (Cornwall Council, 2016). Following a period of recovery during the early 2000s, dairy farming now represents the largest contribution to Cornwall's overall

agricultural output, followed by meat and poultry and horticulture (Lobley *et al.*, 2011). Today, the agricultural sector provides three times as much employment within Cornwall as it does in the rest of the country (Lobley *et al.*, 2011), demonstrating the continued significance of the industry for Cornwall's economy.

Alongside mining and agriculture, the fishing industry has also been a prominent source of livelihoods for the Cornish. The peninsula boasts 47 ports, some of which are to this day active fishing hubs (Urquhart & Acott, 2013). Despite the decline in fishing efforts, Cornwall remains one of the UK's most important marine fishing regions, local catch being exported mainly to France and Spain (Abernethy *et al.*, 2010). Its largest fishing port, Newlyn, was recorded to have the greatest number of vessels and the largest number of fishermen (825, of which 17% are part-time) in its administration during 2013, with landings amounting to 10,800 tonnes, worth £21.6 million (Marine Management Organization, 2013). Recent years have seen a decline in fishing effort due to a combination of factors, including rising fuel prices (Abernethy *et al.*, 2010) and policy measures such as fishing quotas, no take zones and the recent implementation of Marine Conservation Zones (Urquhart & Acott, 2013). These have left their stamp on the economic sustainability and viability of Cornish fishing, which is not only an industrial activity or source of revenue, but a vital part of Cornish identity. In a study by Urquhart and Acott (2013) fishermen have voiced their concerns over the disappearance of this traditional livelihood and the detrimental effect this would have on the social fabric of their communities, as fishing is not merely a source of income but a way of life. Alongside the sale of fish landings, the picturesque and idyllic fishing ports also contribute to the region's GDP through tourism revenues by attracting visitors.

The county's historic dependence on mining and fishing has led to a rise in unemployment and deprivation following the decline of these primary industries. The sentiment of uncertainty that followed is well captured by a traditional Cornish song:

*'Cornish lads are fishermen and Cornish lads are miners too.
But when the fish and tin are gone, what are the Cornish boys to do?'*
(Cornish lads by Roger Bryant)

Traditional industries were gradually replaced by the emerging tourist sector, which penetrated Cornwall and eventually became its dominant and most profitable industry. While the arrival of the railway in 1859 opened the doors to the county, mass tourism only really came of age during the mid-20th century when car ownership spread to the lower middle classes and skilled working classes (Deacon, 2007). The Great Western Railway (GWR) is in part held responsible for restyling Cornwall into a desired holiday destination (Payton & Thornton, 1995). The 1920's poster below (Figure 3.1) is an example of GWR publicity, which emphasized the climate and natural amenities of the county, drawing parallels between Cornwall and Italy. Other publicity materials famous from this era include posters promoting the 'Cornish Riviera' or 'Falmouth and its lovely surroundings'.



Figure 3.1: Example of Great Western Railway publicity promoting Cornwall. Source: Great Western Railway, 2013

Although tourism created jobs during times when the decay of other industries left many unemployed, it was looked upon with mistrust, and seen as a threat to the local culture and society (Deacon, 2007; Soulsby, 1986). First, doubts emerged about the ability of tourism to drive an advanced economy in the face of uncertainties and fluctuations inherent to this type of industry, recognizing that these can exacerbate the volatility of the local economy (Deacon *et al.*, 1988). Second, concerns were raised about the commodification of Cornwall, as it was

increasingly being promoted as 'a place to be consumed and exploited by tourists, rather than sustained for residents' (Hale, 2001: 188). It was feared that such a consumerist portrayal of the place could, with time, degrade and damage its authenticity and culture.

Today around five million tourists visit Cornwall each year, providing 24% of the area's total GDP, and supporting one in five jobs (Urquhart & Acott, 2013). While the tourism sector has expanded, creating further employment opportunities in the area, these are mostly part-time, low-paid, seasonal and usually female (Williams, 2003). As a result of the complex historical and contemporary factors outlined here, Cornwall suffers from a high rate of unemployment, low average earnings, and low GDP coupled with hotspots of relatively high property prices (Table 3.2), exacerbated by the influx of wealthy incomers, many of whom are attracted to the remoteness and tranquillity of the county and choose to retire here or purchase second homes.

Indicator	Cornwall	England
Median annual earnings	£22,068	£26,165
Unemployment rate (% of population)	9.1%	7.6%
House price/Earning affordability ratio (higher = less affordable)	9.0	6.7

Table 3.2: Economic indicators for 2012: Cornwall versus England. Source: South West Observatory Local Profiles: Cornwall, 2012

Evidently, a chief driving force behind inflated house prices is the prevalence of second and holiday homes, which lead to local residents - especially those on lower incomes - being priced out of the housing market (Figure 3.2). For instance, in parishes where second homes make up more than 35% of all housing the average property price exceeds the Cornwall average by up to 87% (Cornwall Council, 2013b). A prime example is St Ives, a picturesque resort located on the north coast, often branded "Kensington-on-Sea" due to the high number of wealthy holiday makers visiting the town each summer. Median house prices in the town are around £324,500 (rightmove.co.uk, accessed: 13 July 2016). Moreover, the increase in the number of holiday dwellings, which often stand unoccupied during the winter months, also has an impact on social cohesion and community ties, creating so called 'ghost towns'. Concerns over tourism

undermining local culture through second home ownership are also voiced in the literature (Deacon *et al.*, 1988). Figure 3.3 demonstrates that second homes are mainly concentrated around the coastal margins of the county, thus picturesque locations - such as Polzeath, Padstow, St Ives, and the Roseland Peninsula - being most sought after.

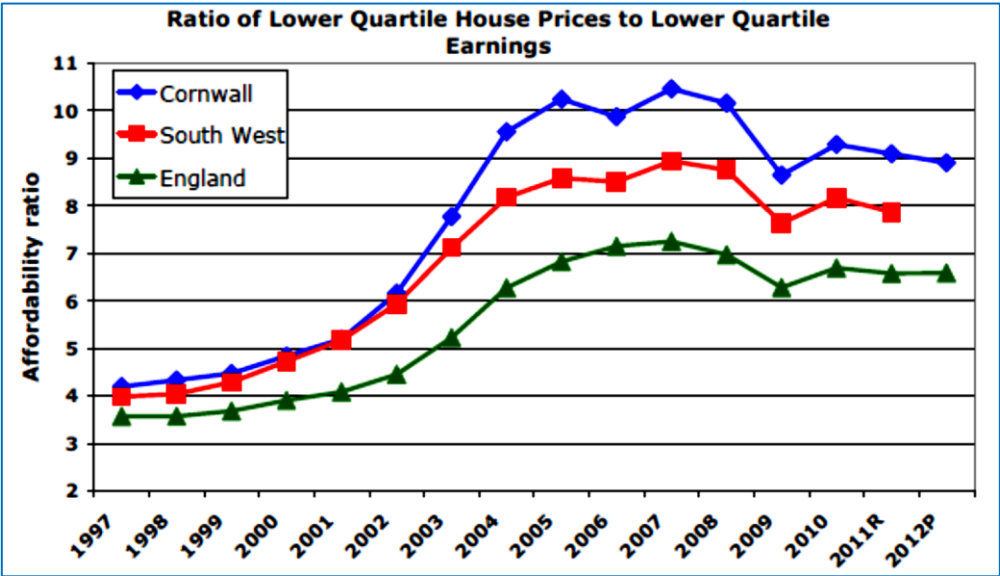


Figure 3.2: House price/Income affordability for low income/low cost property. Source: Cornwall Council, 2013a.

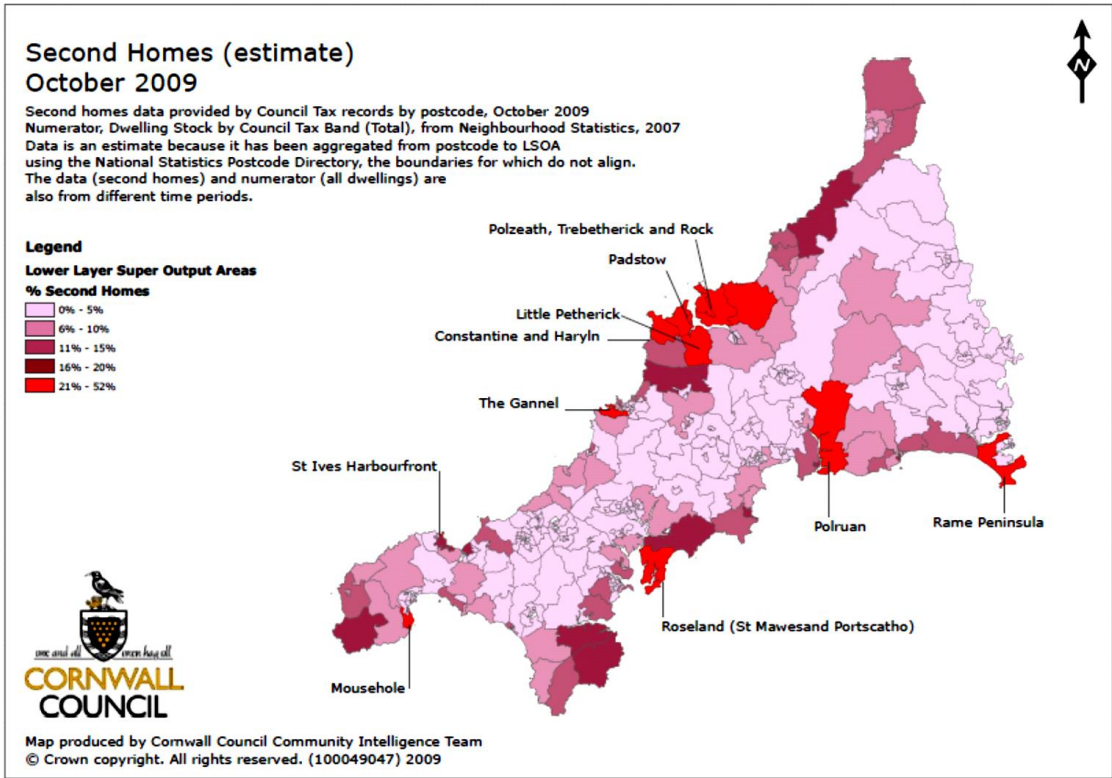


Figure 3.3: Second homes across Cornwall in 2009. Source: Cornwall Council, 2013b.

3.4 Is Cornwall poor, but happy?

Despite the decline in economic performance and increase in levels of socio-economic deprivation, people across Cornwall report relatively high levels of happiness and life satisfaction, as well as feel that the things they engage in their everyday lives are worthwhile (ONS, 2012). This disjuncture between the objective and experiential aspects of well-being raises the question of whether Cornwall is poor, but happy. As this counterintuitive relationship acts as the springboard for exploring the ecosystem services and well-being relationship, I introduce the evidence which allowed me to arrive at this conclusion. Therefore, here I present and discuss empirical evidence on both aspects of Cornish well-being. A comprehensive discussion of the definitions and theories of objective and subjective well-being are presented in Chapter 2, while in this chapter the focus is on the empirical evidence for Cornwall.

3.4.1 Objective well-being: monitoring deprivation

As discussed in Chapter 2, Gross Domestic Product (GDP) is often regarded as an objective measure of human well-being and used as a proxy for quality of life (Costanza *et al.*, 2009). Cornwall is currently in receipt of European Convergence funding which consists of the European Regional Development Fund and the European Social Fund (Convergence Cornwall, 2013). To qualify for such development related financial support a region's GDP must not exceed 75% of the EU average. Two indices are used in the UK to monitor the objective conditions that affect people's quality of life: the Index of Economic Deprivation and the Index of Multiple Deprivation.

The Index of Multiple Deprivation (IMD) is published by the Department for Communities and Local Government. It is deemed a more comprehensive indicator than the Economic Deprivation Index (EDI), because it captures the multiple dimensions of deprivation, while the latter only considers income and employment. A comparison of the geographic distribution of deprivation as measured by the EDI and IMD reveals a pattern of similarities, especially in terms of pockets of deprivation. Therefore, I draw on the more holistic IMD indicator, which extends the scope of the EDI and incorporates other factors alongside

employment and income. The IMD report available at the outset of this research was published in 2010, and it is based on data from 2008/09. It is made up of 38 indicators, which are grouped into seven weighted⁶ domains (Table 3.3).

Domain name	Description	Weight
Income	People living on low income	22.5%
Employment	Involuntary exclusion of working age population from the labour market	22.5%
Health	Premature death, low quality of live due to ill health (physical and mental)	13.5%
Education, skills and training	Children and young people, adults' skills deprivation	13.5%
Barriers to housing and services	Physical and financial accessibility of housing and key local services	9.3%
Crime	Rate of recorded crime for 4 crime types: violence, burglary, theft, criminal damage	9.3%
Living environment	Indoors – social and private housing in poor state and/or without central heating; outdoors – air quality and road traffic accidents	9.3%

Table 3.3: IMD domains, Source: Department for Communities and Local Government, 2011.

The IMD (and EDI) measures deprivation at the Lower Super Output Area⁷ (LSOA) level. According to the 2010 IMD 10% of the 328 Cornish LSOAs fall within the 20% most deprived across England (South West Observatory, 2012) (Figure 3.4). While many areas are concentrated around the mid-range, the gap between most and least deprived is wide. Moreover, several pockets of deprivation can be detected in Figure 3.4. These are mostly found in urban areas, including the former mining towns of Camborne and Redruth, as well as some coastal towns, such as areas of Penzance or Falmouth.

⁶ The weighting is based on theoretical grounds and on the outcomes of consultation.

⁷ LSOA's are small geographic areas, at the ward level, consisting of an average of 1500 people. They are used by the ONS to produce small area statistics. There is a total of 32,482 LSOA's.

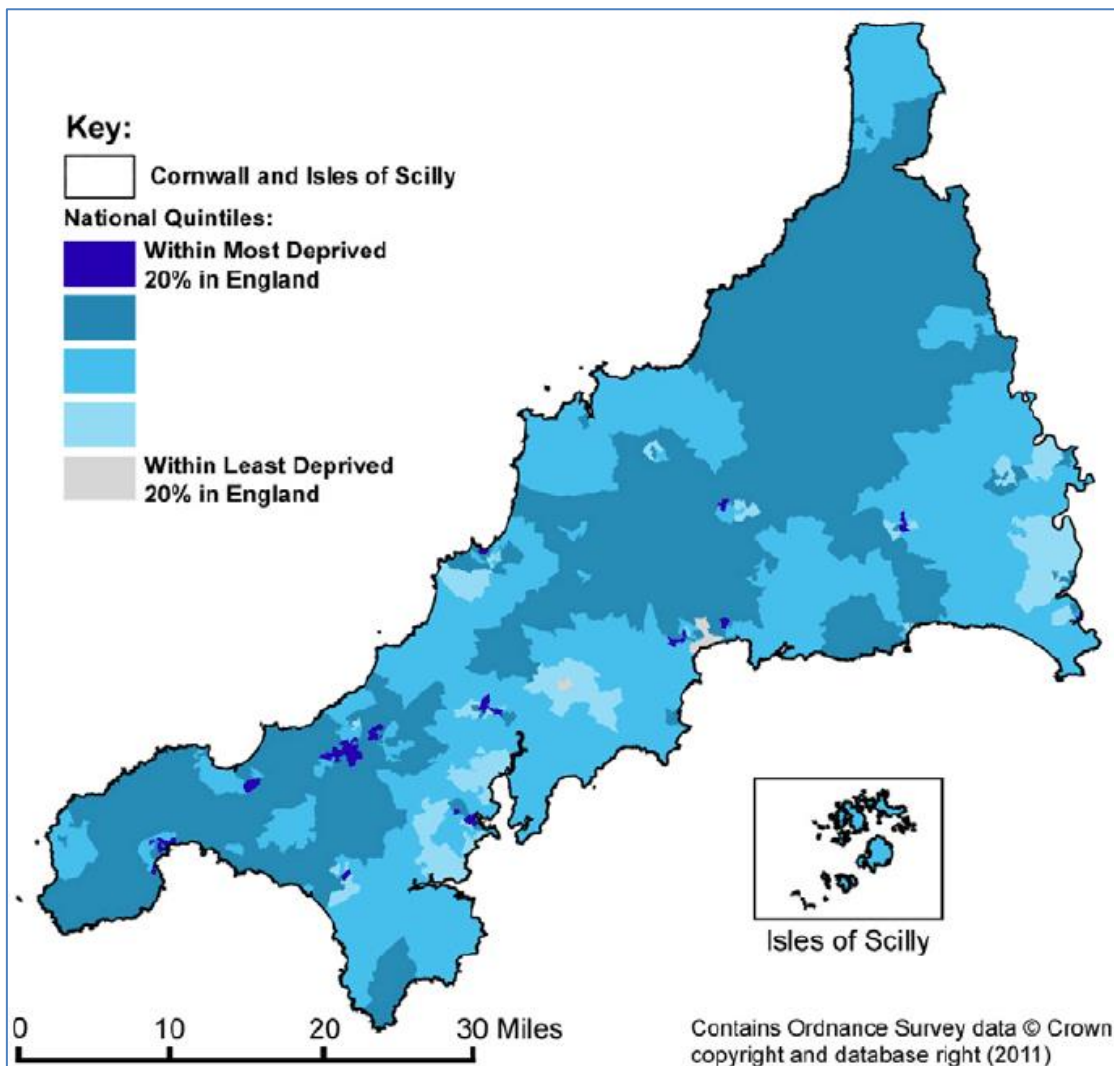


Figure 3.4: IMD 2010 for Cornwall. Source: South West Observatory, 2011.

An updated IMD report was published in 2015, just as I was concluding data collection, which provides an update on the socio-economic performance of the county (Figure 3.5). This indicates an overall decline with more areas falling within the 10% and 20% most deprived nation-wide than in 2010. However, it is not possible to draw a direct comparison between the two IMD reports due to changes in the methodology, which naturally affects the results. However, it is suggested that the income and employment domains, which in combination are weighted at 45%, explain much of this decline, with health (especially mental health and anxiety) and crime also contributing (Cornwall Council, 2015a). Pockets of extreme deprivation remain. For instance, the Camborne and Redruth community network still has the most neighbourhoods within the most deprived 20% across England (Cornwall Council, 2015a).

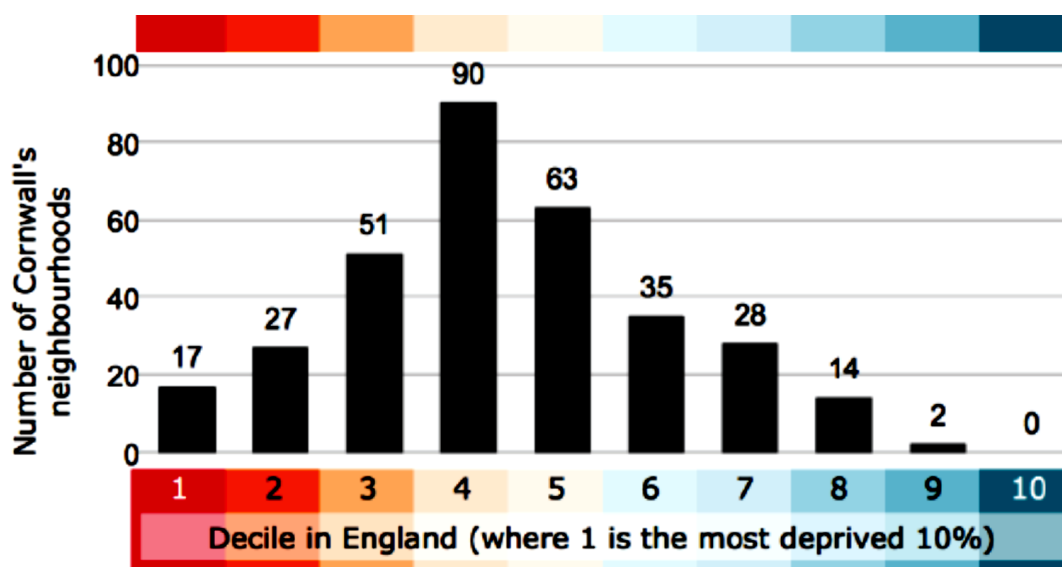


Figure 3.5: IMD 2015 for Cornwall. Source: Cornwall Council, 2015.

3.4.1.1 The many faces of disadvantage in Cornwall

Cornwall's population is dispersed, living in numerous smaller settlements with only a few bigger towns and a city, Truro, which are still considered small in relation to cities elsewhere in the country. This poses various challenges in terms of identifying areas and people in need, as some of these may not be adequately captured in national level statistics, which tend to assume that deprived people are living in deprived areas. This, however, is often not the case. Cornwall is a county where extreme wealth and visible, as well as hidden, poverty coexist in close proximity to each other. People experiencing one or more aspects of economic deprivation are also more likely to suffer from ill health, including mental health issues such as depression and anxiety, which further reinforces their disadvantage and the associated social exclusion.

While the incidence of poverty in western societies is considerably lower than in developing country contexts, it is very much a reality for many in the UK and Cornwall. Poverty is usually attributed to low income, which in combination with other factors - such as geographic and social isolation, economic shocks or ill health - can lead to food and fuel poverty, as well as the lack of access to housing or shelter. The participants of this research experience one or more of these aspects of disadvantage in their everyday lives.

Fuel poverty

A household is considered to be in fuel poverty if over 10% of the household income is being spent on heating the home to an adequate level of warmth (this is considered to be 21°C in the main living area, and 18°C in the other rooms) (Energy UK). The main reasons for fuel poverty are threefold:

1. Low or insufficient income
2. Cost of energy - in Cornwall many properties are not connected to the mains gas (43%), making these houses even more expensive to heat, for example by means of electricity powered storage heaters
3. Energy efficiency of properties - many Cornish buildings are built from solid walls, which are less insulated and therefore harder to heat

According to 2010 statistics almost one in five households in Cornwall experienced fuel poverty (Cornwall Council, 2012).

Food poverty

Despite the UK being the world's fifth largest economy, with a GDP of \$2.678 trillion in 2013 (World Bank, 2014), there is a growing demand for emergency food supplies provided by foodbanks spread across the country. This is largely due to the growing social and income inequality over the past few decades, resulting in the UK becoming one of the most unequal countries in the developed world (Equality Trust, 2014). A recent report by the Trussell Trust, the largest UK operator of foodbanks, identified problems with benefit payments, low income, homelessness, unemployment and sickness as the most frequent causes of food crises for families and individuals (Trussell Trust, 2015). It is evident from Figure 3.6 that the South West is the region with the second highest number of emergency food parcels being given out. Although this number is not a true representation of the proportion of the population in need of such aid, as it likely includes multiple claims by the same individual. It does, nonetheless, indicate a sustained incidence of food poverty.

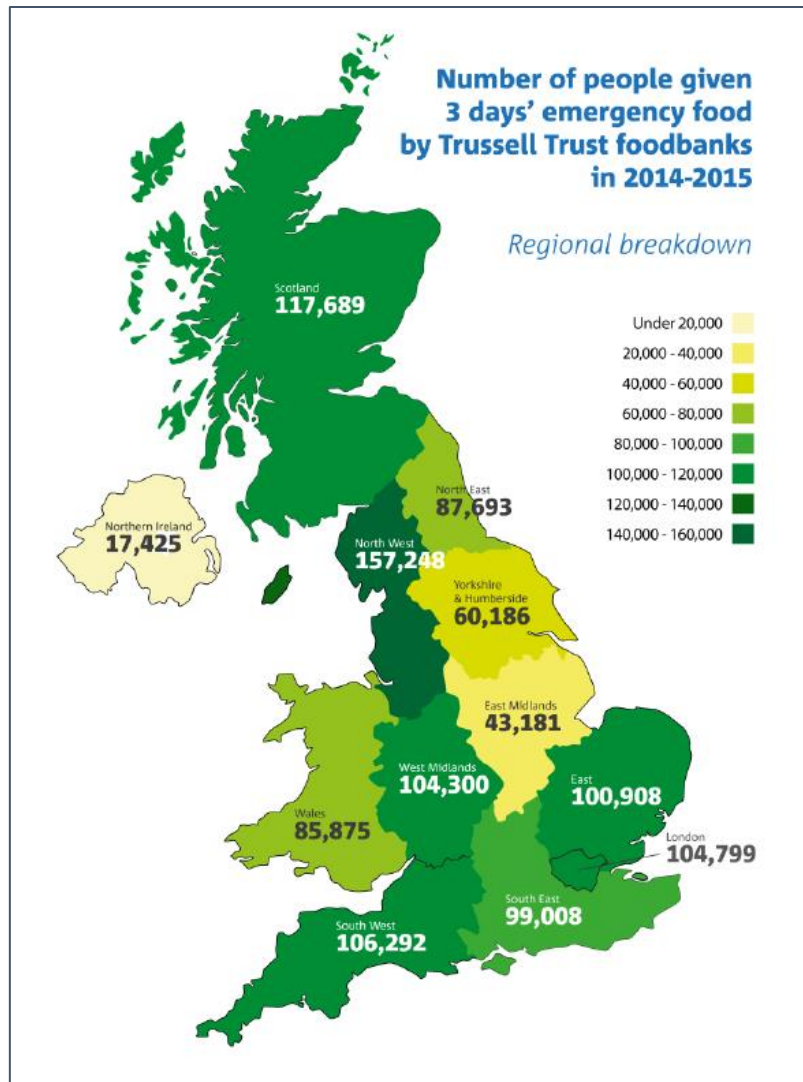


Figure 3.6: Number of people received emergency food supply from foodbanks across the UK. Source: Trussell Trust, 2015.

There are 15 foodbanks in Cornwall alone, the majority of which are run by Trussell Trust, while some are independent. In addition to the UK-wide drivers of foodbank use, people in Cornwall have been recorded to turn to emergency food supplies as a result of emotional crises, transport costs and income fluctuations due to seasonal work (Kain, 2015). For instance, in 2013 the Camborne Food Bank alone distributed 113,532 meals to people in need (Food and Cornwall, 2014). Due to low incomes many people are facing the 'heating or eating' dilemma. Several participants admitted to having relied on foodbanks in the past and present.

Homelessness

Homelessness is regarded a problem primarily of urban areas in the UK, where the sight of people without shelter, sleeping in doorways or on park benches, is not surprising. However, according to recent statistics, made available by the Department for Communities and Local Government, Cornwall has the second highest number of rough sleepers after London (measured relative to the size of the population). Rough sleeping constitutes people who are sleeping in the open air or in buildings and spaces not designed for habitation (Department for Communities and Local Government, 2014). An estimated 40 individuals are affected by the problem across the county (Department for Communities and Local Government, 2015a). As these figures are based on estimates, rather than actual street counts, it is highly likely that the number of those lacking shelter is under-reported. This definition also excludes people in hostels, homeless shelters, campsites or squatters. While a number of participants in this research experienced rough sleeping, others - mostly those with families - have spent varying lengths of time in hostels arranged by the Council as emergency homeless accommodation.

Furthermore, in addition to these there are the statutory homeless, who have applied for housing under the Housing and Homelessness Acts⁸. These people may not be homeless, but are likely to face homelessness within a finite period, or are inhabiting temporary or unsuitable accommodation. Between January and March 2015 the local government made decisions on 225 cases of statutory homelessness in Cornwall (Department for Communities and Local Government, 2015b). Evidence on the extent and range of socio-economic challenges faced by people across Cornwall stands in contrast with the results of the Life in the UK 2012 study, which is discussed in the following section.

3.4.2 Subjective well-being: Life in the UK 2012

‘Life in the UK 2012’ is the first nation-wide attempt to conduct a subjective well-being study in the UK. It emerged from the Office of National Statistics’ programme on measuring national well-being, which was commissioned by the

⁸ These are: Housing Act 1977, Housing Act 1996, and Homelessness Act 2002

then Prime Minister David Cameron in 2010. The UK Happiness Index is one of its outputs, which summarises overall subjective well-being based on four qualitative questions which were added to the Annual Population Survey, asking people to rate (a) their happiness, (b) life satisfaction, (c) the worthiness of things they do and (d) anxiety on a ten point scale. Cornwall ranked consistently high at both the UK and England level in terms of happiness, life satisfaction and worth: in sixth and second place respectively (Table 3.4) (ONS, 2012). These findings give rise to what is termed in this thesis the Cornish ‘well-being paradox’, which assumes a high prevalence of socio-economic deprivation coupled with high self-reported well-being.

Happiness Survey Questions	Cornwall's ranking within	
	England	The UK
How satisfied are you with your life nowadays?	2nd	6th
How happy did you feel yesterday?	2nd	6th
To what extent do you feel the things you do in your life are worthwhile?	2nd	6th
How anxious did you feel yesterday?	16th	35th

Table 3.4: Cornwall on the UK Happiness Index. Source: ONS, 2012.

The dissonance between socio-economic and subjective measures of well-being gives rise to the Cornish ‘well-being paradox’, which posits that despite a high prevalence of social and economic disadvantage across Cornwall, people experience high levels of well-being.

The literature on rural lives provides valuable insights into the cultural perceptions of disadvantage among populations across the UK, and suggests that people tend to focus on the non-material sources of well-being and emphasize the natural amenities of their living environment. Research by Cloke and colleagues on rural lives concludes that respondents perceive well-being as an overarching notion of health, community and the environment. An emphasis is placed on the countryside as a healthy and safe place, the source of a happy and healthy lifestyle (Cloke *et al.*, 1997). Findings from a separate study on disadvantage in rural Scotland also show that despite widespread income deprivation, participants deny the presence of poverty and disadvantage in their communities. Instead, they highlight a myriad advantages of rural life, including a better morale, crime-free environment, good communities, good support networks, child safety

and overall a better quality of life (Shucksmith, 1994). However, this may have negative repercussions for policy by appearing to convey acceptance and thus justifying inaction. For example, the popular discourse of happy, healthy, self-supporting and close-to-nature rural areas led to these areas being perceived as problem-free within political and policy circles (Cloke *et al.*, 1995; Commins, 2004). Rural people may appear to be deprived of the facilities and opportunities available to their urban counterparts, but it is assumed that this disadvantage is compensated for by the environmental appeal and preserved nature inherent to country living (Cloke *et al.*, 1995). The positive effects of the environment are also emphasised within the health and well-being literature, which posits that the more disadvantaged quintile benefits most from exposure to the natural environment (Mitchell & Popham, 2008; Wheeler *et al.*, 2012).

Therefore, my research explores the relative importance of the environment and ecosystem services for well-being. However, to avoid biases linked to feelings of shame and stigma, an inductive and exploratory approach is used. Instead of asking participants about well-being outcomes directly, I build on the capability approach's opportunity-centred approach to well-being. The conceptual and methodological foundations of this research are discussed in Chapter 2 and Chapter 4 respectively.

3.5 Summary

In this chapter I have shown that there is a counterintuitive relationship between self-reported well-being and socio-economic indicators for Cornwall, which I refer to throughout this thesis as the 'well-being paradox'. By a whole host of measures of deprivation, Cornwall is the poorest county in England, therefore, it serves as a suitable setting for exploring the well-being and ecosystem services relationship within a developed country using an inductive and disaggregated approach. I provide contextualized insights into participants well-being constructs and explore different dimensions of disadvantage affect participants' relationship with and access to ecosystem services. The rich first-hand accounts of participants' experiences are a departure from macro scale measures. Prior to presenting my analysis and findings (Chapters 5, 6 and 7), I proceed to outline my methodological approach (Chapter 4).

Chapter 4. Research design and methods

4.1 Introduction

This chapter provides a detailed overview of the research methods used during data collection and analysis. It begins by explaining the approach to designing the overall research process, informed by existing theoretical knowledge on well-being and ecosystem services. Data collection methods are then described in detail, including an overview of prior use in other studies demonstrating their suitability for the purposes of this research. Each method is linked to a corresponding theoretical aspect of the research (e.g. capabilities, ecosystem services, access). Ethical considerations and limitations experienced during the process are also discussed here. The chapter concludes by summarising the approaches which guided the analysis of the obtained data.

4.2 Research design

4.2.1 Ontology and epistemology underpinning data collection and analysis

The study is informed by a constructivist ontological position which treats well-being and ecosystem services as social constructions (Castree, 2001; Latour, 2004; White & McGregor, 2006), and thus endorses the interpretivist epistemological approach of the research. The concept of well-being is not seen as pre-defined, but as subjective and embedded in the context within which it is constructed. Existing definitions and classifications of ecosystem services (e.g. Daily, 1997; MEA, 2005; Haines-Young & Potschin, 2010; UK NEA, 2011) suggest that ecosystems provide services for humans in a one-directional and aggregated fashion. This thesis challenges such notions and re-examines the well-being and ecosystem services nexus through an inductive lens. A case study of the Cornish 'well-being paradox' provides the empirical platform for an inductive and in-depth study, which explores the finer nuances of this complex relationship. Methods of data collection and analysis have therefore been selected in accordance with this rationale.

The research design follows elements of phenomenology (Schutz, 1967). The research seeks to develop novel insights into participants' experiences of ecosystem services and their potential for well-being creation by assuming that these are socially constructed (Schutz, 1967). Therefore, a definition of a good life is developed through an inductive open-ended process, which is driven by the data rather than pre-existing conceptions (Glaser & Strauss, 1967; Charmaz, 1996).

4.2.2 Case study approach

A case study research design is deemed the most suitable strategy for answering the research questions outlined in Chapter 1. According to Yin, a case study is 'an empirical enquiry that investigates a contemporary phenomenon within its real life context' (Yin, 2003:13). Researchers are more likely to choose this approach if the issue at hand is intricately linked to its context and cannot be examined separately from it. In other words, if the research questions are predominantly 'how' and 'why' questions, seeking explanations for an issue rather than trying to ascertain its incidence or frequency of occurrence, a case study design is appropriate (Yin, 2003). The emphasis tends to be on a detailed and intensive examination of the case or cases (Bryman, 2008).

A case study design consist of two major stages: (1) identifying the case and deciding whether a single or multiple case design will be used, followed by, (2) defining the units of analysis (Yin, 2003). As I am interested in exploring the 'well-being paradox' (outlined in Chapter 3), which arises from the dissonance between high self-reported well-being and high prevalence of socio-economic deprivation in Cornwall, a case study design is deemed appropriate. My research investigates the role of the environmental, social, cultural and economic context in shaping participants' experiences and expectations of life in Cornwall. Therefore, an embedded case study approach is taken, which consists of several cases (the individual participants) embedded in the overall case (Cornwall). As I am interested in exploring the scope of ecosystem service benefits for alleviating the effects of socio-economic deprivation in Cornwall, the sample is composed of people who experienced some form of disadvantage (e.g. long-term unemployment, health problems, single parenting, low income etc.), either in the

past or at present. The participants come from across Cornwall and represent a mixture of coastal and inland locations.

4.2.3 Sampling and participant recruitment

Participants were recruited through a gatekeeper organisation, Cornwall Neighbourhoods for Change (CN4C), a not for profit social enterprise working across Cornwall with residents of disadvantaged neighbourhoods to improve lives and create better places to live (www.cn4c.org.uk). The importance of working with respected community partners who validate the credibility of the researcher has already been recognized (Christopher *et al.*, 2008). Developing a close partnership with such organizations also facilitates trust-building. As the study involved multiple activities over an extended period of time, and in-depth questioning about personal and often sensitive matters, it was necessary that a relationship was established with potential participants in order to gain their trust and commitment to participating in my research. This is best achieved through an ongoing relationship of reciprocity (Moreno-John *et al.*, 2004; Castleden, 2008; Christopher *et al.*, 2008). Therefore, the relationship building process took place over a period of four months (November 2013 – February 2014). During this time I played an active role in the various programmes delivered by CN4C and became part of the fabric of the organization. I took up volunteer roles within two schemes offered by the Centre. One of these is aimed at adults who are socially isolated and face multiple challenges in their everyday lives (e.g. long-term unemployment, mental health problems, other health problems, lone living). The other scheme is being delivered for the benefit of local families with children to provide a platform for learning and socialising, as well as a support system for dealing with issues of inadequate housing, unemployment or low self-esteem. Having a presence in the community, taking part in social and cultural activities, and listening to what members have to say is a pre-requisite of successful trust-building (Castleden *et al.*, 2008; Christopher *et al.*, 2008).

In order to capture people's attention and attract their interest in the study I designed a brochure as a means for information dissemination (Appendix 1). This contained information about me, the researcher, the nature and general aim of the study, and a list of proposed research activities and their approximate

duration. It also highlighted the personal benefits people might gain by taking part and assured them that full flexibility in terms of time and location was being offered to suit their needs. While some authors recommend that researchers need to value the time of their participants - especially of those from low-income backgrounds - by offering financial rewards (Desai & Potter, 2006a), I decided to avoid financial incentives due to the potential biases these could inflict on the research findings. However, refreshments were provided during each activity. Interviews and focus groups were held at a location convenient for participants (e.g. their home or town/village) to avoid the need for travelling.

Participants were chosen using purposive sampling (Bryman, 2008), a non-probability sampling approach, which is not concerned with statistical generalisation. On the contrary, participant selection entails a subjective process guided by the principle of relevance for the research objective (Bryman, 2008), with an emphasis on people's characteristics and experiences of a phenomenon (Guest *et al.*, 2006; Starks *et al.*, 2007), in this case, disadvantage.

What qualifies as a sufficient number of individuals for any given qualitative study will depend on the aim and objectives of the research. The sample size for my research was intentionally small, as I did not seek to generalize or infer findings at the whole population level. Instead, I was seeking to develop a long-term relationship with participants, which would enable a series of repeat interactions. This strategy was most conducive to the overall research objective of developing an inductive, in-depth understanding of the ecosystem services - well-being relationship. The success of participant recruitment was also mediated by a number of pragmatic factors, such as reliance on people's goodwill and the challenges of doing extended research with participants, some of whom did not have routine lifestyles compatible with research schedules. This latter characteristic elevated the pressure of limited time available, and posed a challenge where meeting deadlines were concerned.

Small sample sizes are not unusual in qualitative research. Crouch and McKenzie (2006) assert that a small sample – according to them fewer than 20 - is the most appropriate for exploratory research seeking in-depth insights into an issue or phenomenon within its natural contextual. They also suggest that a large sample

size is not compatible with the depth and intensity of relationship building required between researchers and participants, as this is a lengthy and laborious exercise in itself (Crouch & Mckenzie, 2006). Others have also demonstrated that in research employing thematic analysis of interview data, 12 participants are adequate for reaching saturation, whereas meta-themes already emerge from the first six study subjects (Guest *et al.*, 2006).

The initial sample size amounted to 25. This is the number of people who took part in the focus groups. Upon completing the focus group, study subjects were invited to participate in the subsequent stages of the research (photovoice and two interviews). Information was provided about the nature and temporal implications of further activities. All together 12 people volunteered their commitment (Table 4.1), but only 8 completed the full process.

Origin	Cornish by birth	4
	Incomer	8
Employment status	Employed (part-time)	3
	Unemployed	5
	Self-employed	2
	Retired	2
Personal circumstances/ challenges⁹	Mental health issues (depression, anxiety etc.)	4
	Shock experienced (loss of home, livelihood, partner etc.)	4
	Childhood trauma	2
	Single parenting and its challenges	3
	Struggle to get on in life	2
	Social isolation (lone living, weak social networks etc.)	5

Table 4.1: Overview of 12 study participants (including 4 partial participants).

Participant retention is a common concern of qualitative research practices, due to the time commitment required (Castleden *et al.*, 2008). Non-completion in my case can be traced back to various personal limitations experienced by the four people in question. Two female participants were parents to large families (with three and four young children respectively), juggling multiple roles on a daily basis: mother, partner, and worker. While every attempt was made to fit around their hectic schedules, unfortunately they could not proceed with the project beyond the photovoice stage. Two male participants were affected by a combination of health (anxiety, dyspraxia) and social (long-term unemployment,

⁹ Some participants experienced multiple challenges at the same time

homelessness, isolation) constraints, which had led them down the pathways of non-conformity to societal rules and norms, and addiction to alcohol and other harmful substances. Perhaps due to these structurally embedded and mutually reinforcing challenges these participants became difficult to contact and eventually did not continue with the research. Despite numerous attempts to re-establish a connection with them, they could not be retained in the sample.

While four of the twelve participants dropped out part-way through data collection, this did not have overly adverse effects on the robustness and validity of findings. First, the eight remaining participants represented a diverse range of socio-economic disadvantage experienced by residents in Cornwall. For example, although participants with health problems and experience of homelessness were lost, others with these characteristics remained in the final sample. Second, although the four stages of data collection build on each other, flexibility was inherent to their design to deal with attrition and to mitigate the repercussions these might have on the validity of findings. For instance, eleven participants completed the photovoice exercise. As three people did not proceed to the interview stage, insights into their personal histories and experiences could not be developed, however, their photographs and captions were analysed and later used as prompts during interviews about access (Section 4.3.5).

4.2.4 Ethical considerations

Ethical approval was sought and obtained from the College of Life and Environmental Sciences of the University of Exeter prior to the commencement of data collection. Considerations of ethical implications and sound research practice shaped the design stage of data collection and were adhered to during fieldwork. Special attention was devoted to protecting participants' identity and privacy. Note was taken of participants' social and cultural context in order to prevent any form of disturbance to local relationships and people's well-being.

Prior to all 'on record' engagement with the research subjects, informed consent was obtained. Each participant was given an information sheet in the form of a brochure, which introduced the researcher and the purpose and objectives of the study. Participants were clearly informed about the nature of their involvement,

the types of activities planned, and the approximate length of each engagement. They were assured of the confidential and anonymous nature of their contribution and their right to freely withdraw from participation within two weeks, should they wish to do so. My contact information was made available, in case people had questions or needed to withdraw from the process. Each study subject was asked to sign an informed consent form (Appendix 2) to signify their agreement to participate, and as a confirmation that they understood the information and confidentiality and anonymity principles communicated to them through the brochure and verbal briefing that preceded each data collection activity. In the case of focus groups, the information was read out to participants before commencing and group consent was sought (Barbour, 2007). Each workshop and interview ended with a debriefing, which allowed people to reflect on the session and raise any questions or concerns they may have had. Participants' are referred to in the empirical chapters of this thesis using pseudonyms to ensure anonymity.

4.3 Data collection

In accord with the premise of the case study approach, the data collected and the conclusions drawn from analysis that followed are not intended to be representative of the entire population of Cornwall. Instead, the intention was to explore the ecosystem services - well-being relationship through rich spatially and temporally relevant accounts, positioned within the broader social, cultural, and environmental context of participants' past and present.

4.3.1 Data collection approach rationale

The overall objective of the study is to examine the extent to which ecosystem services contribute to people's well-being in Cornwall, the mechanisms through which they gain access to them, and the variety of ways in which they benefit from them. Traditionally, well-being is defined by the researchers prior to data collection, so as to guide the process. However, the underlying analytical framework of this study - the capability approach - uses the term 'functionings' to denote those 'beings' and 'doings' people value (Sen, 1985; Sen, 2008), and suggests a more democratic approach to determining what will constitute well-

being for different people in various contexts. Therefore, following the principles of the grounded theory framework (Strauss, 1987, in Bryman, 2008), this research employs an inductive approach to defining the concept of well-being. A conceptualization of what it means to live a good life emerges from the data, as opposed to being theory driven. An inductive, participant driven, definition will reflect the values of the research subjects, recognizing that constructs of well-being are embedded in the wider social and cultural context (Deneulin & McGregor, 2009).

Participatory research practices have gained increased popularity during the past few decades, especially in research conducted in the global south. Participatory practices often draw on the methods used in conventional research, such as focus groups, observations and interviewing (Cornwall & Jewkes, 1995). Participation is more than just taking part. This approach treats people as agents, rather than mere subjects. For example, Chambers regards researchers as 'outsiders' whose role should be limited to convening, initiating or facilitating activities whilst allowing 'insiders' - the participants - to act as analysts (Chambers, 1994a).

Participatory research is extremely well suited for contextual analyses, such as that in this study, as it produces 'situated, rich and layered accounts' (Pain, 2004: 653) of people's relations with each other, their social and cultural settings, and their environment. The potential of conducting participatory research in combination with the capability approach as a wider framework of thought has already been recognized (Alkire, 2002; Frediani, 2005). The rationale for a 'bottom-up' approach is also substantiated by Sen's unwillingness to define well-being in precise terms or to delimit a list of 'basic capabilities' necessary for living the life people value. While Nussbaum (2003) challenges Sen to define list of minimal capabilities, Sen (2004) maintains that it is not appropriate to enforce a pre-defined list across different contexts, and suggests that capability lists should be devised through a democratic process in collaboration with participants.

It is the overall objective of this research to collect contextually rich data on people's personal experiences to understand how they are shaped by spatial, temporal and environmental factors to explore the scope and role of ecosystem

services in mitigating the impact of socio-economic deprivation on people's experiential well-being. Hence, a multimethod and multi-stage data collection approach, with a small number of participants, was deemed most suitable. A layered model (Figure 4.1) was designed, following lessons and insights from an extensive review of relevant theoretical and empirical literature. The use of several different research methods allowed me to explore the ecosystem services - well-being nexus from different perspectives by posing different questions (Chapter 1).

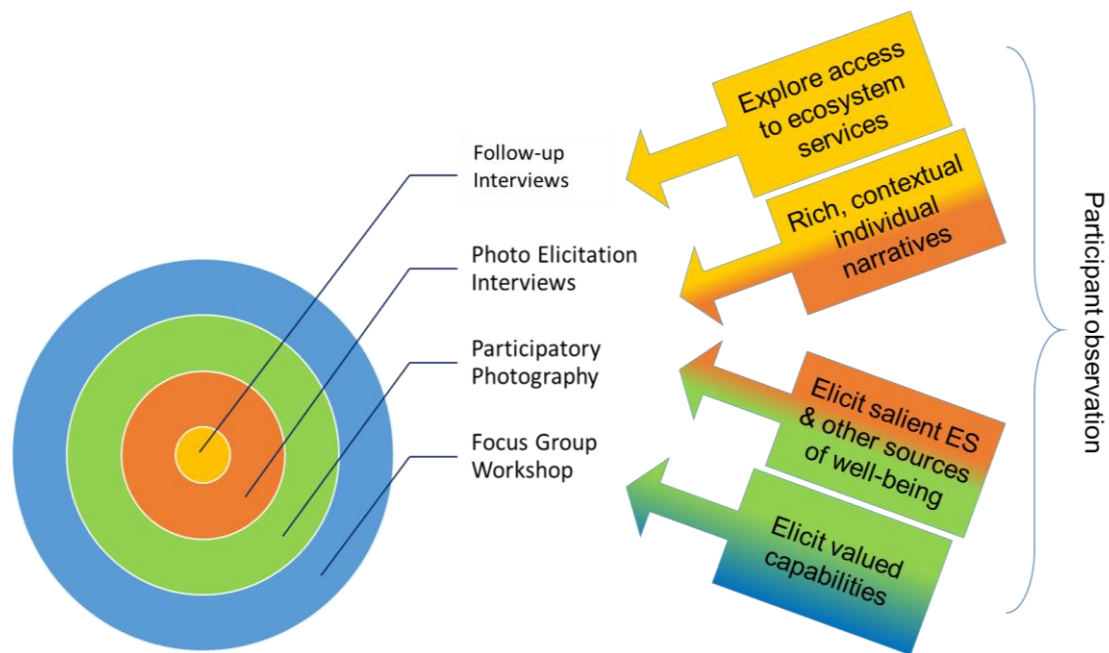


Figure 4.1: Layered approach to data collection: getting to the core of the ecosystem services - well-being nexus.

As a result, various data points were generated, which were triangulated during data analysis, further enhancing the robustness of findings. The research methods, including their respective contribution to the overall objective of this thesis, are outlined in turn.

4.3.2 Focus group workshops: local construct of well-being and capabilities

It has been recognised that constructs and experiences of well-being are situated in and influenced by people's social and cultural context, borne out of shared values and meanings (Deneulin & McGregor, 2009). A group-based method is, therefore, a suitable platform for bringing participants together to deliberate on

their conceptions of 'good life'. Focus groups, a form of structured and guided discussion (Billson, 2006) or group-based interview (Desai & Potter, 2006b), have been used with growing frequency in the social sciences since the 1960's. Focus groups 'allow participants to debate issues within the context of their own shared cultural background' (Barbour, 2007:107). They are also useful for unpicking why people think the way they do. When recruiting participants for focus groups, it is vital to make sure that there are no major differences between them in terms of power or social status, as this could jeopardise the flow of the discussion and constrain what is said (Desai & Potter, 2006b).

In total, three focus groups were organized between February and November 2014. Two of these were conducted in a conventional manner, while the third one was adapted to suit the unique needs, circumstances and characteristics inherent to participants in that group. The conventional focus groups were made up of 7 and 8 people respectively, and consisted of participants who already convened on a regular basis and were familiar with each other. Working with pre-existing groups is deemed advantageous when we are trying to explore a topic in a group setting (Desai & Potter, 2006b). The workshops lasted between 2 and 2.5 hours and both took place in Redruth, at Cornwall Neighbourhoods for Change's premises. An assistant facilitator, a fellow doctoral student, provided invaluable contribution to the success of the focus groups.

The focus groups were structured around a number of activities - such as free listing, pile sorting and pairwise ranking - and the discussions evolved from these. The use of activity oriented questions (Colucci, 2007), focusing exercises (Bloor *et al.*, 2001), and visual techniques (Desai & Potter, 2006a) in focus group research are gaining increasing popularity, as they offer an innovative and engaging approach to stimulating discussion. The first objective of the focus group workshops was to collect data that would enable a cultural domain analysis (Bernard, 2011) for eliciting a bottom-up definition of well-being. Borgatti (1994) and Bernard (2011) suggest free listing as a suitable technique for defining cultural domains. This involves asking a small number of informants to list all the items they can think to describe a particular domain, in our case well-being. Participants were instructed to name the things that they associate with 'good life' or 'living well'. They were prompted to think about the kinds of things they would

like to be able to do, be or have (Sen, 2008). Participants called out items, which were noted on a flip-chart, as well as written on small paper cards by the assistant facilitator. This process continued until saturation was reached, whereby no further items could be named. As the next step, participants were asked to sort all items into any number of piles, based on their own criteria, and to name these (Figure 4.2). This procedure is referred to as pile-sorting.



Figure 4.2: Pile sort - well-being components.

The output of this exercise was a number of well-being components (e.g. health, environment, income etc.). These components of well-being provided a basis for further analysis and discussion. Each group was asked to create a spider diagram for each item to reflect on the things that equip people with the capability to achieve these important aspects of well-being (see Figure 4.3 for an example).

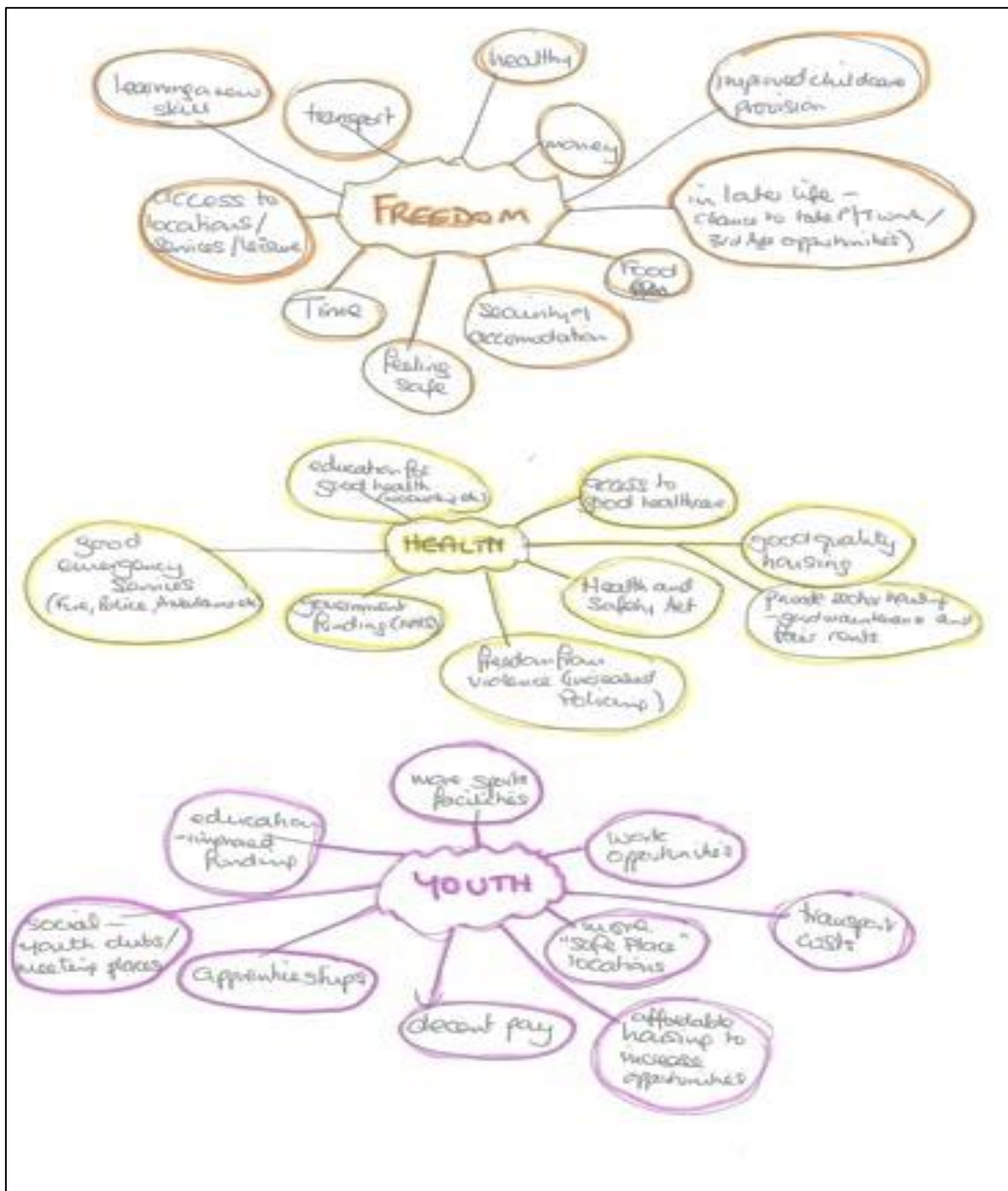


Figure 4.3: Spider diagram drawn during a focus group workshop.

The final aspect of focus groups involved a ranking of well-being components, which was initially conducted in a group setting along a continuum (from most important to least important) (Ager *et al.*, 2010), necessitating the achievement of a consensual order. However, the limitations and difficulties inherent to this process soon became apparent and the pairwise comparison (Narayanasami, 2009; Bernard, 2011) method was used instead to determine an order of relative importance among well-being components (Figure 4.4). Bernard (2011) recommends pairwise comparison as a more accurate and representative way of

gauging individual points of views, as each item is compared against all other items, hence the participants are making one judgement at a time, unbiased by the opinions of others. Participants were asked to circle one item in each pair that they consider more salient for being able to live the life they have reason to value. Figure 4.4 illustrates a typical pairwise comparison matrix from these workshops.

	Freedom	Community	Relationships	Things for youth	Equal opportunities	Environment	Health
Freedom							
Community	Freedom						
Relationships	Freedom	Community					
Things for youth	Freedom	Community	Relationships				
Equal opportunities	Equal Opportunities	Equal Opportunities	Relationships	Equal Opportunities			
Environment	Freedom	Environment	Environment	Environment	Environment		
Health	Health	Health	Health	Health	Health	Health	
How many times won	4	2	2	0	3	4	6
Rank order	2	5	5	7	4	2	1

Figure 4.4: Example of pairwise ranking results.

A third, non-traditional ‘focus group’ was carried out over the space of 2 months, between February and April 2014, with people who congregated at CN4C community centre on a weekly basis. The need for a non-conventional approach arose from a variety of personal challenges shared by participants within this group. These included social isolation, anxiety, mental health problems and in some cases a reluctance to conform to societal rules and structures. Therefore, an intensive two-hour long workshop was not feasible, and alternative arrangements had to be made. This group was given the same information about the study and its members have agreed to take part. While overall 10 people attended the weekly ‘brainstorming’ sessions, only two completed all aspects of the research process, with a further two members only partially fulfilling their initial commitment to the project¹⁰. These sessions ranged in length, between 15 and

¹⁰ This issue is addressed as one of the limitations in section 4.2.3

30 minutes at a time. Each activity described above was, therefore, carried out over several sessions, producing comparable outputs to those from the conventional focus group workshops.

4.3.3 Photovoice: well-being sources and valued capabilities

Photovoice as a research methodology was first developed by Caroline Wang and Mary Ann Burris in 1997 (Wang & Burris, 1997), following a participatory needs assessment undertaken in the Yunnan Province of China. They initially used the term 'photo novella' in an earlier publication (Wang & Burris, 1994) to describe this visual participatory method. However, after operationalising the method in their own research practice, they decided that the expression 'photovoice' is better suited to the method's ethos and objectives. As in all participatory work, the guiding principle is to empower research participants by giving them voice through allowing them to express their views and concerns (Tinkler, 2013). Photovoice builds on the traditions of feminist theory, documentary photography, and Paulo Freire's problem-posing education¹¹ (Freire, 1970). According to Wang and Burris (1997) the method has three key goals: to enable people to reflect on issues within their community, to promote critical dialogue, and to communicate these concerns to policymakers.

Since the advent of photovoice it has gained popularity among researchers working on a wide array of topics, including ecosystem services (Berbés-Blázquez, 2012), place and health (Dennis *et al.*, 2009; Freedman *et al.*, 2012), nature and biodiversity conservation (Bosak, 2008; Castleden *et al.*, 2008), public health (Wang *et al.*, 2000; Cooper & Yarbrough, 2010; Johnson *et al.*, 2010), place identity (Stedman *et al.*, 2004; Packard, 2008; McIntyre, 2010), well-being (Guell & Ogilvie, 2013), and people - place relationships (Beckley *et al.*, 2007; Moore *et al.*, 2008; Van Auken *et al.*, 2010). Photovoice is usually supplemented with other data collection methods, such as transect walks (Berbés-Blázquez, 2012), participatory mapping (Dennis *et al.*, 2009), focus groups (Cooper &

¹¹ Paulo Freire, a Brazilian educator, recognised the power of visual images in facilitating critical discussions around issues and problems among community members. He asserted that people must share their experiences, identify the links between their individual situations through the analytical process of reflection in order to develop solutions and become catalysts of change.

Yarbrough, 2010), semi-structured interviews (Wang *et al.*, 2000; Bosak, 2008), as well as photo elicitation interviews (Stedman *et al.*, 2004; Van Auken *et al.*, 2010). Photovoice allows participants of all backgrounds and levels of education to document the reality of their lives through the lens of a camera. It does not assume literacy, thus acting as an inclusive tool for reaching the difficult to reach members of society (Tinkler, 2013). Projects employing photovoice are frequently conducted with marginalised or disadvantaged subgroups of the population, such as the homeless (Wang *et al.*, 2000; Packard, 2008), rural poor (Bosak, 2008; Cooper & Yarbrough, 2010; Berbés-Blázquez, 2012), and indigenous people (Castleden *et al.*, 2008).

The underlying aim of this phase of data collection was to inductively develop a list of ecosystem services that contribute to participants' experiential well-being. While the MEA (2005) highlighted a causal link between ecosystem services and human well-being, other factors are also known to contribute to people's quality of life, such as social relationships and material resources (McGregor, 2006; White, 2010). With this in mind, participants were asked to photograph all those aspects of their everyday lives that give them a sense of well-being, without a specific focus on ecosystem services. A briefing session was conducted with all groups to explain the purpose of the task and to agree on a realistic time frame for completion. Those without a camera were loaned a digital camera, including a memory card. If necessary, help was offered with using the camera and an easy to interpret user manual - prepared by the researcher - was distributed.

Each participant was asked to create a portfolio of 25 photos, consisting of images that they believed best represented the diversity of their well-being sources. Based on lessons from existing research, this was deemed an adequate number for capturing the diversity of sources, while being manageable for analysis (Dennis *et al.*, 2009). On average, people took between one and one and a half months to produce their portfolios. They were given small cards with the instructions, which they could easily carry as a reminder. During this period several check-in sessions were held, either in a group or with individuals, to confirm that the task was correctly understood and further technical support was offered if required. Castleden *et al.* (2008) warned about the impact that seasonality and weather may have on photographers' choices and on the consequent research results. Therefore, participants were allowed to include

already existing photographs, taken at some point in the past, as long as these were a reflection of a well-being source.

In total 268 photographs were received from 11 participants. While the majority embraced the task, one participant experienced some challenge and only submitted 18 in their portfolio. This was partly due to the lack of diversity in their everyday routine, inherent to a life affected by the combined effects of social isolation, economic deprivation and health problems. Overall, however, the photography exercise was evaluated positively and described as rewarding and enjoyable. In some instances it led to the acquisition of new skills, for example, handling a digital camera or sorting and managing photographs on a computer, which gave participants a sense of achievement.

Once the photographs had been generated participants were instructed to write captions on the back of each picture, using an adapted version of Wang and colleagues' SHOWeD¹² technique. As noted by McIntyre in her study of Irish working class women, the SHOWeD questions can constrain discussions if they are not meaningful for the broader objective of the study (McIntyre, 2010). Accordingly, three questions were devised to resonate with the underlying research aims and questions (Table 4.2). The obtained captions aided the preliminary analysis of the visual data, which was further explored during photo elicitation interviews.

Question	Purpose
Where was the photo taken?	Exploring the spatial aspects of well-being: where are people when they experience well-being? Specific focus on environmental spaces.
What is happening on the photo?	Exploring the cultural practices and activities people engage in.
What does it mean to you?	Exploring the experiential aspects of well-being. How are people feeling? What meanings do they attach to places and practices?

Table 4.2: Photovoice captions and aims.

¹² The SHOWeD acronym signifies the questions Wang and her team asked people during group discussions to encourage a critical reflection on the content of the photographs. Their questions were: What do you see here? What is really happening here? How does this relate to our lives? Why does this problem, concern or strength exist? What can we do about it? (Wang *et al.*, 1998; Wang *et al.*, 2000)

4.3.4 Semi-structured interviews I: life histories and photo elicitation

Photovoice was followed by a semi-structured interview, conducted with each individual. Interviews lasted between one and two and a half hours. Consent was sought for audio recording and each interview was transcribed verbatim. Three objectives shaped the question design (Appendix 3):

1. To gather data on participants' life histories, including drawing a timeline.
2. To collect data on participants' current living context (immediate and broader).
3. To interpret the content and meaning of photographs generated through photovoice using the photo elicitation technique.

The life history interview technique was employed to explore the temporal and contextual dimensions of participants' present life situations, with a special interest in their past and present experiences. Life histories are the stories that people choose to tell, highlighting the most prominent experiences and influences along the life course (Atkinson, 2002). They are, however, more than a simple recounting of events, but rather an interpretative process shaped by the social and cultural context, as well as the linguistic and cognitive processes at play (Bruner, 1987; McAdams, 2008). The semi-structured interviewing format is well-suited for life histories, because it allows for a degree of flexibility. While an interview guide consisting of several questions was designed to ensure that key topics were explored, additional questions were formulated during the process in response to interesting and unusual events being mentioned by the interviewee (Narayanasami, 2009).

Timelines are often employed for reconstructing a detailed and chronological account of interviewees' lives (Atkinson, 1998). They are especially useful when participants have lived full and complex lives. Each interview produced a unique life history timeline, which was aimed at gathering a wealth of information on participants' past and present circumstances, and key events that have affected their life trajectories. The timeline was drawn from the participant's year of birth, through to the year of the interview. Prior to commencing, I divided the person's age by three to create smaller sections along the line, generally resulting in the

following three phases: early childhood and teenage years, young to mid-adulthood, and later years; depending on the participant's current life stage. To initiate a process of reflection, participants were asked to name two milestone events within each section, and were reminded that these could be positive or negative (Figure 4.5). The interviews produced a wealth of information about causal connections between events, cumulating trends and other complex interactions (Davis, 2009).

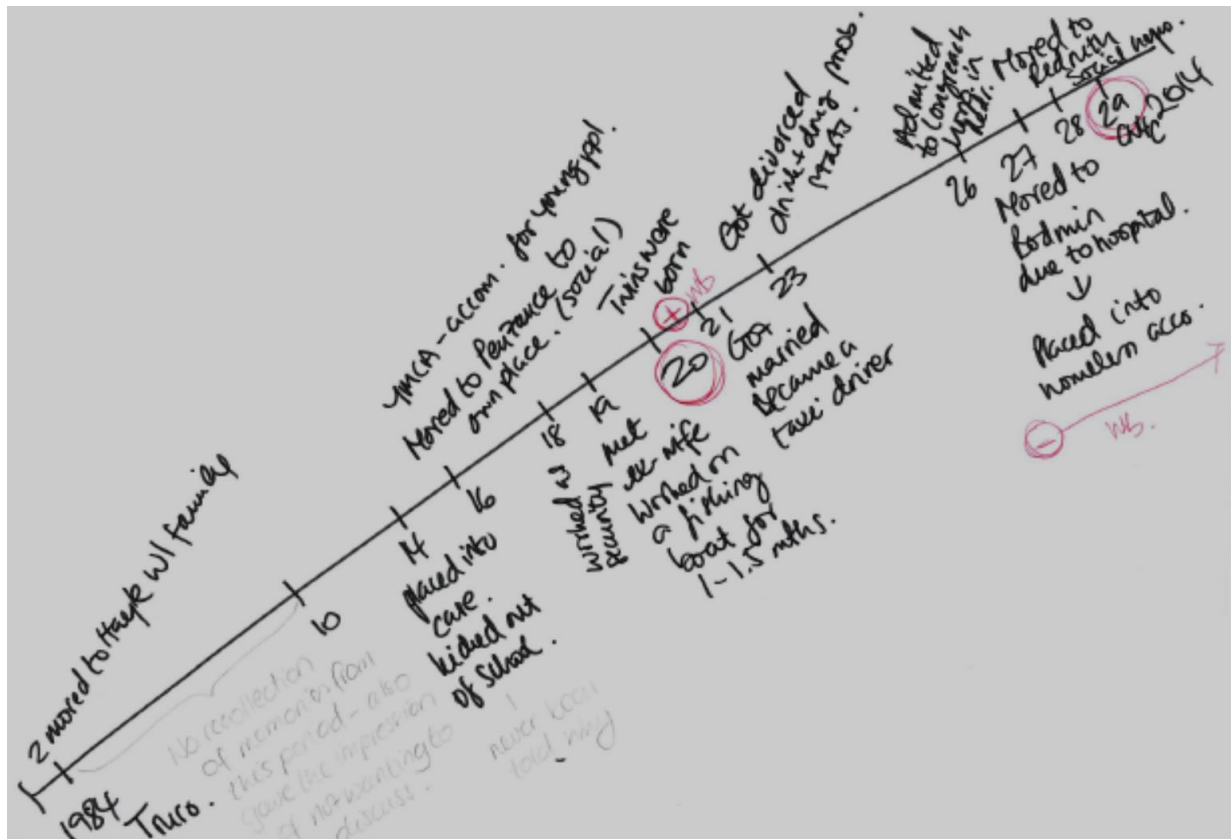


Figure 4.5: Example timeline.

Once the timelines were drawn up, participants were instructed to consider the time, or times, when they experienced the lowest and highest level of well-being. These were marked on the timeline and discussed in relation to events that preceded and followed them in order to uncover cause and effect links.

Co-producing a timeline with interviewees typically led to an outpouring of information. The process of creating a visual representation of one's life is an analytic act in itself, one that facilitates discussion (Cornwall & Jewkes, 1995). Several participants commented on the rewarding nature of the process and requested a copy of their timeline. However, the technique did not always foster

conversation. On the contrary, on occasion it inhibited the sharing of difficult memories. There were instances where talking about hard times was refused. The timeline in Figure 4.5 represents an interview with a participant who had an unstable upbringing. The period of childhood is thus virtually blank, with no memories or events appended, initially claiming a lack of recollection concerning those times: '*can't really remember much of it*' (Sam¹³). A degree of reluctance to discuss the early years was evident from the tone and body language of the interviewee, culminating in an admission that '*there is more, but don't wanna go into it*' (Sam). Photo elicitation, the third element of the interview, successfully mitigated this limitation by eliciting more detailed narratives about participants' memories and life experiences, including adverse ones, as well as producing first-hand interpretations of the photographs.

Photo elicitation interviewing served both as a means of data collection and analysis. Harper summarised the essence of the method as 'inserting a photograph into a research interview' (Harper, 2002: 13). Questions relating to participants' photos produced new information about the environments, cultural practices and the kinds of benefits people experienced through these, as well as assisted in the interpretation of the pictures. The use of photographs during interviewing has multiple benefits, from evoking memories to breaking the ice and facilitating the flow of discussion (Collier, 1957; Collier & Collier, 1986). While they capture reality from the photographer's point of view (Collier, 1957; Moore *et al.*, 2008), they are also open to misinterpretation (Stedman *et al.*, 2004; Dennis *et al.*, 2009). For example, in a study by Van Auken *et al.* (2010) a photograph depicting a golf course was initially assumed to reflect a favoured activity. However, a photo elicitation interview revealed that, in fact, it represented an unwanted form of land use. Hence, photo elicitation interviews are recommended in conjunction with photovoice projects (Stedman *et al.*, 2004). They foster a structured conversation without the constraining effect of questions and probes, allowing interviewees to talk spontaneously about places, processes and artefacts (Collier & Collier, 1986).

¹³ This is the pseudonym assigned to the participant. The empirical data is presented using pseudonyms throughout the thesis.

Instead of discussing all 25 photos, interviewees were asked to select five that they felt were most relevant for their well-being and wished to discuss in more detail (Kolb, 2008). In addition to these, I picked out three more to include in the photo elicitation (Johnson *et al.*, 2010) to ensure that a variety of well-being sources was covered, and those relating to ecosystem services were also explored. Interviews provided a platform for people to tell the story of their photos by moving beyond a mere description of the visible content, thus producing 'thick' data (Van Auken *et al.*, 2010). This process is often referred to as 'breaking the frame', as it encourages participants to look at their images with fresh eyes and to critically interrogate their content (Harper, 2002; Rose, 2007; Van Auken *et al.*, 2010). The semi-structured nature of the interview allowed for emerging ecosystem services data to be explored in more depth. The exercise proved useful for eliciting sensitive information that could not be revealed through questioning only. As mentioned previously, one participant was reluctant to discuss certain negative life events in detail during the life history part of the interview. The photos were able to remedy this shortcoming and acted as information catalysts. Because 'the facts are in the pictures; informants do not have to feel they are divulging confidences' (Collier & Collier, 1986: 106). Following the interviews, several participants mentioned that the exercise proved useful for reflecting on aspects of life that are either taken for granted, or simply not given much thought.

4.3.5 Semi-structured interviews II: capabilities and access

The final, fourth, stage of data collection consisted of another semi-structured interview (Appendix 4). The aim was to elicit further information on:

1. Participants' capability to live the life they have reason to value (i.e. well-being in a Senian sense), including the level of perceived agency and degree of choice they are able to exercise over the important aspects of their lives.
2. Access to the environmental spaces that provided them with ecosystem services, as established from data collected and analysed earlier.

In accordance with the above two objectives the interview guide was divided into two main components. First, a set of open-ended questions was administered to

gauge the extent to which participants were able to attain well-being. Second, participants were presented photo cards (Appendix 5) containing images of twelve types of environmental spaces which emerged from the photovoice and photo elicitation data:

Sea	Fields	Harbour
Beach	Woods	Fresh water (stream, lake, pond, river)
Public gardens	Parks	Public footpath (inland)
Home gardens	Local landscape	Coast path (coastal)

These photo cards were a collage of photographs taken by the participants during the photovoice exercise.

While the ultimate objective was to discover the access¹⁴ mechanisms that mediate participants' ability to benefit from ecosystem services, this was achieved by using environmental spaces as a proxy for ecosystem services. The UK NEA defines environmental spaces as the geographical settings, such as places, localities, landscapes and seascapes, that foster people-nature interactions (Church *et al.*, 2014). Fish *et al.* (2014) recognize the complexities inherent to classifying environmental spaces. They assert that 'no single taxonomy of spaces and attributes exist to delineate these cultural contexts of human interaction and ecosystem benefit' (Fish *et al.*, 2014: 33), as these are attached significance through personal experiences and value systems, which will vary across stakeholders and depend on their purposes. Therefore, my classification scheme emerged from prior interview data, and is thus reflective of participants' views.

Participants were asked to sort the photo cards into three piles according to their use of the environmental spaces depicted on them (use on a regular basis, use infrequently or rarely, do not use at all). Each pile was discussed in turn, eliciting information about access to, motivations for use, and the experiences of environmental spaces. Some interview content is referred to multiple times in the three empirical chapters, because the issues these chapters address are

¹⁴ By access, the ability to benefit from ecosystem services is meant (Ribot & Peluso, 2003).

interlinked. Therefore, several statements resonate with multiple aspects of the research and separating them out is not feasible.

4.3.6 Participant observation: additional insights

Participant observation is often used in small-scale case study research in combination with other methods, such as the ones employed in this study (Desai & Potter, 2006b). Beyond offering a greater degree of insight, it also helps building rapport with study subjects (Chambers, 1994b). Due to the long-term commitment sought, it was vital that every effort was made to establish trust and rapport with participants. This was achieved by taking up a voluntary role at CN4C, which facilitated regular engagements. These, in turn, produced a thorough understanding of participants' personal circumstances and the effect of social and economic factors on these. Notes from these encounters were invaluable for an informed interpretation of the data collected through other means (interviews and photovoice). For instance, some participants grappled with fully engaging in more formal ways of data collection, but were happy to openly share their 'story' during informal conversations. Hence, while brief responses were presented to interview questions, these informal interactions were characterised by a free-flow of information.

4.4 Data analysis

Data analysis follows the principles of the underlying epistemological approaches (Section 4.2.1). I was interested in developing a bottom-up definition of the good life and exploring the relative importance of ecosystem services for well-being using an inductive open-ended approach. To this end, I deemed participatory methods (focus groups with participatory exercises and photovoice) most suitable, as they allowed me to engage participants in the analysis of the emerging data. Using interviews, I then went on to explore whether and how ecosystem services enhance participants' well-being and the various mechanisms that mediate access to these. Data collected this way was subjected to thematic analysis.

4.4.1 Participants as active data analysts

Participatory research is more than simply taking part. Freire (1997) emphasized that research subjects are entitled to have an active role in producing knowledge. Thus, in good participatory research, data analysis should commence in the field, in partnership with study participants. Provisions for enabling a fruitful co-production of knowledge are made as early as the design stage of the study. Data collection methodologies ought not be constrained by rigid structures, such as is the case in structured interviewing or questionnaires (Chambers, 1994b). On the contrary, methodologies need to be reflexive, iterative and open (Cornwall & Jewkes, 1995) to enable a 'reversal of frames: from etic to emic' (Chambers, 1994b: 1262). Such reversal occurs when the knowledge produced is reflective of the values and categories of study subjects rather than the researcher, or outsider. In keeping with these principles, data analysis was interwoven with data collection at multiple stages of the study.

The inquiry of focus group workshops was not limited to eliciting a list of valued 'beings' and 'doings' (Sen, 1985). During the focus groups participants were encouraged to perform the analytic task of evaluating each item on the list with the aim of creating categories consisting of multiple items that they believed belong together. The piles were configured by participants, without interference from the researcher. Therefore, the consequent categories, referred to as well-being components, were the product of a participant driven analysis. Each workshop concluded with a ranking exercise performed using the pairwise comparison technique, described in section 4.3.2. These results are reported and discussed in Chapter 5.

Participants' contribution to the analysis of photovoice photographs was also sought. Stedman *et al.* (2004) assert that a photograph can be susceptible to misinterpretation as it may hold different meanings for different people. Content analysis is a frequently employed technique in studies of visual representations. While this systematic approach is excellent for handling large numbers of images, its strengths are thwarted by the assumption that different viewers can arrive at an identical interpretation of any given image (Rose, 2007). One of the greatest advantages of photovoice resides in the photographs being produced by study

participants themselves. Therefore, in keeping with the ethos of participatory researching, which is at the heart of photovoice, participants were invited to assist in the analysis of their pictures. This was achieved by two means. People were, first, asked to write captions on each photograph stating the geographic context, followed by an account of the intended message, and concluding with explaining the meaning it carries for the author. By doing so, the risk of misinterpretation was minimised. Second, photo elicitation interviews were conducted in order to develop a rich contextual understanding of the ecosystem services – well-being nexus. While content analysis could have been employed to elicit a list of ecosystem services visible on the images, these would have been distorted by my pre-existing theoretical knowledge. Instead, photo elicitation revealed nuances invisible to the eye. The benefits of this are well demonstrated by findings in Chapter 5, which reveal that in some instances participants gain an enhanced sense of well-being as a result of the cultural practices rather than the ecosystem services visible on the photographs. For example, images of vegetables, flowers and gardens could be associated with provisioning or supporting services, yet their intended meaning relates to the practice of cultivating the garden.

4.4.2 Thematic analysis

Thematic analysis is often employed in phenomenological inquiry. Phenomenology uses an interpretative lens in order to understand, explain and describe people's lived experiences (Charmaz, 1996; Starks & Brown Trinidad, 2007). I set out to inductively examine the ecosystem services and well-being link through local constructs and perceptions of these phenomena. Therefore, thematic analysis was deemed the most appropriate mode of enquiry for the interview data. Thematic analysis constitutes the extraction of patterns within a body of data (Braun & Clarke, 2006). While themes may be theory driven, also referred to as *a priori* themes, predominantly they are inductively developed from empirical data through the process of open coding (Ryan & Bernard, 2003).

The process of analysis commenced during the transcription of interviews by familiarising myself with the meanings within the data set (Braun & Clarke, 2006). Coding was carried out following the principles of grounded theory research

(Glaser & Strauss, 1967), allowing themes to emerge from the data, rather than trying to align these with existing theoretical frameworks.

Initially, each interview transcript was subjected to line-by-line coding. By doing so I was able to initiate a bottom-up analysis, keeping an open mind to what the data were telling me (Charmaz, 1996). The distinction between code and theme is often blurred due to these being used interchangeably. However, codes, or coded data segments, can form part of several themes (Braun & Clarke, 2006). Data were examined critically in relation to the research questions (Braun & Clarke, 2006). Charmaz (1996) suggested asking the following questions about our data to maintain analytical rigour and avoid the trap of descriptive accounts:

1. What is at issue?
2. Under which conditions does this develop?
3. How does the participant think, feel and act in relation to it?
4. When, why and how does it change?
5. What are the consequences?

The initial coding was followed by several readings of the data set, refining and identifying new codes until a level of saturation was reached. Initial themes already started to develop during this phase. These mostly consisted of repetitions (Ryan & Bernard, 2003), topics that occurred several times across the data set. Themes were further developed by identifying overarching themes and related sub-themes. Thematic maps were created to develop links and explore relationships between the emerging issues, resulting in an analytic narrative revealing novel insights into the well-being and ecosystem services relationship.

4.5 Summary

This chapter provides a detailed account of the overall research design, its underlying rationale, research methods and the data analysis process. The research design and analysis were guided by the capability approach to well-being (Chapter 2), which serves as the evaluative framework for exploring the scope of ecosystem services for mitigating economic deprivation and thus enhancing experiential well-being. Furthermore, insights gained from the wider literature on ecosystem services, well-being and access to natural resources

(Chapter 2) inspired and informed the selection of methods for empirical data collection. Table 4.3 summarises these, linking research questions with the relevant method and related outputs.

Objective: To explore the ecosystem services and well-being relationship?			
Research Questions	Data collection method	Data collected	Data analysis and outputs
1: How do participants living in Cornwall construct well-being? 1.1: Which capabilities are valued? 1.2: What underpins the formation of capabilities 1.3: What affects the conversion of capabilities into functionings?	Focus group FG1: 7 participants FG2: 10 participants FG3: 8 participants Activities: free-listing, pile sorting, discussions Interview 1 & 2 8 participants Activities: timelines and questions on capabilities	Focus group: Context specific list of things people need to be able to be, do, have for a good life. Categorised into WB domains (e.g. health, social relations etc.) Interview 1: life history and timeline, highest and lowest well-being Interview 2: choice, agency and capability to live the life people value	Pile sorting of free lists by participants → items and domains Pairwise comparison of well-being domains → ranking Thematic analysis of interviews
2: How do ecosystem services (if at all) contribute to participants' well-being? 2.1: Which ecosystem services are most salient? 2.2: How are ecosystem services linked to capabilities and well-being?	Photovoice 11 participants (3 did not participate in the interviews) Photo elicitation interviews 8 participants (+ 1 semi-structured interview with a participant who did not take part in photovoice; total: n=9) Activities: photo prompts and questions about well-being	Photovoice: participants generated photographs; n=268 Photo captions: written by participants on each photo in response to three questions Photo elicitation interviews: narratives around photos	Thematic analysis of captions and interviews Ecosystem services table: environmental spaces, cultural activities, ecosystem services and benefits Preliminary typology of access mechanisms
3: Which factors support or hinder access to ecosystem services? 3.1: What types of access mechanisms mediate this process? 3.2: What is their relevance in a capability approach to ecosystem services?	Interview 2 8 participants Activities: photo prompts and questions about access to environmental spaces	Interview 2: narratives around access to environmental spaces and ecosystem services	Thematic analysis Typology of access mechanisms

Table 4.3: Overview of research methods.

Chapter 5. The pursuit of well-being: freedoms, constraints and multidimensional capabilities

5.1 Introduction

My research explores well-being as it is defined and conceptualized by the participants themselves, rather than applying an academic, or researcher-led, definition. I refer to this as an inductive definition of well-being, one that is sensitive to the social, economic and geographic context, as well as people's circumstances. This is important, because the respondents who took part in the study are all constrained by some form of socio-economic disadvantage or have lived through difficult episodes in the past, which likely affects their perceptions of what living well means.

This chapter presents a discussion and analysis of findings elicited through a wholly qualitative in-depth inquiry (see Chapter 4), including an overview of the ten valued capabilities. The thematic analysis of data reveals several interesting dynamics that determine participants' well-being outcomes, such as the challenges inherent in the interlinked nature of capabilities, trade-offs that have to be negotiated due to various limiting factors, and the variety of roles people are trying to balance in their everyday lives. Each of these has important implications not only for people's capability sets, but more importantly for their ability to pursue these, which is where, according to Sen, attention should be in well-being research (Sen, 1985). The transition from capabilities to achieved functionings (or well-being outcomes) involves a process of choice. The ability to choose to live the kind of life one values is also referred to as well-being freedom (Sen, 1985, 2008). However, people's capabilities and freedoms are constrained by a variety of factors, including personal characteristics and social structures (Robeyns, 2000; Sen, 2008). This means that people may not be able to pursue some capabilities available to them due to a range of constraints. A number of such limitations emerge from this research and these are discussed in the present chapter. Caution needs to be applied, however, not to confuse constraining factors and preferences, as the latter are a result of a value judgement and thus freedom is being exercised. On the other hand, freedom and the ability to choose,

in itself, can be intrinsic to well-being (Narayan, 2000; Sen, 2008), as findings from this study also demonstrate.

5.2 Local constructs of well-being

The capability approach has been primarily developed for the evaluation of human well-being. It offers valuable insights for the investigation of multiple aspects of well-being, including poverty and inequality, both at the individual and group level (Robeyns, 2005a). The key aspect that sets it apart from other theories of well-being is that it distinguishes between means and ends (i.e. between effective capabilities and functionings); this also presents its greatest challenge to implementation. While Sen recognizes that observing or measuring capabilities is not straightforward, he maintains that they should be at the centre of our inquiries as they reflect people's freedom to live the kind of life they have reason to value (Sen, 1985, 1990, 1999b, 2008). Despite this, the challenges inherent to accessing adequate information about people's opportunities has often led to functionings being used as the key variable for measurement, especially in large scale quantitative research (Robeyns, 2006).

Although focusing on capabilities greatly reduces the possibility of imposing a top-down notion of well-being, consensus on how capabilities should be elicited is still outstanding (see for example Nussbaum, 2003 and Sen, 2004). Martha Nussbaum's insistence on a list of fundamental capabilities (Nussbaum, 2000a, 2003) faces criticism from Sen, who upholds that capabilities ought to be identified through a 'democratic process' (Sen, 2004, 2008) in order to account for the characteristics of people's context. These contextual factors can be manifest in the components of the capability list itself (What do people value? What gives them a real opportunity to pursue valued outcomes?), and in the conversion of capabilities into functionings (conversion factors). Smith and Seward (2009) refer to the intimate links between capabilities and people's context as 'contextual causality'. Moreover, Sen asserts that pre-defined categories would only reflect the worldview and position of the researcher whilst failing to capture what really matters: the experiences and perceptions of the research subjects (Sen, 2004).

Although, to date, Sen has not provided guidance on the practicalities of eliciting capabilities, participatory approaches have been proposed as a useful tool (Alkire, 2002, 2005; Frediani, 2005; Robeyns, 2005a, Robeyns, 2006) as they lend an open ended and loosely structured framework that allows for emerging data, including unexpected findings, to lead further enquiry. This cannot be achieved solely by means of quantitative tools such as questionnaire surveys. Therefore, primary data was collected through participatory means, which was then synthesized to develop a list of context-specific valued capabilities.

5.2.1 Valued capabilities

The ten valuable capabilities that emerged from the three focus group workshops reflect those aspects of life and living that participants feel are vital for positive well-being outcomes, i.e. the ‘effective opportunities to undertake the actions and activities that they wish to engage in’ (Robeyns, 2005a: 95). Capability categories are derived from the data collected during focus groups, including the free listed items that constitute these categories and the subsequent discussions that evolved around these. Participants, therefore, played an active role in analysing the data they produced, and their consequent interpretations provided a platform for further analysis by me, the researcher. This collaborative process of analysis led to the identification of ten key valuable capabilities (Table 5.1).

Valued capabilities	Capability categories	Valued capabilities	Capability categories
Social relations and networks	People, friends, family, community	Things to do	Things to do for young people, activities, interests, leisure
Health	Health, wellbeing	Pace of life	Pace of life
Employment	Jobs, income	Freedom	Freedom
Natural environment	Environment, countryside, weather and climate	Opportunities	Equal opportunities, diversity
Housing	Housing	Mobility	Transport, access to places

Table 5.1: Ten valuable capabilities identified in the study and corresponding capability categories. Source: Author.

At this stage it is important to clarify the distinction between capability categories and valued capabilities. Capability categories denote key aspects of life distilled by participants through discussions during the workshops. However, while groups may have referred to these using different expressions, many are not distinctive from each other in their essence. For instance, the categories friends, family, people and community are all features of participants' links to their social context. Therefore, these all denote the valued capability of having social relationships and networks.

5.2.2 Capabilities, relatively speaking

Sen asserts the need for a shift in attention in well-being research from outcomes to capabilities. Capability 'reflects the person's *freedom* to choose between alternative lives' (Sen, 1990: 118). Therefore, the relative significance of capabilities is of interest in order to explore which capabilities are responsible for the freedom to live well as perceived by the participants. To evaluate the relative importance of valued capabilities in relation to each other, participants were asked to rank these using the pairwise comparison method (see Chapter 4 for a detailed explanation and justification).

Focus Group 1	Focus Group 2	Focus Group 3
1. Health	1. People/Friends/Family	1. Health/Wellbeing
2. Environment	2. Jobs/Income	2. Community/Family
2. Freedom	2. Housing	3. Environment
4. Equal opportunities	4. Activities/things to do	4. Jobs
5. Community	5. Countryside	5. Housing
5. Relationships	6. Pace of life	6. Interests/Leisure
7. Things to do for young people	7. Transport/Access to places	7. Transport
	8. Weather/Climate	8. Diversity

Figure 5.1: Ranked capabilities.

Figure 5.1 demonstrates the capability categories identified by the three groups, including some of the observable differences in their conceptualization of well-being. These are reflective of the apparent differences between the groups. The

colour scheme organizes the capability categories according to the valued capabilities that they constitute (see Table 5.1).

For participants in Group 1, which consists of middle-aged and older people (50 years +), health and healthcare are a prime concern, because 'if you're not healthy, would you be able to enjoy a good life?' (FG1). Undoubtedly the deterioration of health has a permanent negative effect on well-being (Easterlin, 2003). The absence of capabilities linked to the fundamental aspects of well-being, such as employment, income and housing indicates that less tangible capabilities are emphasized. These include social relationships, freedom and opportunities. Helen, for example, alludes to the psychological need for human interactions and relationships: 'Everyone needs some kind of relationship...whether it's a family relationship, friend relationship...you know...partnership relationship'

Findings from existing research on the link between one's stage in the life course and well-being (Blanchflower & Oswald, 2008) offer a possible explanation for the choice of more 'abstract' capabilities. Based on this rationale, we could assume that participants' present life stage holds implications for decisions regarding which capabilities are considered valuable. For instance, using a life-cycle approach, Blanchflower & Oswald (2008) found that after controlling for age-related factors such as income, health and employment, a U-shaped curve of well-being can be detected. Consequently, people around their mid-forties experience a slump in well-being due to the gap between their aspirations and actual achievements. However, the curve exhibits an upward slope once mid-life is passed. The conclusions drawn by Blanchflower and Oswald lend themselves well to explaining the less materialistic position occupied by members of Group 1, who, at the time of fieldwork, had an average age of 59.7 years. The financial, psychological and physical strain associated with employment and parenting diminishes as people approach their 50s and 60s, transforming the nature of their well-being aspirations and perhaps making space for non-materialistic objectives such as those identified by Group 1.

Group 2 and Group 3 developed six overlapping capability categories during their respective workshops (social relationships, employment, housing, things to do,

mobility and the natural environment). While both groups consist of relatively younger people with an average age of around 40 years, there are key differences in their demographic characteristics. Members of Group 2 experience the greatest degree of disadvantage among all study participants. Three of the four men in this group have lived through a period of homelessness, all participants are unemployed, live in social accommodation (apart from one man who lives with his elderly parents) and suffer from a health condition, including mental health issues such as depression and anxiety. On the other hand, Group 3 is made up of women with young families, most of whom work part-time and live in secure accommodation, whether social, private rented or owned. Nonetheless, both groups emphasize the significance of fundamental capabilities such as employment, housing and mobility, which are seen as key to meeting one's most important needs and thus crucial for the ability to live well. The following selection of statements demonstrates shared concerns about having a roof over one's head, earning a living and having access to transport:

'Having a job is important – to live, to pay the bills. Otherwise life is a struggle.' (FG2)

'That can have an effect on health. That can have an effect on a lot of other things. The fact of not having the transport.' (FG3)

'Having a roof over your head.' (FG2)

However, a few differences can be observed in the rank order of the capability categories. Group 2 emphasizes the importance of social interactions and relationships, which provide the linking node to the broader community, to sources of help and support, and prevent the risk of isolation and loneliness. Charlie, for instance, explicitly recognizes the supportive role of '[f]riends and family, [because] without them people can easily get isolated'.

It is evident then that achieving a unanimous rank order of valued capabilities is not an unproblematic exercise. This is in large part due to the dissimilarities between research participants' circumstances, which essentially determine their needs and preferences for particular capabilities, and bear important implications for their instrumental value for achieving particular well-being objectives.

5.3 Capability formation

A close look at the data reveals three themes present in the underlying discourses of all three groups: access (here referred to in the broader sense, not only to mean the physical accessibility of places), affiliation and security (Figure 5.2). These are instrumental for capability formation, either by supporting or constraining participants' effective opportunities. They act as a web of interrelated contextual factors which influence the development of capabilities. In conceptual terms, they provide the linking node between participants' social and physical context and individual circumstances.



Figure 5.2: Three mediating factors of capability formation.

5.3.1 Access

Access in this chapter is discussed in a broad sense and it is not limited to access to places, which is discussed in detail in Chapter 7. Here access represents a finding, as one of the three factors that influence capability formation, while Chapter 7 is dedicated to the third research question, which seeks to explore participants' access to environmental spaces and thus ecosystem services.

Access to opportunities, healthcare, transport, information, as well as places is emphasized by all participants. Access to education, especially later on in life, is highlighted as one of the most pressing issues that concerns participants. Several participants dropped out of education due to a variety of reasons, for example, the lack of positive role models, unstable home and family circumstances or learning difficulties that put them at a disadvantage. Helen feels that courses and access to new skills are crucial for people in her situation. She has been unemployed for a number of years. Admittedly, her low self-esteem can be traced back to a low educational attainment and a lack of skills: 'I got put down at school, even by the teacher...and it knocked my confidence...it's only last few years that my confidence built back up...because I missed that in school life... I'm dyslexic, and I had a teacher turned round and said "you're dyslexic, you're thick, you'll never get a job, all you're gonna end up doing is be a single parent"... So, getting education, training for people my age...because I've missed out a bit.' Helen is convinced that improving her skills will increase her chances of finding suitable paid employment.

Discussions during focus groups revealed a strongly felt need for continuously expanding and diversifying existing skill-sets to improve employability. This need is intensified by the lack of choice that characterises the local job market and the increasing dominance of seasonal and agency work, which may not provide a year-round income. Therefore, participants stress that having several skills is an advantage, however, the cost associated with training poses a barrier to pursuing such ambitions. This is exemplified by Anna and Eva's exchange:

Anna: 'My husband wants to get more access to skills. If he wasn't working he would get them for free. But because he is working, it's so expensive and he can't do the course.'

Eva: 'Yes, I had to leave my job, become unemployed, to get reskilled to be on the government things.'

Access to employment is, however, not only blamed on the lack of skills and training. The high cost and unreliable nature of the transport infrastructure in Cornwall is highlighted as another significant barrier. Stephen views this as a

'really major problem...the cost of transportation...and the fact that they're cutting back on some bus routes now...you know, and that's going to make things even worse.' Thus access to employment and other opportunities is often conditioned by access to transport - whether private or public - the affordability of which is dependent upon people's financial resources creating a self-reinforcing circle of constraints. For example, David highlights the isolated nature of the fishing town where he lives: '...we've only got the one bus going through the town, or village...It's on the route between Penzance and Falmouth, and it's every hour. There's a bus every hour. We are fortunate to have it every hour...There was a time not that long ago when it was every two hours.' He goes on to explain that not learning to drive and remaining reliant on public transport has had a series of negative repercussions on his opportunities, first for education: 'Well, I did study back in the 80s, the early 80s...I found things a bit difficult then for the group meetings. I had to go all the way over to Camborne. I had no transport. The public transport was worse than it is now, if that's possible. Or it seemed so at the time, anyway. So I dropped out, didn't complete it.' And later, for work: 'It would have changed my whole life if I had a driving licence way back! Well, the kind of employment I would have had, for one thing. I wouldn't have necessarily been unemployed for long periods...If I had a driving licence I think it would have made all the difference.'

While there are various sources of support available, participants are often not aware of these. Thus making information about what people are entitled to more 'visible' and comprehensible is seen as being conducive to better outcomes. Jenny emphasizes that the acquisition of such information is also challenged by the lack of 'mod cons' and access to the Internet, which are beyond some people's financial means: 'Being able to actually get information. Not everybody has Wi-Fi, not everybody has got the so called mod cons down here. It's access in terms of being able to get...and knowing what you're actually entitled to. And knowing where to look. That's the other thing!' By this, participants do not only mean awareness about financial support, but also include opportunities available in the local area, for instance, groups and clubs that provide a platform for activities and social interactions. Social networks are seen as crucial for better access to information.

An awareness of possibilities bears important consequences for participants' evaluation of feasible well-being objectives and the consequent decisions regarding which capabilities to further. As a result, trade-offs arise due to the apparent disjuncture between people's well-being objectives and effective opportunities. These are discussed in section 5.4.2.

5.3.2 Affiliation

Affiliation is manifest in the relationships participants foster with their social context, for example, friendships, social interactions and familial ties, and in the sense of belonging and rootedness that people feel towards the geographic and environmental locations they inhabit. To some extent, these findings resonate with discussions about social capital and place attachment in existing literature. While traditionally both concepts are interpreted as something desirable, I find that they have positive and negative implications for participants' capabilities.

Social networks and relationships

Helliwell and Putnam highlight the instrumental role of social capital in the creation of well-being, because those with supportive friends, family or co-workers 'are less likely to experience sadness, loneliness, and low self-esteem' (Helliwell & Putnam, 2004: 1437). Social capital thus includes those aspects of life - networks, norms, trust and reciprocity - that enable people to act collectively as well as provide access to additional resources through social connections (Narayan, 2000; Helliwell & Putnam, 2004; Cattell, 2001; Putnam, 2009). The statement of a mother when talking about access to information sums up the importance and meaning of social relationships in Cornwall: 'Cornwall is all about who you know' (Jenny). Social networks and ties feature prominently in participants' narratives and emerge as a strong determinant for capability formation.

One's family and friends represent the most fundamental form of social relationships (Woolcock & Narayan, 2000). These alliances can boost social support, self-esteem and identity (Cattell, 2001). For instance, the emotional support received from those close to participants evidently fosters their feelings

of self-worth and has a lasting positive effect. This is evident in the case of Rob, who has no family around to support him, lives alone, has been unemployed for years, and suffers from anxiety. He recalls his relationship with his late partner: 'I met somebody. I stayed with her. I was with her and she got cancer of the pancreas, so it was a trauma...She had a really profound effect on me, a really positive effect on my life, because [of] the love that she's shown me.'

However, findings also point to the contrary, whereby family relationships can constrain participants' capability to live well, especially when trust, reciprocity and empathy are absent. Participants who experience negative social relationships are left with emotions of resentment and blame, as well as have lower self-confidence, feel rejected, and suffer - or suffered in the past - from some form of mental health issue (e.g. depression or anxiety). For most participants these experiences occur during the early stages of life, i.e. during childhood or teenage years. Sam, a 30 year old Cornish man, explains how he '...went through some bad times. Ended up cutting myself, tried kill myself, done lots of drink, lots of drugs and just ended up messing up' as a result of feeling rejected by his mother as a child. Now he only feels resentment and blames his mother's decision to 'get rid' of him for his own failings: 'my mum's just a person...I've got no feelings for her, no feelings whatsoever.' Louisa, a single mother in her mid-forties, had a particularly hard time growing up and living through the physical transformations of her teens due to the lack of empathy on her mother's part, which led to negative feelings about the self and a sense of solitary struggle and suppressed fears: 'It was really difficult, and I think my mum made that quite hard for me'. She recounts the physical punishment that followed forbidden issues being raised: 'when I started my periods she was just really nasty to me, and we weren't allowed to talk about that, and if you talked about it you used to get a thick ear.' Consequently, between 13 and 18 Louisa was very unhappy: 'I hated my growing up, teenage years. I felt very isolated, lonely and shy.'

Therefore, participants emphasize the role of their broader social spectrum, which for some acts to outweigh the adverse effects of negative familial experiences from the past. Friends are perceived to be often 'more use to you than your family' (Louisa). The assumption of reciprocity among friends creates a sense of security – knowing that there is someone that one can call on. As

Louisa puts it: 'When you have friends you end up helping them, and hopefully they help you as well.' Besides acting as a buffer, friendships are also recognized for their contribution to preventing social exclusion, because if you 'don't have a group of friends, you wouldn't have anyone to talk to. It would be very isolating' (Wendy).

Furthermore, affiliation to groups plays a crucial role in linking participants with their wider community and in enhancing social integration. Belonging to various groups - whether religious, family oriented or other - enhances participants' opportunities in more ways than merely fostering social interactions. The support received from fellow group members boosts self-esteem and confidence, and instigates a 'can-do' attitude. Sam, for instance, found the support he needed to turn his life around at a local charity, CN4C. From an initially fatalistic position, he transformed into someone who is looking forward to a better future, for himself and his children. As a result, Sam became proactive about taking control of his situation: 'I felt that I needed to take the next step in order to get me that work.' In Sam's case, affiliation to a group substitutes missing family networks, prevents social isolation and links him with others facing similar challenges in life. Participants find comfort and reassurance from peers in the group, which consequently improves their ability to cope with adverse situations. For Louisa, who is not native to Cornwall and does not have family locally, kids' club at CN4C provides a platform for vital interactions with other parents. As caring for her family is a highly valued capability, receiving support from the group aids her in dealing with the challenges of parenting, thus enhancing her capability to provide adequate care for her son: 'It's handy to have a chat with other parents sometimes if you've got issues with your kids. It's nice to have not even a bit of advice from them, but just to know that you're not the only one that's going through that problem.'

Affiliation to a group or community also lends participants a sense of belonging, which motivates them to pursue their well-being objectives, thus enhancing the capability of self-realisation. For example, being part of her town's community gives Marie a sense of purpose and the enjoyment of various benefits: 'It's just how I interact with the community around me really. That I have a contribution to make and that they also have a contribution.'

The nature of relationships identified during this research resemble the idea of bonding social capital (Woolcock & Narayan, 2000; Adger, 2012), because social ties are formed horizontally between relatively like-minded people who share common interests or objectives. While participants benefit from access to additional opportunities or resources through kinship and group membership, the networks remain mostly homogenous. As such, they fail to create links between people from very different socio-economic backgrounds - described in the literature as bridging social capital (Helliwell & Putnam, 2004). The data lacks evidence of connections with people and groups external to participants' own socio-demographic context. While the existing social networks are essential for harnessing important capabilities, in the absence of bridging social capital, these may offer limited opportunities. As Woolcock and Narayan (2000) put it, they help people to 'get by' but they are not sufficient for 'getting ahead'. The role of social networks for facilitating access to environmental spaces and ecosystem services is discussed in Chapter 7, where social-relational mechanisms are identified as one of four key mediators of access.

Place attachment

The relationship to and appreciation of places is the second dimension of affiliation in participants' narratives, referred to henceforth as place attachment. Place attachment is understood as the affective emotional bond between people and places (Hidalgo & Hernández, 2001; Stedman, 2003), including the personal meanings that people associate with them (Urquhart & Acott, 2013). These are the product of the 'collection of meanings, beliefs, symbols, values, and feelings that individuals and groups associate with a particular locality' (Williams & Stewart, 1998: 19). Participants' narratives reveal four spatial scales at which place relations develop: the home or residence, the neighbourhood, the town or village, and Cornwall as a whole.

Length of residence is a frequently cited prerequisite of place attachment (Hernández *et al.*, 2007). It is often assumed that the longer people live in a place the greater their attachment grows to it. Indeed, the findings show that participants who are native to Cornwall demonstrate a much deeper sense of

affiliation to their locale than those who migrated here from other parts of the country. Sam and Charlie, both Cornishmen, consider their home town part of their identity: 'it's part of me' (Sam and Charlie). Identity is a group phenomenon shared by people who inhabit and identify with a particular geographic or national region (Smith, 1991). Such self-definition rooted in the place arises as a result of a cognitive process of meaning making (Scannell & Gifford, 2010). Neuroscientific research reveals that human-nature interactions can undeniably be traced back to neural processes in the brain, which are associated with place memory, place learning and orientation, perception, behaviour and emotion (Lengen & Kistemann, 2012).

In this case, recollections of the childhood and growing up are linked to particular environmental spaces, thus contributing to the development of self-identity, including the interpretation of where the self fits within a spatial context. Environment-related cognitions of this kind can also be thought of as the person's 'environmental past' (Proshansky *et al.*, 1983). Charlie explains his relationship with the St Ives area by saying: 'The whole area is kind of my home...'cause I remember as a child swimming on the beach in the harbour.' Further conversations with him reveal that the sea and beaches in particular hold a deep meaning for his identity: 'I was born by the sea and I spent my childhood on the beaches. It's my kind of area.' Likewise, Sam expresses a close affinity with the beaches he spent his childhood days on: 'That's a picture of Gwithian beach where when I was a child I used to spend a lot of time. Just playing on the beach in the rock pools, swimming, building my sandcastles, looking over out St Ives...It's part of where I was born, where I was brought up. Yeah, the beach is my life, really!' (see Figure 5.3 for Sam and Charlie's photographs). Cattell *et al.* (2008) suggest that personal memories of growing up can lead to a sense of belonging in individuals.



Figure 5.3: 'The beach is my life' - Cornish beaches and identity. Porthmeor beach in St Ives (left) and Gwithian beach (right).

When places and their attributes (e.g. the rock pools Sam refers to) become reflected in people's understanding of who they are, a deeper association with place occurs that transcends attachment – often referred to as 'place identity' (Proshansky *et al.*, 1983). Charlie uses an old Cornish saying in an effort to convey his profound attachment to Cornwall and the way in which it comes to define his existence: '...there is a saying: "You can take a person out of Cornwall but you can't take Cornwall out of a person"...and that's a very powerful thing.' Laura, who is also from a Cornish family and lived here since birth, struggles to express her deep connection with the locale: 'How can I put it? I really enjoy the shape of things, the landscape...I feel like this is in me, because I was born here and my family come from here...there is an underlying Cornishness that you can't really see, just feel.' Ireland (1999) also finds that the Cornish identity is an emotional and personal testimony of affiliation to a distinctive culture and way of life.

Rootedness, that is the unselfconscious association with place (Proshansky *et al.*, 1983, Hay, 1998) implies an even more powerful bond to one's place of origin and is known to bolster people's determination to return to or maintain contact with their home if absent over an extended period of time. This phenomenon is only really evident in Charlie's narrative who spent nearly 20 years outside Cornwall in search of economic prosperity. Scannell and Gifford (2010) suggest that a close bond to one's roots is usually preserved by means of proximity-

maintaining actions. This is evidenced by Charlie's sacrifices made in order to satisfy his desire to return: 'I got homesick. So homesick that I came back home for a day, sat on the beach, then went back on the train the night before the next day. And when I worked in Sevenoaks if I couldn't get a holiday and come back home again, I used to give up my job, walk out or leave, and then I'd come back down here.' As such, rootedness can also pose a barrier to capabilities necessary for the fulfilment of certain objectives. Charlie's aspiration to seek a more prosperous life elsewhere is continuously challenged by his strongly felt need to preserve his physical bond with Cornwall.

Not all place-related meaning making results in the formation of self-identity or rootedness. Participants often associate memories, experiences and meanings with a particular place, yet it does not become embedded in who they are and how they define their self. These findings complement earlier research that suggests that incomers can also develop a strong sense of belonging (Willett, 2008) and adopt a new identity as a result of social learning¹⁵ (Glover, 1988). Wendy and Marie are both long-term residents in Cornwall having migrated here through marriage or work. While they express a close affinity to a few memorable places, their narratives display less of a connection than the two Cornishmen and Laura. Marie recalls family memories that remind her of a particular beach she likes returning to: 'After school, when I used to pick them [daughters] up from school, we used to go down to Porkellis. I'd just get a picnic. So, I'd pick them up from school and they'd change out of their uniform on the beach and they'd just swim, and then we'd have some food and come home.' She also reminisces about past visits to Charlestown, which she regards as a familiar place and admits that 'I don't know if I've got a strong relationship'. The word familiar is a recurring linguistic expression she uses to discuss her connection with local places and the local landscape as a whole: 'Local landscapes are important. When they are local, they're familiar, they're comforting. They are where you live, where you belong.' While attachment is evidenced by a sense of belonging, 'local' does not imply a timeless bond but rather a relationship defined by the present: 'It's where I belong at the moment and where I feel comfortable' (Marie). While Wendy's sense of belonging appears slightly stronger, it is mediated by her positive

¹⁵ This represents a structural view of identity, which posits that identity is a social product 'learned' through socialization (Willett, 2008).

perception of Cornish values rather than place itself alone: 'Although I'm not Cornish born...I feel quite a close affinity to the locale and the feeling of people.' Her use of language portrays a strong emotional bond to the area: 'I just love living in Cornwall. I love the scenery. Just the sheer beauty of nature!' This is what Tuan (1977) calls 'topophilia' or the love of place. Research on Cornish identity by Willett (2008) also concludes that a 'love of Cornwall' is felt by incomers who, despite hesitating to self-identify as Cornish, feel a great sense of affection towards their locale. Evidently, while a fondness is present in Wendy and Marie's accounts, it is questionable whether place defines these women's identity.

The emphasis on social interactions and biophysical features of places are a common feature of Marie's and Wendy's accounts. It is recognized in the literature that what we connect to is often not the place per se, but the social interactions and the biophysical features that characterise it (Stedman, 2003; Cheng *et al.*, 2003; Scannell & Gifford, 2010). For instance, references made to wildlife, plants or the geological features, as well as memories of social interactions linked to a particular place reflect personal meanings and values held by these two women:

'Ever since I've lived here, that tree...it's always given me the most pleasure...And we've had pleasant walks with the children.' (Wendy)

'I was a frequent visitor of that bit of Cornwall. I swam there lots of times. I used to go gig rowing from there, and I saw a lovely basking shark one day when we were rowing.' (Marie)

Places also have an important contribution to make to the maintenance of health and well-being (Williams, 1998), both physical and psychological. Williams (1998) uses the term 'healing environment' in relation to places that carry positive connotations or instigate good emotions. Participants in this study, indeed, refer to the therapeutic effect of their environments. Experiences of relaxation, escape from problems, and a feeling of freedom all contribute to their psychological well-being. Louisa and Dan, who both recently relocated to Cornwall, talk about their love of beaches in general terms. While they have not yet developed a deep

sense of attachment or belonging, they do benefit from being exposed to a coastal environment. As Louisa explains: 'I love being near the beach. I think Cornish beaches are really nice...even as an adult running across the beach it kind of makes you forget your worries and it just makes you feel happy to be somewhere that's just so natural and so beautiful.' It is worthwhile noting that the emphasis in Louisa's narrative develops around the physical attributes (nature, beauty) of the environment (beach) and a deep sense of meaning is somewhat lacking. Dan discusses his appreciation of the sea without any reference to Cornwall: 'I love the sea! Every time I see the sea I get a lift...It's energy.' Though both Louisa and Dan experience positive emotions (happiness, uplift), a deep sense of affiliation to Cornwall is not evident in their narratives.

However, places are not always associated with positive memories or emotions. In some instances participants express a conscious detachment from or disassociation with places. These are predominantly linked to the built environment rather than natural amenities. For instance, Sam's account about his perception of his flat and surrounding neighbourhood portrays complete detachment: 'It's 42 flats there, and lots of people drink, and lots of people do drugs...I've got like a one bedroom flat. I've got everything I need to live there...I don't really like the place so it's not the most homely of places. It's more of a hideaway like – somewhere to sleep and eat...somewhere to get clean and be warm.' While the flat evidently fulfils the role of a shelter, it is by no means a home and it does not evoke positive meaning. The negative connotations of the place are exacerbated by the lack of choice and agency Sam was able to exercise in deciding where to live: 'I live there 'cos it's social housing, and it was a move on accommodation from being homeless.' Wendy's reflection on her experience of being placed into social accommodation is also filled with emotions of hostility and despair: 'I was offered the flat here. First time I saw it, it was grey and it was dull. It was raining and it was November. I looked at it from the outside and I just cried'. Relph (1985) labels this type of aversion to places, when places feel restrictive and depressing, 'topophobia', contrasting Tuan's (1970) idea of the love of place or 'topophilia'.

While it has been suggested that length of residence is a key explanatory factor for people's affiliation to places, David's discourse about Cornwall suggests that

there may be exceptions to this hypothesis. Despite living in Cornwall for over 30 years, David maintains an explicit detachment from the county. What is more, he refers to his situation as being 'stuck'. The circumstances of him moving here clarify to some degree as to why this may be: 'When I made the move, I didn't intend to stay here long.' Though a change in circumstances brought about by the economic downturn of the 80's impeded his freedom to leave: 'The beginning of the 80s was a bad time. There was hardly any work available here or abroad...So I've found myself adjusting to living here. And here I still am.' Asked whether there are any places that hold some personal meaning to him, he affirms that such places would not be found in Cornwall: 'I've always been rather disappointed in Cornwall.' Finally, David reinforces his detachment by voicing his desire to leave: 'If I had the chance I'd move away to where my sister lives in Worcestershire.'

As the above findings reveal, place attachment and place detachment have important implications for and are closely intertwined with capabilities. Affinity to place and space positively reinforces participants' freedom to accomplish valued objectives, while place aversion may impede choice and human agency when it comes to turning opportunities into well-being outcomes. Though place attachment and related concepts, such as rootedness or belonging, are usually discussed in a positive light, my findings indicate that they can also pose a constraint for participants' aspirations.

5.3.3 Security

Security is the third and final theme that runs across the list of valued capabilities. Feelings of safety and security not only seem to support capabilities, but also affect the level of perceived (self-evaluation) and actual (manifest through the act of choice) freedoms. According to Gasper (2005) 'human security concerns the stability of the effective (i.e. attainable) valued opportunities' (p.223) - i.e. capabilities. One of the early champions of the human security concept, Mahbub ul Haq, recognizes that in our day and age the greatest threats to human security are embodied in people's worries about aspects of the daily life, such as job security, income security and health security among others (United Nations Development Programme, 1994). This is reaffirmed by the findings elicited

through extensive case studies in Narayan's *Voices of the poor* (2000), which links poverty with several dimensions of insecurity.

The theme of security is explored in this chapter through two perspectives. On the one hand, the feeling of safety as a physical condition is mostly discussed in relation to participants' living environment, such as safe and crime-free neighbourhoods. Here, an emphasis is placed on knowing that children and family are safe. On the other hand, the importance of financial or economic security, and its implications for other capabilities (e.g. housing or health), is also apparent in participants' narratives.

Feeling safe and knowing that those who are closest to us are safe is directly conducive to well-being, but it also contributes to other capabilities. Sam's freedom linked with the capability of mobility increased considerably since he moved to a safer estate in St Ives: 'I feel that you don't really have to be as confident living in St Ives as what you do in Redruth...Safety aspect is a lot better. Don't matter what time of the day or night I walk around St Ives. In Redruth after a certain time I wouldn't walk around on my own.' The close relationship between perceived neighbourhood safety and people's physical and mental health is highlighted by Cattell *et al.* (2008). Whereas, Ludwig and colleagues (2012) find that moving from a high-poverty neighbourhood - characterised by social problems and deemed dangerous - to a lower-poverty area not only improves health, but also contributes to subjective well-being in the long-run. Thus a sense of safety associated with one's immediate living environment is supportive of improved health outcomes - one of the valued capabilities identified by participants

Those with families especially express concerns over the safety of their neighbourhoods, which sometimes motivates the decision to move or even relocate. For example, Dan arranged a house swap to escape what he describes as a dangerous estate in Southampton. He perceives Cornwall to be a much safer environment for his family to grow up in: 'Cause you don't want your kids growing up like that, do ya'? I mean, if you look at the paper down here you see really, really small things. I mean, people do fight and stuff like that...Whereas, if you go upcountry you hear about stabbings and all sorts of things.' Hannah grew up in

Cornwall from the age of six, when her parents decided to leave London because they did not want their children to grow up in the city. She believes that this had an immense positive effect on her development: 'I'm very grateful, because I don't think that I would have turned out how I am now, really.' The sentiment of 'safe Cornwall' is echoed in the narratives of most participants, highlighting that perceived safety also affords more freedom and independence for children and young people. Similar findings emerged from a study in rural Scotland (Glendinning *et al.*, 2003) which concluded that the countryside and rural areas provide a safe platform for children to grow up and develop, allowing for a greater degree of freedom than would be possible in urban settings.

Alongside physical safety, material resources and shelter - two of the staple ingredients of basic human needs - emerged as key to participants' sense of security. Financial security underpins a number of freedoms and enhances participants' capability sets. A reliable income underpins the freedom of pursuing valued objectives such as taking part in social activities and provisions for many of life's basic necessities. As all participants have experienced - and in some cases are still experiencing - some degree of financial hardship, feeling secure and not having to worry about money embodies a sense of freedom in itself, as well as it opens up other possibilities. Marie and Louisa both experienced unemployment, which they recall as a scary and distressing episode in their past. They both have a strong work ethic and take pride in being self-sufficient. As mothers, their most valued capability of caring for their children was compromised and put at risk when they lost their sources of livelihood. For Marie, unemployment means further marginalization in the emotional, moral and physical sense: 'I think it [unemployment] is crippling morally, financially, and it's just like everyone is against you...All the time I was getting unemployment benefit I was supporting my daughter as well. So I was getting unemployment benefit for one person, but two people were living off it. I felt totally helpless.' While single mother, Louisa, recalls a feeling of abandonment: 'I lost my job when I had Ryan...I went from being at work with quite a reasonable supervisory job to being on my own with a small baby, no job, a mortgage within a fairly short space of time, and that was quite scary.'

Both women are back in part-time employment and find the reassurance of a steady inflow of income liberating in itself, as well as their capability to live the life they value has increased as a result: 'Well, obviously it [job] earns me money...It's been an all right job. It's given me the freedom to be with the kids. I'm always there to take them and pick them up from school' (Louisa).

The older generation of participants reports the greatest degree of freedom as a result of perceived financial security, which also contributes to psychological well-being: 'Well, I'm fairly secure financially, so I don't have any money worries. So that helps. It's a load off my mind' (David). David and Wendy, both pensioners, are the only participants who experience a high level of satisfaction with their circumstances. Despite the difficult times in the past, Wendy is now enjoying her retirement: 'I'm lucky that my pension allows me to...plus paid work allows me to do pretty much what I'd like to do without having to be too answerable to a regular job or anything like that. And I don't worry too much about money...the money, although it's not massive, allows me to do things that perhaps I wouldn't necessarily have gone out and done.'

In addition, the findings indicate that secure accommodation can be regarded as a further key aspect of participants' overall sense of security. While it is closely related to financial circumstances, it is acknowledged in its own right. It is especially emphasized by those who live in social housing and have experienced homelessness or poor living conditions in the past. Wendy, who was made homeless when their home was repossessed, stresses her gratitude for having a steady home: 'To have the Coastline [housing association] property is to have something you don't have to worry about losing. My home.' It is, therefore, evident that a sense of safety and security does not only enhance participants' freedoms, but also contributes to well-being directly by diminishing the psychological impact of worry and stress.

5.4 Negotiating well-being

So far, this chapter provides an overview of valued capabilities and the three themes that influence capability formation: affiliation, access and security. The following analysis builds on these findings and elicits additional insights into

participants' freedom to pursue valued capabilities and thus attain well-being aspirations. First, I identify the interlinkages between the ten valued capabilities, which are manifest through positive or negative reinforcement. That is, linked capabilities may act to support (e.g. exposure to the natural environment and health) or hinder (e.g. poor quality housing/lack of housing and health) the freedom to pursue valued goals. Second, I examine the trade-offs that occur not as the result of constraints, but as the product of participants' conscious choices. As such, they inform about participants' priorities and preferences in relation to valued objectives.

A key finding of this chapter concerns the multidimensional character of capabilities. Similar to well-being and ecosystem services¹⁶, capabilities do not exist in isolation, they are interlinked with each other as well as conditioned by a plethora of contextual factors. As Robeyns explains in her recent paper, conversion factors are not the only limiting agents of capability (Robeyns, 2016). Structural constraints (such as long-term unemployment, poor health, social or physical isolation) can also have a direct impact on people's capability sets and, most importantly, they affect members of different groups differently (Robeyns, 2016). While Sen (1990) also alludes to the negative implications of disadvantage on one's capabilities, he only considers the conversion of primary goods. As disadvantage is produced and reproduced in the context of broader social, political and economic structures, the following analysis builds on Robeyns' more elaborate interpretation, which emphasizes the importance of structural mechanisms alongside conversion factors.

5.4.1 'We don't live our lives in compartments': multidimensional capabilities

One of the key challenges in relation to converting opportunities to well-being outcomes concerns the closely intertwined nature of capabilities. The concluding remarks of the first workshop aptly summarise this issue: 'We don't live our lives in compartments...everything we have discussed interacts with one another' (FG1).

¹⁶ See discussions in Chapter 2 and Chapter 6 on ecosystem services and well-being

These interactions can be positively or negatively reinforcing, depending on whether a given capability category supports or hinders another. Participants' decisions to pursue valued capabilities is constrained not only by their choices, but also by the broader socio-economic context within which these are made.

Freedom, for instance, is an all-encompassing category that contributes to well-being indirectly, by means of choice and the autonomy to pursue what people value for their well-being, and directly, due to its intrinsic value. This implies that freedom is both an end and a means to an end. It is also intricately linked with all other capabilities. On the one hand, it has important implications - by delimiting participants' ability to choose - for whether or not capabilities available to them will be pursued - because 'everything springs from freedom' (Stephen). On the other hand, freedom is conditioned by other valued capabilities being fulfilled. That is to say that people's ability to exercise their freedom of choice to pursue well-being objectives depends on the satisfaction of several factors - such as physical and financial security, health and shelter - which resemble Doyal and Gough's (1991) idea of human needs. According to participants, the needs that are considered fundamental must be met before one can exercise their freedom to attain valued functionings, or the states and activities one associates with a good life. Those present at the first focus group feel that '...what gave us freedom was time, feeling safe, security of accommodation, food...but we did start with money, I have to say...We thought that having the benefit of those things would actually give us freedom in a variety of ways.' Group two places slightly more emphasis on material needs: 'Money and income – all other things rely on it' (FG2).

The emphasis of the money-freedom link seems to resonate with Simmel's suggestion that money promotes freedom by removing external constraints and by supporting the realization of goals (Simmel, 1978 cited in Levine, 1981). Though the role of money is highlighted during focus group discussions, participants' personal narratives reveal that while money is instrumental for the satisfaction of basic needs - thus contributing to one's freedom to some extent - other capabilities are often more conducive to well-being. As Wendy puts it: 'Money is not everything. It's just enough to have enough to not to worry too

much, for a reasonable life.’ Laura considers money secondary to the things that really do matter in life: ‘...sometimes working here you can’t earn as much money... I just always feel that if you can’t be happy with the small things, you not gonna be happy with the big things. They’re not really that important because they don’t last. The most important things are the people around you. If they are getting on and if you’re warm and clean and eating well and healthy.’

Findings from a study by Diener & Biswas-Diener (2002) reaffirm that money will only improve subjective well-being so far as the satisfaction of basic needs goes. Higher income yields slightly greater benefits for the very poor (Diener & Biswas-Diener, 2002). Once basic needs are met, however, the well-being gain from additional increase in income declines (Easterlin, 2003; Easterlin *et al.*, 2010; Kahneman & Deaton, 2010). Participants’ narratives of money hint at underlying aspirations and a recognition of one’s limitations. Laura’s assertion of the simple pleasures in life above reflects her priorities and fundamental aspirations in life, which do not concern the accumulation of material assets, but her connection with the people closest to her. Intrinsic goals, such as the relationships emphasized by Laura, are associated with a greater degree of self-realisation and mental health than extrinsic motives, including financial prosperity (Tatzel, 2002). Adaptation to financial limitations is evident in Rob’s case who is making ends meet on less than £100 a week: ‘I know what I need. I’m not gonna be thinking about things that I don’t need.’ Rob is adjusting his aspirations as a result of his financial constraints - this is what Clark (2009) calls downward adaptation (see Chapter 2, Section 2.2.5).

Although money may not be perceived as the be-all and end-all of well-being by participants, my findings indicate that financial resources have a far-reaching influence where capability creation is concerned. Therefore, the capability of employment and income generation is tightly linked with most other capabilities, such as health, mobility, and housing. These, in turn, are connected with one another, often creating self-reinforcing cycles that bear important consequences for the opportunities realistically available to participants.

The capabilities of employment and health are intimately linked through a two-way relationship, because these two capabilities reinforce one another - positively

or negatively. Employment is conducive to both the physical and mental health of participants. Unemployment and low finances can lead to unhealthy lifestyles due to the inability to meet basic needs such as nutrition or personal hygiene. Sam often goes without the basic necessities of life: 'If I've got no money enough, I don't worry about eating. Or I can't afford to have a shower, I don't. So yeah, a lot of it does come down to money.' Whereas, Marie describe her experience of unemployment in terms of feeling trapped and excluded: 'I think when you are unemployed in this country it affects your morale, everything about you, because you can't do anything and your peer's pressures. Can't even eat properly. So if you can't eat properly, you haven't got the energy and you can't think straight half the time, and you think you'll never get a job. People don't take you seriously...It's a real struggle to just do every day things.'

Marie's account highlights the debilitating consequences unemployment can inflict on one's physical well-being. These are exacerbated by the inability to take part in social activities, imposing a sense of insufficiency in relation to one's peers. While there is no explicit mention of health problems the phrase 'It's a real struggle to just do every day things' alludes to the presence of negative feelings and emotional ill-being. This is further evidenced by Marie's perception of her situation at the time: 'I was sinking', 'I was so desperate', 'I was so unhappy unemployed'.

In turn, ill health evidently hinders the capability of employment due to the physical and psychological limitations it imposes on affected participants. Sam is keen to find a job in order to better meet his own needs, as well as to provide more support for his children. Yet, his history of depression and anxiety have made this difficult and at the time of our last meeting Sam is still unemployed. On the other hand, Charlie was diagnosed with cancer in 2010, and although he survived the disease he is left with the aftermath of the psychological trauma and a perceived lack of support: 'It's changed my life. I'm suffering from anxiety at the moment...it would be nice if you could get some support or a job.' His efforts are hindered by the invisibility of mental health symptoms and the resulting lack of understanding from others: 'People see you and they can't see there is anything wrong with you. They can't see inside of you. There is so many people in Cornwall that can't work for various reasons.'

The fundamental capability of housing is also in part mediated by employment. Affordability of housing is the factor of available financial resources and the cost of accommodation. While social accommodation is perceived to be low cost and secure, in that one can stay indefinitely, it is increasingly difficult to acquire. Most of the participants who are living in council accommodation were homeless or were about to be. Jenny recalls her bad memories of being evicted from a privately rented flat with two small children: 'I was being made homeless that's how I got a council house. I had to live in a B&B, I had to go and live in the hostel over the road. Yeah, I had a crappy two years with them. Really crappy two years, where I didn't think I would get through it in fairness... I'm glad I did go through it, because I feel so secure in my house.'

The shortage of affordable housing¹⁷ and the long waiting lists associated with applying for such properties sometimes leads to participants finding alternative solutions on the private rental market. These are often poorly managed and maintained, as well as expensive. Stacey is waiting for a housing association flat following her frustrating experience of renting from a private landlord: 'My landlord is terrible, and the rent! These flats are £169 a week rent...Each week! And I've told him about things that's wrong last December [6 months prior to the interview] and it's still not been put right or repaired'. Private landlords are perceived negligent towards the upkeep of their properties: 'private landlords tend to be a little bit reckless as far as keeping the damp down and heating the place goes' (Stephen). Participants associate poor quality housing with negative health outcomes: 'it links together...poor quality housing, poor health' (FG1).

Engagement with and exposure to the natural environment in Cornwall has important health enhancing implications. These findings confirm suggestions about the salutogenic role of natural environments (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). Participants often refer to the purity of air quality and the lack of pollution: 'I always feel like loads of fresh air's coming right over from the Atlantic' (Laura). Access to good quality fresh food is emphasized by Marie:

¹⁷ For the purposes of this study, affordable housing is defined as properties owned and managed by the local council or housing associations and offered to tenants below the market rate, especially targeting people on low incomes.

'We've got access to good food here from the farmers'. Home grown food is perceived to be a healthier and cheaper alternative, therefore, most participants are engaged in gardening as a means of providing for their household needs.

Exposure to and interactions with natural environments, such as the coast and the beaches in particular, is highly conducive to psychological health benefits by instigating feelings of uplift, positive emotions and an escape from problems and worries. These are discussed in Chapter 6, which addresses the well-being effects of ecosystem services.

The local environment is explicitly acknowledged for being a healthy setting to live in and raise a family in. Hannah and Marie, both mothers, emphasize the freedom their children can enjoy growing up in Cornwall:

'I'll tell you, in Cornwall we are in a healthy environment as far as well-being from the nature, beaches and the woods and stuff like that. It's a good environment to bring your children up in.' (Hannah)

'That's what I think about living in Cornwall: much healthier lifestyle for your children, because it's more physical. You can have more of a physical time without paying.' (Marie)

The importance of 'free exercise', offered by local natural amenities, gains elevated importance as the cost of other health and fitness activities is unaffordable for most people on low incomes. Louisa is keen to improve her fitness, but as a single mother on a part-time income joining classes at her local health centre is beyond her means: 'I wanted to go to a keep fit class, because I'm a bit overweight and I wanted to lose a bit of weight. But they are so expensive. They're like £5 for one class.' Charlie, who suffers from anxiety following the traumatic experience of cancer treatment, expresses frustration over the high cost of yoga classes. While he is convinced that these would be highly beneficial for him, he cannot afford them. These experiences yet again highlight the vital role of financial resources in capability formation.

Finally, the capability of mobility is facilitated by access to transport, whether by owning a car or making use of public transport facilities. As a number of participants live with various levels of economic disadvantage (e.g. unemployment, low income, low pension etc.), car ownership is not an option for

some and public transport remains the only means of connectivity. While car ownership in Cornwall is reasonably high, 20% of households still remain without access to a car (Cornwall Council, 2011).

Complaints about poor transport links are a recurring theme, especially where public transport is considered. It is suggested that even when they are in place, they are costly, reducing participants' mobility and thus their access to a variety of opportunities. Perhaps the most important of all are the foregone employment opportunities: 'With travelling to jobs one of the limitations could be timings of public transport, if you were having to use public transport.' Interestingly, a study by the Joseph Rowntree Foundation in other rural areas of Britain (the Peak District and Wales) revealed similar findings: public transport is regarded an unrealistic option, one that is expensive and unreliable, causing people difficulties for getting to work (Burningham & Thrush, 2001).

Alongside issues of timing and frequency, cost is the dominant term used by participants to discuss mobility issues in Cornwall, emphasizing the need for cheaper buses and trains. As public transport is limited in its scope and reach, private transport is seen as a necessity if one is to fully engage with the opportunities Cornwall has to offer: 'To explore Cornwall properly, you either need to have your own transport or cycle routes. You're not gonna get it from public transport' (Laura).

Of course, own transport requires considerable financial commitment: 'Even though you've got your own [car] you've got your cost' (FG3). Although this comes with the benefit of reliability and a sense of independence: 'It's also the reliability of your own car. You know you can get in it and go "right, today we're going to such and such. We're going at this time and we're coming back at that time". And that is up to you' (Jenny).

A family of five who cannot afford to have their own vehicle are an example of the hindrance imposed by scarce financial resources on mobility. As a result, they are unable to pursue valued activities such as visits to Cornish natural amenities: 'Because we definitely miss out as a family on all these lovely places. But we

know they're there, we just can't get there, because it just takes too long. Or there is no bus back' (Laura). While Laura's family is aware of the additional options that having better access to transport would open up to them, they are also conscious of the constraints of their financial situation which make this impossible. At times, they are forced to abandon social arrangements due to the cost implications of getting to the venue: 'To put a whole family [on the bus] to say go to Redruth it costs up to £20. So last week we spent all our money so we couldn't go to the club, because it's £20' (Laura).

As a result, employment and income seem closely linked to the capability of mobility. In the present context, where people on low incomes are concerned, financial constraints indirectly inhibit participants' freedom to pursue valued goals - such as employment and taking part in social activities - by imposing a barrier for the capability of mobility. It would thus appear that the socio-economic constraints faced by participants and the interlinked nature of valued capabilities amplify the importance of financial resources for well-being. This confirms Diener and Biswas-Diener's (2002) suggestion that a higher income does yield an increase in well-being for the most disadvantaged even in economically developed societies.

5.4.2 'You can't always come to an agreement on how you'd like to live': trade-offs between capabilities

Trade-offs in capabilities occur under two relatively different circumstances. As the findings have so far demonstrated, a multitude of influences affect the range of opportunities available to people. These can be traced back to contextual factors, such as the broader social, political and economic circumstances, as well as explained by the multidimensional and interlinked nature of capabilities (Section 5.4.1). When these act to constrain capabilities, participants' freedom to pursue the life they value is being curtailed. However, it is also observed that trade-offs might arise due to active choice or preference, whereby participants exercise their discretion to pursue particular objectives over others. These choices reflect their personal values and the weight they attach to particular capabilities. These trade-offs are qualitatively different, because freedom is being actively exercised in their formation. Therefore, I refer to these as active trade-

offs. Although these choices may result in seemingly diminished well-being outcomes for the individual, agency freedom (Sen, 1985) is fulfilled through the decisions that participants make based on their personal values and obligations to others.

Active trade-offs are often formed in the context of various roles participants hold in society such as being a parent and being an employee. Although the findings reveal that employment and income are positively related to a variety of capabilities and underpin capability formation in more ways than one, participants with families often trade-off the capability of employment and income generation in favour of the capability to care for their family. This sentiment is voiced in the collective accounts of focus groups as well as by individuals. Marie and Louisa have both taken this approach. Louisa who works part-time explains her decision to settle for a lower paid job: ‘...you can’t have it all. You can either have all those lovely holidays off and spend it with your children, or you can work all hours and have loads of money, and not see your kids. I’d rather have less money and time with my children, because it means more to me to be with them than it does to have loads of money.’ Marie holds similar values and devoted the past 13 years to raising her two daughters, working around their needs: ‘I’ve done lots of part-time jobs...I didn’t work full-time during that time. I just made sure that I had plenty of time for them, really. So doing things with them...the children were the priority.’ Trade-offs between employment and other capabilities also occur for reasons other than caring preferences. A childless participant, Rob, defends his choice not to work in order to maintain the pace of life he enjoys: ‘I actually want to be on benefit. I don’t actually wanna get a job, because it would take up all my time and I still wouldn’t be able to pay for my housing. I’d rather be on little money and have lots of time, than little money and no time.’

The capabilities of social relationships and engagement with the environment constitute the other major context in which active trade-offs were observed. Though social relationships and networks emerge as a profound capability not only conducive to the formation of other capabilities but also to the successful conversion of these opportunities into valued outcomes, in some cases the natural environment is favoured over social interactions. Since moving to St Ives, Sam tends to prefer solitary activities in the natural amenities surrounding the

town: 'Here, where I'm living now, I don't feel that I need people there all the time, because I'm happier in myself. And with the area where I'm living now I can go off and do stuff on my own that doesn't have to be with people. Like I can go fishing on my own, I can go to the beach on my own, or just go for a walk down round town.' Sam's stated preference for lower social contact in the new setting is due to easier access to valued environmental spaces and a greater sense of affiliation to his immediate living environment. The latter is also manifest in improved happiness within the self. On the other hand, Dan chooses to forego his ambition of living by the sea in favour of better social connectedness, which he regards vital for getting ahead in life, something he values more: '...it's a choice. I wanted to move to Newquay, but at the end of the day I'm still glad that I came to Truro, because it being the administrative centre. Sometimes you've got to look at what's viable, what's gonna help.' The importance of social capital is a consistent theme throughout his narrative, whereas the environment is seldom mentioned unless prompted.

These accounts demonstrate that the priorities and values held by participants likely determine not only what constitutes well-being, but also the strategies used to pursue associated objectives, inevitably leading to active trade-offs.

5.5 Irreducible social capabilities: socially and contextually conditioned well-being

The aim of this chapter is not to measure well-being but to develop an in-depth understanding of the processes that play an essential role in well-being formation. Of particular interest are those surrounding capability formation and conversion, including the degree of freedom and choice participants are able to exercise. The concepts of capabilities, freedom and choice are treated as embedded within and shaped by the broader context. White and Pettit (2004) express their concerns over the suitability of qualitative and participatory well-being research - employed in this study - to uncover 'genuinely new and surprising information' (p.18) about the ways in which people see the world and perceive good life. In contrast, having examined a range of studies applying the capability approach to well-being, Robeyns (2006) concludes that large-scale quantitative studies regularly overlook the vital role of both capabilities and freedoms in the achievement of

valued functionings due to their inherent limitation to operationalize these abstract concepts. Though, as the capability approach is used here as a normative evaluative framework rather than a theory (Robeyns explains the difference between a capability approach and capability theory: Robeyns, 2016), a qualitative approach produced rich and contextually relevant material that endorses evidence from other research, as well as complements these with new insights.

Findings presented in this chapter validate the instrumental role of social structures and individual circumstances in enabling human freedoms and capabilities. This is what Smith and Seward (2009) refer to as 'contextual causality'. The social embeddedness of humans in the wider fabric of society is also discussed in the work of Bourdieu and Durkheim (Durkheim, 1972; Bordieu & Wacquant, 1992) who allude to the socially conditioned nature of freedom. One's place in the social matrix necessarily determines one's access to resources (economic, social, political etc.). Robeyns (2016) asserts that capabilities are not only shaped by the conversion of resources but also by the social structures that affect different people in different ways. People who share similar socio-economic characteristics - for instance those from disadvantaged backgrounds - are likely to experience similar limitations in relation to their capabilities and freedoms (Sen, 1990; Smith & Seward, 2009).

Indeed, the results of this research illuminate some of the delicate intricacies between participants' personal circumstances (e.g. various aspects of socio-economic disadvantage), their social context (e.g. their position in society partly facilitated by their circumstances), and their capabilities and freedom to achieve valued well-being outcomes. The implications of social structures and mechanisms become apparent in the context of capability formation and the conversion of capabilities. The following discussion of these findings is structured using Smith and Seward's (2009) three step framework, which entails: (1) establishing people's individual capabilities, (2) identifying the social structures that mediate these, and (3) understanding how capabilities enable the attainment of functionings. Figure 5.4 provides a visual summary of the interlinked and dynamic mechanisms that condition these processes.

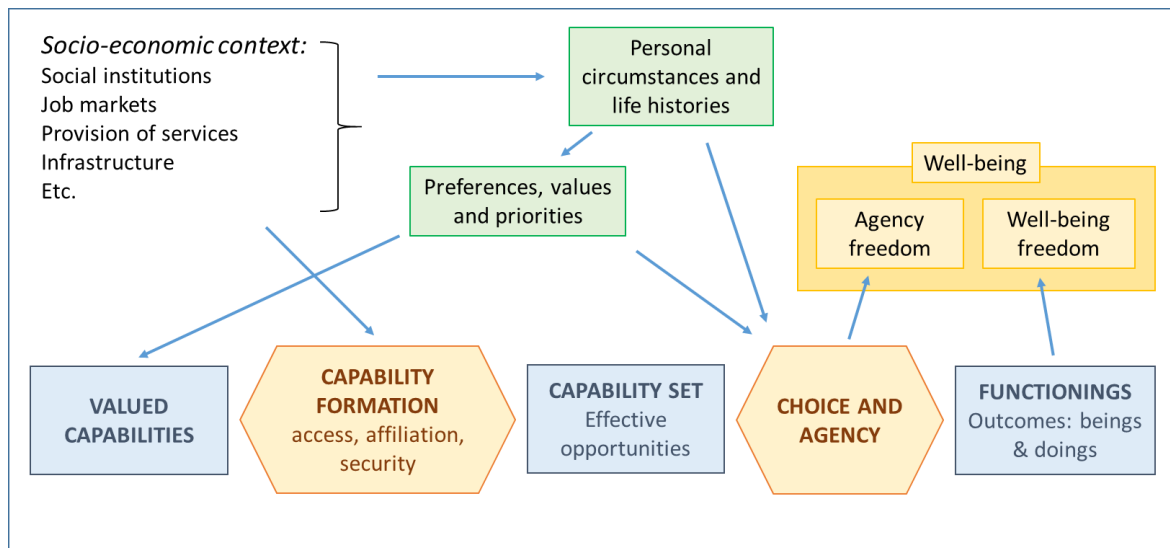


Figure 5.4: From valued capabilities, through effective opportunities to well-being. Adapted from Robeyns, 2005a.

Capability formation is strongly mediated by social relationships or participants' social capital, which is closely followed by access to opportunities, place attachment and a sense of safety and security. The latter are inevitably linked to and shaped by social conditions. For instance, access to opportunities - including leisure, education or employment - is enhanced by better social connectedness and the consequent information sharing, while access to places in the absence of transport links or means is mediated by help from others. Additionally, the perceived safety of participants' surroundings - built or natural - is in large part a factor of social conditions such as antisocial behaviour in the neighbourhood or reported crimes in an area.

More interestingly, capabilities are not formed in isolation from each other, instead they are intimately linked through a network of causal relationships, which I refer to as multidimensionality. While some capabilities are prerequisites of others, the underlying forces driving this conditionality are once again the wider social structures, which provide opportunities or constraints to participants, consequently shaping the outcome of causal processes between different capabilities, as well as between capabilities and functionings. Furthermore, the broader social structures mediate participants' personal circumstances, manifest in the advantages and disadvantages they experience. For instance, financial security among older participants or insecurity due to low income among single parent families has important implications for capability formation and participants' freedom and agency to pursue valued capabilities and convert these

into functionings. Ideas about which capabilities contribute to well-being are indirectly shaped by social structures through participants' personal circumstances, which affect their priorities and values. Consequently, personal circumstances affect both human capabilities and freedoms.

The multidimensionality of capabilities, conditioned by personal circumstances, also shape freedoms through their respective implications for choice and agency to pursue a good life. Sen suggests that the freedom to live that life also needs to be evaluated vis-à-vis the values and preferences of people (Sen, 2008), which are essentially socially constructed shared meanings (Deneulin & McGregor, 2009). The findings presented here underpin this socially conditioned nature of freedom and agency, which contribute to the conversion of one's effective opportunities into valued outcomes or functionings.

In Sen's writing, freedom as a means to achieving well-being is referred to as well-being freedom, and is mediated by the possibility of genuine choice (Sen, 1985). Whereas, one's agency freedom transcends the scope of well-being freedom by also taking into account the individual's aims, objectives, allegiances and obligations (Sen, 1985). Thus, agency freedom does not only concern a specific goal relating to one's own well-being, but a broader conception of the good, including other-regarding objectives. Consequently, exercising agency freedom may not lead to one's own advancement per se; however, by being able to pursue something of value, a person's well-being is enhanced. Under agency freedom the individual is choosing to pass up the opportunity of pursuing self-regarding objectives in favour of a moral good or altruistic motivations.

The most prominent manifestation of agency freedom emerges from the active trade-off between parents' caring preferences and the capability of employment. While the latter would open up opportunities for the advancement of several other goals and enhance participants' effective opportunities, the former can be viewed to a large extent as an other-regarding objective to which greater value is being attached in this context. Parents have a sense of moral obligation of care towards their children. Marie and Luisa exercise their agency freedom when they chose to relinquish the potential benefits of additional income generation in favour of being there for their children. For example, Louisa trades off her aspiration to re-

train as a teaching assistant and improve her employment prospects and earning potential. Although her well-being freedom is constrained as a result, her agency freedom increases as she values caring for her son above her own advancement. While both of these women are unable to achieve some of the functionings they value (e.g. returning to education), the fact that they are able to exercise the freedom to choose between different alternatives in itself enhances their well-being.

These observations suggest that studying well-being exclusively through an achieved functionings lens would obscure the true essence of well-being creation, which lies in the effective opportunities people have and the choices they are able to make. These choices inevitably reflect the values held by individuals, which are negotiated and produced in the broader social and cultural context (Deneulin & McGregor, 2009). Rob provides an example of this: he chooses unemployment and prefers to get by on a low income as he gains greater fulfilment from having free time. While he often struggles to meet his nutritional needs due to a lack of money, his deprivation is in part a result of choice as he makes a conscious effort to remain on benefits. Thus while his well-being outcome may seem diminished, he achieves well-being freedom by exercising his agency informed by his values and preferences.

Evidently, trade-offs occur as a result of an active decision making process which involves weighing up the alternative options, opportunities or capabilities available to participants. Though the resulting outcome is seemingly inadequate, participants are exercising their freedom and agency to pursue what they value more. Whereas, on the other hand, trade-offs occurring as a result of the multidimensional nature of capabilities and the surrounding social structural mechanisms are produced by constraints and inhibitions on participants' agency and choice. These trade-offs are not reflective of participants' constructs of valued beings and doings, but rather they mirror and reproduce the disadvantage that led to them in the first place.

In conclusion, well-being experiences are shaped by a socially determined process of capability formation and conversion. To gain a meaningful understanding of how particular states of being come about, we must identify and

understand the structures and mechanisms of multiple causation along this process (see Figure 5.4). This can be achieved through the three step pragmatic approach proposed by Smith and Seward (2009), which frames the analytic interpretation of findings presented in this chapter.

5.6 Summary

This chapter sets out a comprehensive analysis of the dynamic mechanisms surrounding capability formation and the conversion of capabilities into well-being outcomes. I develop novel insights using qualitative and participatory methods, which reveal the finer nuances of the interaction between participants' personal circumstances and their broader context. These contribute to an in-depth understanding of the interconnected nature of mechanisms driving the process of well-being creation. As the overall aim of the thesis is to explore how ecosystem services contribute to the well-being of disadvantaged participants, the following chapter presents findings from a qualitative disaggregated analysis, and confronts existing assumptions about the ecosystem services and well-being relationship.

Chapter 6. From social constructs to capabilities: bridging the gap between ecosystem services and well-being

6.1 Introduction

Exposure to and interaction with the surrounding natural environment is identified by participants as one of the valued capabilities that contribute to the ability of attaining well-being. This chapter explores the multitude of ways in which participants interact with the natural environment and the variety of benefits that they gain during these encounters.

Since its emergence during the early 1980s (Ehrlich & Mooney, 1983), the term 'ecosystem services' has entered into science and policy as a significant discursive framework, explicitly linking nature's many services to human well-being. What was intended as an 'eye-opening metaphor' (Norgaard, 2010) evolved into a major scientific framework through the Millennium Ecosystem Assessment (MEA, 2005). Its rising prominence is also evidenced by the increase in the number of research publications on the topic of ecosystem services (Fisher, 2009). While the MEA (2005) represents a milestone in explicitly articulating the relationship between nature and human well-being, a growing body of criticism emerged in the years to follow, highlighting some of the shortcomings inherent in the MEA conceptual framework (e.g. Norgaard, 2010; Daw *et al.*, 2011; Chan *et al.*, 2012a; Jax *et al.*, 2013).

This chapter sets out to challenge the way in which ecosystem services are portrayed in the MEA framework, which implies that nature is a stock that provides a flow of services (Norgaard, 2010) for the benefit of humans. As such, the MEA's conceptual diagram presents a one-directional relationship between ecosystem services and well-being and overlooks the active role of humans in the co-production of services (Lele *et al.*, 2013). Here I apply a constructivist analytical lens, which sees ecosystem services as the products of social construction (Castree, 2001; Latour, 2004), indicative of people's social, economic and cultural context, as well as personal circumstances. The role of

people, as meaning-making agents, in determining what constitutes a service is recognized in the literature (Rounsevell *et al.*, 2010; Chan *et al.*, 2012b; Daniel *et al.*, 2012; Barnaud & Antona, 2014). Empirical work exploring this avenue remains scarce, however (e.g. Fischer & Eastwood, 2016). The findings in this chapter indicate that a constructivist approach can provide new insights into understanding the complex and intricate relationship between well-being and ecosystem services. They also underpin earlier suggestions about ecosystem services providing multiple benefits (Chan *et al.*, 2012a), including some less expected ones (e.g. regulating services contributing to cultural experiences), demonstrating the interlinked nature of different service types.

A related issue, considered in this chapter, concerns the biased framing of cultural services, which have been traditionally posited as leisure-time and recreational activities (Pröpper & Haupts, 2014). However, the culturally sensitive constructivist view of ecosystem services employed here highlights that all ecosystem services are inevitably cultural in that they constitute a socially and culturally valued outcome. Therefore, I present an alternative framing of the ecosystem services and well-being relationship and conclude by considering the contribution of ecosystem services to capabilities and well-being.

6.2 Environmental encounters

6.2.1 Situating encounters

Participants in this study experience encounters with their surrounding ecosystems through twelve types of environmental spaces, which can be classified into three overarching categories of blue, green and blue-green spaces. This typology was developed based on participants' photographs and photo elicitation interviews, and it contributes to the analysis and interpretation of findings presented in this chapter. What is considered a geographical place of value is rooted in the cultural meanings, experiences and evaluations of those concerned. Consequently, there is no universal taxonomy that can be applied across the board (Church *et al.*, 2014; Fish *et al.*, 2014). The typology presented here reflects a contextually relevant set of places, developed inductively through discussions with study participants.

Blue spaces, also referred to as aquatic environments, are characterised by the presence of standing or running water, found in inland and coastal settings (White *et al.*, 2010). Green spaces are made up of parks, gardens and forests, not exclusive to areas of open wilderness but also characteristic of urban settings (Finlay *et al.*, 2015). Blue-green spaces, in turn, refer to places that comprise aquatic and green aspects in combination (Figure 6.1), for example the coastal path or the park.

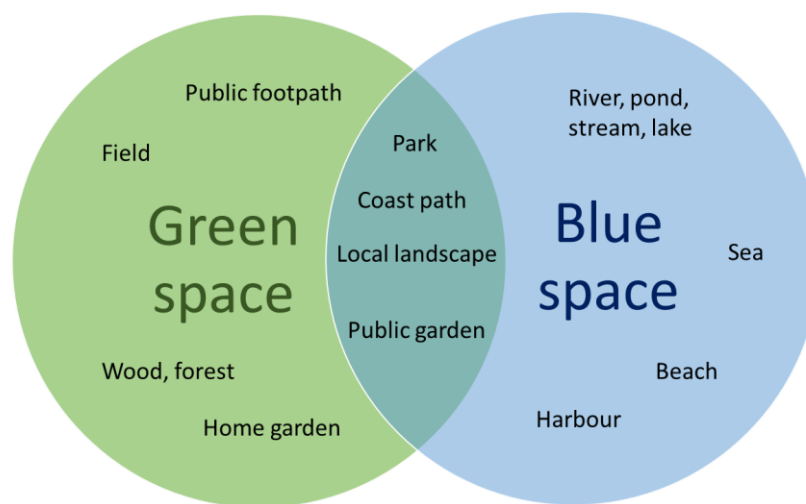


Figure 6.1: Environmental spaces through which ecosystem services are experienced.

Environmental spaces are used as a proxy for framing the discussions about ecosystem services with participants. For instance, instead of asking about the benefits of provisioning or supporting ecosystem services (where the name given to the service type is already suggestive of particular kinds of well-being contributions), participants are asked to talk about their access to and experiences of environmental spaces. By doing this, the explanation of the ecosystem services concept and its typology to research participants was not required, and thus circumvented the introduction of bias into the emerging narratives about how these places are experienced and conducive to a good life.

6.2.2 What determines engagement with natural environments?

The findings reveal that participants engage with the environment directly, through intentional or unintentional physical engagement with places, and indirectly, by viewing them. Intentional use occurs when experiencing nature is

the primary aim; incidental or unintentional engagement is often the by-product of another activity; while indirect use entails viewing nature from distance without physical interaction taking place (Pretty, 2004; Keniger *et al.*, 2013). For instance, Wendy, though she makes no effort to wander into fields, appreciates her view across the neighbouring fields for more subtle reasons: 'Fields – if I couldn't see them, be able to see the changing seasons and see what's growing, and the flowers, to be able to see them changing...that would be very sad.' She further explains that is the reassuring presence of fields bearing evidence to the survival of traditional agriculture that operates in tune with the natural cycle of seasons that she values. The knowledge that 'that's still alive' is what matters and this can be confirmed through her visual engagement with fields. Louisa's narrative of her appreciation of fields is also manifest in the act of observing from the distance. Therefore, a detached engagement with some environmental spaces is equally important for some participants' well-being, especially where direct encounters are not possible, for example due to physical access barriers (see Chapter 7). Evidence from the health literature also demonstrates the positive effect of purely visual experiences of environmental settings on the recovery of hospital patients (Ulrich, 1984).

Using spatial proximity as an indicator of exposure to environmental spaces is misleading and wrongly equated with 'inevitable well-being experience' (Bell *et al.*, 2014: 287), downplaying the complexities that surround the ecosystem services - well-being relationship. My research reveals that despite proximity, some people may not benefit from a particular ecosystem and its services at all. Engagement with environmental spaces is conditioned by access mechanisms (discussed in Chapter 7) and the values¹⁸ attached to places manifest in the choices and preferences regarding place use (discussed in the present chapter). This is particularly well illustrated with the example of David, who despite living a 15 minute walk away from the beach has not visited it for years. While he values the beach as a source of positive experiences and a place of exercise, his access is restricted by mental inhibitions, coupled with a lack of companionship. Furthermore, different people gain different experiences through interactions with

¹⁸ The term value is used here not to reflect monetary worth, but to represent a holistic valuation of the environment embedded in the local context and reflecting people's personal situation, preferences and priorities.

the environment and associate these with different personally relevant connotations (Bell *et al.*, 2015).

The data show that changes in personal circumstances affect participants' appreciation of and motivation to engage with particular places. While a place is regarded with esteem and as a great source of well-being at one point in time, it seems to be re-evaluated and its importance redefined with major changes in participants' circumstances. For instance, Sam, whilst living in an inland urban part of Cornwall, makes considerable use of footpaths, going on walks, escaping his day-to-day problems and the unwelcoming council flat that he dislikes. As he is unemployed, he has not got the economic means to venture further afield. Although his most favoured natural setting is the sea and the beach, it takes a considerable effort and time to reach these. Thus the footpath is his most immediate experience of open space. However, when Sam finally moves to St Ives, his perception of the footpath suddenly changes and he rarely makes time to walk on it: 'When I used to live in Redruth I used to go off walking on footpaths more. Where here [St Ives] now, I spend more time fishing, being on the beach, or with me children.' The importance of personal circumstances is also highlighted by Bell and colleagues (2014) who recognize that shifts in social relationships likely influence people's preferences of places as well as their motivation for their use and enjoyment. The findings from this research reveal that in addition to social relationships other aspects of people's situation also contribute to decisions about whether to engage with environmental spaces.

To fully appreciate how and why people interact with environmental spaces, it is important to consider these in the context of other, non-environmental, sources of well-being (Fisher *et al.*, 2014). This will inevitably expose the underlying preferences and motivations that have implications for participants' potential to benefit from ecosystem services. As well as exposure to natural environments, research participants also identified other important capabilities. Chapter 5 (section 5.4.1) reveals the interconnected nature of capabilities which, in combination with social-structural factors, leads to trade-offs regarding which capabilities to pursue, thus also bearing consequences for participants' engagement with environmental spaces. Here, I focus on those aspects of trade-off decisions that directly motivate the use or non-use of environmental spaces,

cognisant of the fact that well-being is also sought through means other than ecosystem services. Dan, for instance, considers having good social networks and connections the most effective means of pursuing the kind of life he aspires to. While he appreciates having green spaces scattered around his city, Truro, he is most drawn to the sea. However, he makes a conscious decision to forego interactions with coastal environments in favour of the material and social prospects the city offers: 'I'm so glad I've moved to Truro and not Newquay, because I'd never be the person I am today if I had moved to Newquay. When you are here, you can make whatever connection you need to get somewhere.' On the other hand, the contrary is also true - some participants gain a greater sense of well-being through interactions with the environment as opposed to the more tangible social or material sources. Louisa is not a materialistic person. Hence the environment has an essential role in her ideal of a good life, because 'it's all very well having loads of money if you're living somewhere in the town centre and it's all pollution, and you don't like it there' whereas 'if you live somewhere that's so nice, money doesn't matter that much.' It is evident from these findings that participants' inherent dispositions – whether they are more inclined to pursue material or non-material ambitions - influence motivations for the use of environmental spaces and the relative importance of ecosystem services as a source of well-being.

6.2.3 Constructing ecosystem services

Engagement with environmental spaces is often evaluated using physical proximity (Mitchell & Popham, 2008; Jones *et al.*, 2009; Wheeler *et al.*, 2012). However, as highlighted earlier, physical exposure to what are commonly termed ecosystem services does not automatically contribute to capabilities or lead to enhanced well-being. Contrary to the conventional framing of services as benefits provided by ecosystems, this study takes a constructivist position, whereby ecosystem services come to exist through the process of social construction (Castree, 2001; Latour, 2004). What is a service and how it enhances capabilities and well-being is determined by the values and meanings people attribute to interactions with their environment. Therefore, it is essentially the process of human meaning making that makes a service a benefit (Díaz *et al.*, 2011; Daniel *et al.*, 2012; Fischer & Eastwood, 2016). Similarly, the

environment and its ecosystems do not have a universally valid or fixed meaning. Instead, environmental spaces and places become endowed with value through the culturally situated everyday practices and experiences of people (Tuan, 1977; Graeber, 2005; Pröpper & Haupts, 2014). Thus the concept of value itself is the product of social construction situated in temporally and spatially defined cultural contexts (Stephenson, 2008). The essential role of cultural values in the translation of ecosystem services into well-being is already acknowledged in the cultural services context (Church *et al.*, 2014; Fish *et al.*, 2014). However, findings presented here reveal that the relevance of culturally defined values extends beyond the less tangible human-nature relations, usually grouped under the umbrella term cultural services, to also include other types of services, such as supporting or provisioning.

The following section explores the themes identified through photo-based elicitation interviews (see Chapter 4), which allowed participants to articulate the values and meanings attached to experiences of environmental spaces, including the ways in which these enhance other capabilities or directly contribute to well-being.

6.3 Sources of well-being

This research identifies two important means by which participants gain capabilities and well-being from interactions with environmental spaces. First, through the process of attributing significance, meanings and value to particular aspects of the ecosystems they interact with and experience in their day-to-day lives. Second, through the various cultural practices and activities that they are involved in within these environmental settings. These are discussed in turn.

6.3.1 Well-being from ecosystem services

Supporting, provisioning and cultural ecosystem services are referred to most frequently during discussions about what participants gain from their interactions with environmental spaces. While regulating services are also highlighted, less emphasis is placed on them relative to the other three service types.

Supporting services are regarded in the literature as instrumental in underpinning the production of other services (MEA, 2005; UK NEA, 2011). During photo elicitation interviews, participants are invited to interpret their photographs, including the personal - at times abstract - meanings embedded in the visual content. These conversations reveal three types of supporting services highlighted by participants' photographs, including descriptions of the various kinds of experiences that arise from them (Figure 6.2).



Figure 6.2: Three types of supporting services contribute to well-being (from left to right): habitat provision, natural features and compost/nutritious soil. Photos by Laura, Wendy and Marie.

Participants value the provision of different habitats which host and support wild flora and fauna, encountered whilst spontaneously enjoying the surroundings, walking or just simply taking in the view. Other activities are more directed towards particular experiences, such as bird watching or photography. These create a sense of satisfaction due to the skills and knowledge demonstrated in the act of capturing images of life and the ability to identify various animal and plant species. Habitats are also instrumental in the provision of species for human consumption in the form of foraged food (e.g. mushrooms, watercress and blackberries), fish or fire-wood.

Some environmental spaces, such as the park or beach, host a variety of natural features, which are usually linked to and dependent on the ecological, geological or hydrological processes of their host ecosystem. Examples include rock pools on the beach, which exist as a result of the tidal cycle (a hydrological function) and streams, ponds or even trees in parks. These are often highlighted as the main source of interest within the broader environmental context (the park or beach) due to the meanings attributed to them. For instance, rock pools are enjoyed by adults and children alike and remind participants of family memories

of days on the beach. Sam reminisces about times gone by when as a young child he spent a lot of time on Gwithian beach, 'playing in the rock pools, swimming, building sandcastles.' Another participant, Wendy, recalls fond memories about the iconic weeping willow that stands in the middle of the boating lake in Helston: 'Ever since I've lived here, that tree... it's a weeping willow, and it's always given me the most pleasure, because in the winter-time the branches are the most wonderful shape. You know how willows droop and they twist slightly. And in the spring you see them flower... So, it's just a pleasure to sit there and watch the wildlife really... with that wonderful tree in the background.'

Finally, as most participants make good use of their back gardens, growing vegetables, herbs and fruit for consumption in the home, they value the decomposition of organic matter into compost that improves the soil in their gardens. Supporting services thus underpin provisioning services, as well as make a vital contribution towards several cultural services. For instance, many of the species hosted by habitats and natural features found within environmental spaces are enjoyed by means of sensory experiences, such as the aesthetic appreciation of plants, birds and lakes, or through the calming effect of the sound of flowing water. They enrich participants' present and invoke memories of the past, shaping identities within the culturally rich context of environmental spaces.

Cultural services are described in the literature as the non-material benefits manifest in experiences, identities and capabilities (Chan *et al.*, 2012a; Church *et al.*, 2014). Participants' narratives suggest that they are intricately linked with and underpinned by supporting, regulating and provisioning services, rather than existing in isolation as a separate category. This seems to confirm Chan and colleagues' (2012a) proposition that 'cultural services are best understood not as services,..., but rather as benefits that are produced not only through cultural services' (p.14).

A good example of this is the importance of weather events and flood control, which was discussed in the context of a small fishing town, Porthleven. Talking about the heavy storms of 2014, Wendy describes the impact of storm damage on the integrity of the harbour, which meant that all fishing boats had to be removed, completely altering the vista. While the harbour is a host to various

ecosystem services (e.g. provisioning through fishing), Wendy attributes greater significance to the cultural landscape¹⁹ and the symbolic meanings that it embodies. Her photos pre- and post-storm contrast the bleakness of the empty harbour against the idyllic image of colourful fishing boats (Figure 6.3).



Figure 6.3: Regulating sense of place (from left to right): after the storm – the empty harbour, harbour bulks protect from the force of the stormy sea, order is restored.

She refers to the return of the boats as order being restored. Beyond the scenic view, Wendy also gains a sense of well-being from witnessing the survival of traditional livelihoods such as fishing: ‘it’s good to see that that’s still alive’. The fishing boats symbolise a declining tradition from which the iconic image of Cornish coastal towns and villages evolved. Thus the harbour is a cultural landscape that embodies heritage, economic and environmental values instilled in the sense of place of locals. Evidently, the harbour wall seen on the photographs in Figure 6.3 not protects the physical integrity of the town, but also preserves the deeper values and symbolic meanings this vista evokes.

Several physical processes that shape environmental spaces are raised in relation to how they make people feel and how they perceive places as a result. Stephenson's (2008) study in the context of New Zealand also finds these processes to be the primary subject of interest among people. Such processes tend to be referred to as ecosystem processes and grouped under the collective of supporting services. For instance, the UK NEA (2011) explicitly recognizes the role of physical, chemical and biological process in the production of ecosystem

¹⁹ Schaich *et al.* (2010) define the cultural landscape (following Berkes *et al.*, 2008) as a social - ecological systems where the economic, social and environmental are closely intertwined.

services, however, it emphasizes the ecological aspects which are underpinned by biodiversity (e.g. nutrient cycling, soil formation etc.). The need for a more complete view of all processes, biotic and abiotic alike, shaping the potential of ecosystems for delivering valuable services is called for within the geosciences research community. Such authors assert that non-ecological processes, such as hydrological, geomorphological or geological functions, are equally important (Gray, 2011; Gordon *et al.*, 2012; Gray, 2012) and call for a due recognition of geodiversity alongside biodiversity. While the UK NEA (2011) does acknowledge the role of geodiversity and its processes and functions, these are given less significant coverage due to the long time frames associated with them. In contrast, Gordon *et al.* (2012) highlight the need for better awareness about past changes in order to predict future trajectories in natural systems, because 'past changes still produce responses today and will continue to have an impact into the future' (p.3). Therefore, a careful distinction between natural processes facilitated by geological and biological drivers is made when interpreting findings from the data, so as to avoid the conflation of ecosystem services with the processes that shape them.

Erosion and the changes in the physical appearance of beaches are an example of the processes that emerged from participants' accounts. Extreme weather events such as storms intensify naturally occurring alterations (e.g. as a result of the tidal cycle) leaving a lasting impact on the appearance of beaches. Participants venture down to the beaches following storms (or even during, as in the case of Louisa) to witness these changes. Sam recalls the day after the big storms in 2014 when he took a walk to Gwithian beach 'to see the seals and to see what damage has been caused by the storms...well, there was a bit of damage to the cliffs.' Although the physical integrity of the landscape may have been disturbed, its visual appeal and iconic nature remains unspoilt: 'It's just amazing how beautiful it still looked after such a bad storm' (Sam).

The changing of seasons vests the landscape with new smells and colours. These transformations are observed by participants through the surrounding flora, the fields that follow seasonal farming practices, and even the setting of the sun. Wendy associates daffodils with the arrival of spring and warmer weather. She also finds the local gardens aesthetically pleasing, presenting themselves in

different colours depending on the season. While her account describes the physical characteristics of these vistas, these are undoubtedly an expression of the changing seasons without which these transformations would not occur (Figure 6.4). Therefore, the role of underlying physical processes in shaping the landscape is instrumental for Wendy's experience of the cultural benefits these yield.



Figure 6.4: Changing seasons not only inspire changing perceptions, but also contribute to cultural benefits.

Finally, provisioning services make an essential contribution to the physical aspects of well-being (e.g. health). Fire-wood collected on the beach or in woods secures warmth, whereas home grown and foraged food contribute to an affordable and nutritious diet. This is especially appreciated by those on very low incomes with families. Charlie grows a plethora of vegetables and herbs for the kitchen: 'I fill me greenhouse up with vegetables, lettuces, onions, beetroot, tomatoes, and basil...I use that in cooking.' Elsewhere, Sam takes care of other people's gardens, not having one of his own: 'I go up there and do their garden for them and get to share the produce that we grow. So last week I dug up our potatoes, a couple of cucumbers, some broad beans.'

In addition, these provisioning services also foster a feeling of security and peace of mind. Despite being less tangible, these play an essential role in participants' mental health through the absence of stress and anxiety induced by a constant worry over meeting their most fundamental needs. As Marie explains, 'knowing that you've got enough fire-wood gives you a sense of well-being' in itself. More interestingly though, the cultural practices associated with provisioning services give rise to experiences and emotions that people associate with well-being. The well-being enhancing potential of cultural practices such as foraging is more fully discussed in the next section.

6.3.2 Well-being from cultural practices

When explaining which aspect of the environment contributes to their well-being, participants often emphasize the activities that they engage in within these spaces, rather than the qualities or characteristics of the environmental space itself. Other studies also point towards the prominence of cultural practices for well-being (Stephenson, 2008; White *et al.*, 2013b) and suggest that the activities undertaken in a particular environment may outweigh the effect that the natural features of that environment have on how people feel. Fish and colleagues (2014) see cultural practices as dynamic, operating as the interface of environmental spaces and human experiences. Practices are manifestations of culturally constructed values and interpretations of the environment, shaped by its features and characteristics. During the interviews, several relevant cultural practices emerged, which can be grouped under two headings. First, participants gain enjoyment and satisfaction from subsistence related activities. These included growing food for household consumption, collecting fire-wood and fishing. Second, participants engage in a variety of leisure type pursuits, which they find enriching in their own right: photography, observing nature and wildlife, taking in the view and socializing with friends and family.

Although traditionally subsistence activities are geared towards securing human physiological needs, such as nutrition or warmth, the findings contest the purely pragmatic nature of these practices. There is a consistent tendency among participants to emphasize the feelings they experience whilst engaged in such undertakings, often with little or no mention given to the final products that are

generally considered the point of ecosystem benefit (see Table 2.4 in Chapter 2 for definition). This is especially true for gardening and growing. Growers are those participants who cultivate their gardens to produce fruit, vegetables and herbs for consumption, whereas gardeners mostly limit their portfolio to plants of a decorative nature (e.g. flowers, hedges etc.). Calvet-Mir and others (2012) find in the context of a Spanish case study that cultural services are valued above the provisioning and production function of home gardens. However, their interpretation remains mostly limited to the beneficial effects of gardens as spatially defined entities and they frame garden activities as cultural services. Findings from my research reveal that while environmental spaces – in this case the garden – may foster positive feelings, they are also instrumental for facilitating activities that produce well-being or enhance capabilities. Working in the garden is referred to as a relaxing and even therapeutic activity, which affords participants an escape from problems and helps them deal with their anxieties. Louisa, Marie and Sam, in particular, experience a range of cultural benefits (e.g. relaxation, enjoyment and escape) through engagement in the act of gardening, rather than due to the properties of the physical space alone. Louisa's testimony sums this up well: '...when I'm in the garden doing gardening, even if it's quite heavy work like digging or weeding, I just enjoy it and I don't think about anything else...And then you plant your plants and they grow, and you watch them grow, blossom and change. It's just something magical about planting plants and watching them grow...I find gardening very relaxing and therapeutic. If I'm really angry about something or really stressed, I go in the garden.'

Other activities, such as fishing and gathering fire-wood on the beaches or in woods make an important contribution to well-being in their own right. Although the wood itself is essential in some cases for heating the home, the time spent collecting it is seen as equally beneficial as the time spent enjoying the heat it generates. Marie explains her experience of gathering wood: 'I felt really happy collecting all the wood 'cause I knew I had enough wood for two weeks each time. And it is quite a pleasant thing to do, just collecting fire-wood on the beach. Quite hard work.' Participants refer to the 'physical' nature of these practices with a sense of pride, which is warranted by the 'hard work' involved.

Leisure related cultural practices are often associated with the aesthetic appreciation of various aspects and characteristics of environmental spaces. This can be said about taking in the view, in particular admiring the landscape and seascape. It has been suggested that an aesthetic response to physical spaces arises due to a sense of attachment to or emotional experience of places (Ulrich, 1983; Hausmann *et al.*, 2015). The view also acts as a visual stimuli for the recall of memories, events and even ideas (Ulrich, 1983). Participants present photos of personally meaningful landscapes where memories are made. Their account of the environment depicted in these is filled with a sense of belonging. For instance, Charlie in talking about his memories of playing on Porthminster beach while growing up, emphasizes the positive connotations of this landscape, which he associates with being part of a community and a sense of safety this gave him at the time (Figure 6.5): ‘That’s St Ives, Porthminster beach...The whole of that area is kind of my home, I suppose, and it’s like having an extended family. Because without realizing it, all the people that you know are watching you, and you’re just part of the town...there is always this sense of someone looking out for you.’ His account reflects cultural ecosystem benefits at multiple temporal scales, such as rootedness in the place, sense of belonging, memories and aesthetic appreciation. As an adult, he often returns to this spot to admire its aesthetic beauty, gaining a sense of well-being from just taking in this memorable part of his home town.



Figure 6.5: Porthminster Beach, St Ives: a landscape full of memories.

Others gain sensory pleasure from the visual engagement with the physical characteristics of places. Observing the shapes and forms of the environment

gives Wendy a sense of satisfaction: 'just looking down by the top of the road by the clock...so there is nothing between you and America. Just looking down and enjoying the slate and the footprints in the sand.' She explains the immense importance of enjoying the aesthetic beauty of the Cornish landscape (Figure 6.6): 'I've lived in Cornwall for a long time now and can't imagine living anywhere but by the seas, seeing wonderful sunsets and just looking out across Godrevy, Gwithian, Marazion, churches – everything about Cornwall I love.'



Figure 6.6: Sensory landscape: 'everything about Cornwall I love'.

Observing nature, while in principle also a type of visual engagement, is a practice with a purpose and direction. Instead of admiring the general view, participants seek out specific aspects of the ecosystem, such as birds, other wildlife or plants. Their engagement with the given environment is stimulated by curiosity and fascination and contributes to cognitive and emotional experiences (Figure 6.7). Dan describes his feelings following an up-close encounter with a magpie in his garden: 'So that's a magpie. And it made me feel good that I could get that close, because I wasn't standing far from him at all. And that it would allow me that close made me feel good. Because they don't...birds and that type [of] thing, they don't let you get close to them.' Whereas, Charlie who takes a more pragmatic approach to birdwatching emphasizes the cognitive benefits, as well as sees this as a means of being occupied: 'We provide food for the birds...And they are great fun to watch. You can study the birds, which is interesting. Watch them look for moths along the edge of the greenhouse, along that little gutter...It's quite interesting watching them, their behaviour.' Similar to

Charlie, observing nature is also a cognitive stimulus for David. The act itself is an enriching and fulfilling experience, especially when unknown species are discovered: 'It's not a fir tree I'm familiar with. Actually, I wouldn't mind having a tree like that...I'll be visiting there again, just because I like the look of it.'



Figure 6.7: Cognitive nature (from left to right): magpie in Dan's garden, Charlie's bird heaven and David's discovery.

These narratives confirm the cognitive benefits of engagement with greenspaces, especially home gardens (Calvet-Mir *et al.*, 2012). These range from the reinforcement and maintenance of existing ecological knowledge (e.g. being able to identify plants and animals) to the discovery of new, previously unknown, species and thus fostering continuous learning.

Some participants already enjoy and practice photography, while others engaged with it for the first time through the photovoice task and discovered a new pastime. The practice of photography is often linked with observing the natural environment, both at the landscape level and at the level of fauna and flora. Charlie likes to capture the movements and behaviours of birds that visit his garden. He also photographs plants, especially flowers. Capturing the beauty of these and creating visual representations in the form of images gives him a sense of achievement, as well as something to do: 'I've got my wild flowers growing over there. They are quite nice. They bring in the bees sometimes...If you see them, the leaves are all variegated, and I can take lovely photographs of them, the colours.' Creative practices such as photography and painting inspired by the Cornish environment are more than mere sources of cultural benefits for Charlie. They form part of the coping mechanism that contributed to his recovery process following cancer treatment. Hence these cultural practices, facilitated by environmental spaces, fulfil an important restorative function and thus directly

contribute to his well-being. The healing effects of environmental spaces are discussed in Section 6.4.5.

David did not own a camera prior to taking part in the study. Nevertheless, he found a sense of purpose and a profound pleasure in taking his photos and experienced a sense of achievement along the way. In his case, photography also serves as a stimulus for stepping out of his comfort zone to explore new experiences, therefore, dissolving some of the more subtle mental barriers of access (see Chapter 7) and hence enhancing his capability of engaging with natural environments.

It is evident that engagement with environmental spaces does not enhance capabilities or generate well-being for all participants in a uniform fashion. Although the MEA (2005) identifies ecosystem services as the *de facto* contribution to human well-being, later iterations of the concept (Boyd & Banzhaf, 2007; Fisher *et al.*, 2009) begin to recognize the centrality of humans, as meaning making agents, for deciding what constitutes a service and consequently a benefit. Boyd and Banzhaf (2007) also advance the idea of ecosystem services producing multiple benefits. This is later reiterated by Chan and colleagues (2012a) who warn about the potential pitfalls of solely taking an economic valuation perspective preoccupied by developing an efficient accounting system which potentially overlooks some of the most important aspects and dynamics of the ecosystem services and well-being relationship. The findings here support this view and demonstrate that some ecosystem services might generate unexpected benefits. For instance, the MEA (2003) highlights the role of regulating and supporting services for securing well-being by means of the ecosystem processes that contribute to the provision of basic materials for good life, human security and health. As already discussed (6.3.1), these are underpinned by geological and biological diversity and include ecological, geological and hydrological processes among others. Research participants, however, place more emphasis on the cultural services and benefits that they are able to enjoy as a result of the impact these physical processes have on ecosystems. Examples of this are the geomorphological features of the landscape (e.g. Wendy's mention of the rock slates) or coastal erosion (e.g. Sam's and Louisa's visits to the beach during or following heavy storms to witness

the transformations). Therefore, it appears that not only ecosystem services are causally linked to well-being, but also to one another. At times, they lead to the enhancement of particular capabilities or aspects of well-being indirectly, through a web of cause-effect relationships between different service types and the biophysical and geological processes underpinning them.

Furthermore, in some cases cultural practices are valued above ecosystem services in that they are referred to as the ultimate point at which experiences of well-being occur. Central to a recent debate about the socially constructed nature of ecosystem services is the proposition that what is of value largely depends on the perspectives and perceptions of beneficiaries (e.g. Chan *et al.*, 2012a; Daniel *et al.*, 2012; Barnaud & Antona, 2014; Fischer & Eastwood, 2016). The findings presented above reveal that in some instances, cultural practices are the catalysts for improved capabilities or well-being, whereas the environmental context and what would traditionally be considered the 'ecosystem service' is seen as a backdrop or facilitator of the valued activity. For instance, while the act of observing nature and the characteristics and features of the natural setting (such as scenic views and biodiversity) within which it takes place are intertwined, it is ultimately the activity that participants gain a sense of well-being from. The following section turns to exploring the feelings and experiences through which well-being and capabilities are enhanced in the context of ecosystem services and cultural practices in Cornwall.

6.4 Types of well-being

The findings reveal that ecosystem services and cultural practices directly enhance participants' well-being or, alternatively, support the formation of important capabilities, thus providing a potential contribution to well-being. In the most basic terms, they help meet some of the more fundamental needs such as nutrition, warmth or income. Additionally, well-being is also enhanced (directly or potentially) by means of relationships, perceived place qualities, skills and cognition, as well as the positive feelings experienced from ecosystem services or cultural practices. These are closely linked with a further capability, health.

6.4.1 Satisfying fundamental needs

Although no one among the participants is solely dependent on ecosystems for their livelihoods and survival, several people, at least in part, draw on the resources provisioned by ecosystems to secure some of their fundamental needs. Most prominently, home grown food supports a nutritious, healthy and varied diet. Fruit and vegetables obtained in this way make a valuable dietary, and potentially cost saving, contribution to participants' households. Moreover, the skill of growing and nurturing plants is also turned into an earning opportunity. Two of the participants garden for other people, in exchange for either payment or a share of the produce. Sam has great plans to capitalise on his natural gift for gardening to create a better future for himself: 'I can grow anything really, even though I don't know the names of most things. I just seem to have a good patience for growing things and taking care of them...I wanna get into gardening – what I like doing. I'm not gonna go down the steps of just any old job and getting myself ill again and struggling for the rest of my life.' For him it is not merely a source of income, but potentially an escape route from years of hardship and unemployment.

Evidently, gardening and growing food contributes to well-being in more than just one way. Fundamentally, it enhances physical health and well-being through nutritious home grown produce. As explained earlier, the cultural practice of growing and nurturing, in themselves lend participants a sense of feeling well, satisfaction and achievement, thus boosting mental well-being. Finally, in some instances it also becomes a source of income. As discussed in Chapter 5, income is a valued capability, which underpins the freedom to pursue other well-being objectives. Whereas, the health impacts of gardening (physical and mental) can be perceived both as a well-being outcome and as a capability that is conducive to pursuing other well-being aspirations.

Last, but not least, wood is collected and burnt to heat the home and to accomplish the basic need of keeping warm. As we learnt earlier, in Marie's home, for instance, wood burners are the sole sources of heat. Gathering firewood from woods and beaches is considered a pleasant activity, not just a chore that supports an important end. Therefore, besides securing warmth for the

household, a sense of well-being is also gained from experiencing the physical environment and engaging in the practice of collecting and gathering.

6.4.2 Positive emotions

Positive feelings and emotions are often experienced as a result of seemingly pragmatic provisioning activities, as well as during various recreation and leisure practices that take place within nature. Participants refer to gardening as a relaxing and therapeutic undertaking. For Charlie and Louisa the garden offers a refuge, an escape from problems. Louisa sees the garden as her special space: 'when I'm in the garden doing gardening...I don't think about anything else...this is my bit of peace and quiet'. The therapeutic and healing potential of gardens is not a recent phenomenon. Garden cloisters and activities used to be incorporated into a process of mending and recovery during the Middle Ages (Pretty, 2004).

Moreover, conscious engagement with natural environments in the form of outdoor leisure and recreation gives participants an improved sense of 'well-feeling'. Louisa gets a 'sense of well-being' from walking along the coastal path due to the peaceful ambience of the environment: 'it's nice to just walk along there and enjoy the peace'. Whereas Laura, appreciates the calming effect of her woodland walks. As evidenced by the recollections of participants who have grown up in Cornwall, the beaches have always been an important part of Cornish family life: 'If you look at our family albums, there's always somebody on the beach with a pasty...It's like a tradition' (Laura). When talking about times spent on beaches, participants bring up some of their happiest memories of playing, drawing pictures in the sand, building sand castles or kicking a ball about with their children. These simple pleasures give an immense sense of happiness and liberty even to these adults: 'even as an adult, running across the beach it kind of makes you forget your worries and you feel...it just makes you feel happy to be somewhere that's so natural and so beautiful (Louisa) (Figure 6.8).



Figure 6.8: 'Running across the beach...makes you feel happy'. Photos by Louisa (left) and Wendy (right).

The older participants of the study find contentment and pleasure in some of the less dynamic modes of interaction with nature: just watching life go by. Wendy and David both enjoy observing the hustle and bustle of life in their small coastal town. Wendy finds the harbour most intriguing: 'I quite often go down of an evening when it's nice. Either get a coffee, or perhaps some chips and just go and sit on the harbour. Just sit and watch, watch the world go by...[I]t's a working harbour, although it's not as busy as some, but to sit and watch the people and watch the boats...I just find it therapeutic and it's just really relaxing.' David captured a scene he witnessed whilst watching life go by in the town. He explains how he felt at the time by saying: 'I was quite content. I was sitting in a coffee house at the time, drinking a cup of coffee with a friend, watching the people pass by, various things taking place.' Even though this is not a representative sample, these findings indicate similarities with conclusions drawn by Finlay and colleagues (2015) who observe that contact with the environment through places of retreat and feelings of stillness are especially valued by older adults.

Sensory experiences of environmental features also trigger positive reactions in terms of feelings and emotions. These arise either through aesthetic experiences of viewing places, inhaling their scent or listening to pleasant sounds. Dan passes through a nearby park from time to time and often stops by the river that runs through it: '...there is a waterfall sort of thing just a little bit up the road from there. And, yeah, it's beautiful...And the sound as well, because that makes a sound. The sound of the river you can hear it flow.' The peaceful ambience of this place

creates the conditions for reflection and contemplation: 'When you are in that type of place, you can think. Can't you? Think of all sorts of things. And it could all go away as well' (Dan). Water is a well-recognized source of positive moods and feelings, as well as of aesthetic pleasure (Ulrich, 1983; Finlay *et al.*, 2015). White and colleagues (2010) find that aquatic environments contribute to physical and psychological well-being through different senses, through audition (e.g. the sound of breaking waves) or 'immersion' (e.g. bathing or swimming). Marie describes an intense positive affect sparked by the smell of the sea: 'As soon as you get close up, I like the smell, all that rotting seaweed. I love it, absolutely love it!...the smell of the sea is like an elixir.' Traditionally, elixir was thought of as a remedy for all ills, instrumental in prolonging life. Comparing the scent of the sea to an elixir hints at the health enhancing effect of experiencing nature through sensory experiences (Ulrich, 1984; White *et al.*, 2010; Finlay *et al.*, 2015). The visual appeal of non-aquatic nature features is equally important for some participants. Wendy finds a lot of joy in taking in the visual beauty of her surroundings (Figure 6.9).



Figure 6.9: 'Grateful to be alive': sensory experiences and positive emotions. Photos by Wendy.

She contrasts the lonesome willow peacefully rising above the boating lake with the 'ruggedness of the cliffs and sea' as she explains: 'it's just a pleasure to sit there and watch the wildlife with that wonderful tree in the background...The tree is different every season, as other trees around it, the ducks and the birds on it.' When talking about her love for bluebells, she compares these to the colours of the sea: 'And the bluebells, I mean that blue. It just looks like looking across the sea. It's absolutely wonderful. And it is calming and relaxing, and grateful to be alive.'

Evidently these environmental spaces are used differently by people who experience enhanced well-being through positive feelings and emotions as a result of engaging with these places either in physical or sensory terms. What leads to positive affect largely depends on people's personal interpretations of places (Bell *et al.*, 2015) - what matters within a setting and what triggers a particular emotional response is largely subjective and conditioned by personal and contextual factors. Personal experiences and memories of nature based activities from the past cultivate the appreciation of the environment - a process also referred to as 'nature-acculturation' (Bell *et al.*, 2014). The physical characteristics, features and processes of environmental spaces coupled with their relational aspects (e.g. memories of social interactions) (Bell *et al.*, 2014; Chan *et al.*, 2016) mediate how participants experience these and whether they are beneficial for their well-being.

The question remains that beyond contributing to positive mental states and emotional health, how might positive feelings underpin well-being? A comprehensive study by Lyubomirsky and colleagues (2005) reveals that positive affect is key for achieving culturally valued goals. People with frequent positive emotive experiences are more likely to take an active role (exercise their agency) in pursuing valued objectives and aspirations. Building on this rationale, it is reasonable to assume that beyond improving mental well-being, positive emotions linked to experiences of ecosystem services and cultural practices also enhance participants' capability to live the life they value. As such, ecosystem services contribute to more than merely a well-defined list of well-being outcomes (as per the MEA conceptual framework). Instead, they enhance participants' ability to pursue aspirations associated with a vision of good life. Positive emotions linked to ecosystem services thus play an instrumental role in facilitating the conversion of valued capabilities into achieved outcomes, potentially mitigating the effect of social structural constraints discussed in relation to trade-offs between capabilities (Chapter 5, Section 5.4).

6.4.3 Relationships

The relational aspect of environmental spaces that encompasses relationships with and within places is another important theme unveiled from participants' narratives about well-being experiences that occur in these settings.

It is argued that the physical and social environment are inseparable from each other: environmental spaces provide opportunities for social contact and facilitate interactions (Stedman *et al.*, 2004; Stephenson, 2008; Ashbullby *et al.*, 2013; Bell *et al.*, 2015; Finlay *et al.*, 2015). As Stedman and colleagues put it: 'social relationships are played out in these natural settings' (Stedman *et al.*, 2004: 602). The findings reveal that environmental spaces with their features and characteristics promote, shape and maintain social relationships by providing a physical context within which people can interact with each other. Through human relationships, the environment is endorsed and attributed socially and culturally relevant meanings (Stephenson, 2008; Chan *et al.*, 2016). Several participants stress the social aspects of places, in particular the activities and people they associate with them and the feelings they experience. Various outdoor environments are regarded as 'meeting places' where people gather and socialize with their friends and family, or even organize to form a group with a shared interest. Marie explains the social importance of the river in her village: 'I think it's the life of the community...important socially, social events, relaxing meeting place...Go to meet there, meet my children there, then they could be playing and picnicing'. The beach and garden also carry important social connotations – it is where the family and friends come together: 'Have bonfires in the top of my garden, few friends, play some music' (Marie).

Looking at photos of the park, Dan explains that this is where the community football team congregates (Figure 6.10). It is a grassroots team that he initiated on the housing estate. The park is their training ground: 'it's completely and utterly necessary. That's where we all come together.' It appears that relationships are formed and strengthened largely in the context of cultural ecosystem services such as various forms of outdoor recreation.



Figure 6.10: Social spaces: ‘that’s where we all come together’. Photo by Dan.

However, not all well-being related to environmental spaces occurs solely as a result of social interactions. In some instances, participants hold strong personal meanings of places that foster feelings of rootedness, place attachment and sense of place. These perceptions of places are often underpinned by memories of social interactions associated with the place in question (Bell *et al.*, 2015). Therefore, the social and spatial aspects of place simultaneously shape the well-being enhancing potential of environmental spaces. This is exemplified well in Laura’s account of the beach, which constitutes both physical-sensory and social-relational elements: ‘We would bring our tent down and put it up at the quiet end of Portreath and just sit, or just sit on the sand, bring a picnic or go in for a swim. Looking at shells and drawing some of the things on the floor. Burying children in the sand, helping them to swim...I love the beach...I love the sound of it, the look of it, the smell of it.’

The findings also suggest that place-based memories form an invaluable source of well-being during the latter years of life when people are no longer mobile and able to experience the environment in person. When asked what interactions with the local environment mean for Wendy, she emphasizes the sense of independence and freedom she gains from ‘[j]ust the pleasure of being able to’. She proceeds by explaining how the experiences of the present might also contribute to well-being in the future: ‘Because it’s gonna be the memories we [are] going to have to live on in the end...when you can’t get out and about yourself.’

Chapter 5 highlights the ways in which affiliation to place in its various forms (e.g. place attachment, rootedness, place identity) contributes to the formation of important capabilities and to a perceived sense of well-being resulting from positive emotions evoked by place-related experiences and a sense of unity with one's environment. Moreover, environmental spaces also contribute to the relational aspect of well-being by providing a context for human interactions to take place. These findings suggest that cultural ecosystem services - such as outdoor recreation, social relationships and sense of place - are inherently relational (Chan *et al.*, 2016) and play a vital supporting role in building capabilities and attaining valued well-being outcomes.

6.4.4 Ecosystem services as sources of learning and inspiration

Ecosystem services also enrich a variety of skills valued by participants. These include knowledge associated with the natural environment, such as bird and plant identification, and skills related to cultural practices that take place in environmental settings, for instance, gardening or photography. Furthermore, the environment and its features also provide a rich source of inspiration and instigate creativity.

The cultural ecosystem services of outdoor recreation and the aesthetic appreciation of nature are well known to inspire various creative and arts practices (Chan *et al.*, 2011; Daniel *et al.*, 2012). Participants report how the sensory and emotional experiences of particular environmental spaces and ecosystem services drive their creative instincts. Even provisioning services and subsistence related practices are able to evoke inspiration through the discovery of abstract meanings in tangible physical objects. Marie shows off a photo of her fire-wood man (Figure 6.11) and explains the rationale behind her interpretation of this seemingly amorphous piece of beach wood: 'I took this man out of my fire-wood...I saved him and made him into something, but all the rest I've burnt now. I don't know, you just collect these great big bundles and you see faces, animals, dinosaurs, flowers, and all sorts of things.' Similar findings are unveiled by Fischer and Eastwood (2016) in Fife, Scotland, which show that besides its role as

material for subsistence, wood also inspires some people to transform it from its raw form into a piece of art or craft.



Figure 6.11: Inspiration in unexpected places: 'I saved him and made him into something'. Photo by Marie.

Others are fascinated by the more abstract meanings of physical places. For instance, Charlie is inspired by the unique identity and cultural heritage of the landscape around St Ives (Figure 6.12). He draws on some of the historically important livelihood practices, emphasizing a local's interpretation of the place, not as a tourist heaven, but as a once important fishing town: 'That's my art. My depiction of life in Cornwall processing fish. It's something I've done since I've been ill...it's got the historical side of things – how life used to be in St Ives with the fish industry.' Although he focuses on the social and human aspects of the place, referred to as cultural heritage, these embody the 'biophysical features, physical artefacts, and intangible attributes' (Daniel *et al.*, 2012: 8814). Charlie not only gains a sense of achievement from harnessing new skills, but, as mentioned earlier in relation to his passion for practicing photography (Section 6.3.2), these expressive and creative projects are deployed as a coping mechanism, an integral part of his emotional and psychological healing and recovery post-cancer.



Figure 6.12: Art as a coping strategy: 'It's something I've done since I've been ill. Photo by Charlie.

Outdoor recreation activities are particularly relevant for participants' creative practices. People can encounter interesting places and things during a walk. On some occasions the view of entire landscapes or seascapes acts as a catalyst for artistic imagination. For example, Dan who enjoys writing appreciates 'just being there [by the sea]', because he gets energised and filled with inspiration, to think and to write. Whereas, Laura, an artist, consciously seeks out places to gather reference material for her paintings (Figure 6.13). She talks about her routine activity of seeking inspiration in the physical features - mostly plants - of natural spaces: '...that's my quest, my never-ending quest for really good reference. That's good reference for me, because I can use that to draw, and I'd make them look better in the drawing...I love the stalks, that's why it's an odd perspective.'



Figure 6.13: A quest for inspiration. Photo by Laura.

Environmental spaces are also learning places, where new knowledge and skills are acquired and existing knowledge is reaffirmed. Such cognitive benefits arise through experiences of cultural services related to the fauna and flora, as well as by means of various practices. These practices may involve hobbies (e.g. photography) or subsistence activities (e.g. gardening and growing). Parents specifically emphasize the educational role of nature, both as a setting for learning outdoor skills and as a wealthy source of information and knowledge in its own right. Louisa talks about Tehidy woods as a 'healthy' and 'outdoor' place that 'can be fun, can be educational, can be relaxing'. A place where facilitated learning takes place. She recalls taking her children there on a survival course to learn how to light a fire without matches. Laura also takes advantage of the rich woodland ecosystem and integrates it into her son's home schooling curriculum: 'I like to take him out in the wood - it's part of his school. It's my school as well. I'm learning loads and loads about what's there.' Utilising the natural environment for teaching and learning activities gained momentum following the publication of the *Learning Outside the Classroom* manifesto by the Department for Education and Skills (2006). This is also evident from the increased popularity of Forest Schools since their first introduction in UK educational facilities during the early 1990s. Research evidence highlights the positive impact of outdoor learning on children's cognitive skills, confidence, social skills and motivation (O'Brien & Murray, 2007; O'Brien, 2009), as well as their health and creativity (Maynard & Waters, 2007). These are especially important as children in contemporary society tend to have less contact with the outdoor environment due to the availability and popularity of many indoor activities (O'Brien & Weldon, 2007). Concerns have been raised about children's lack of exposure to woodlands and other greenspaces, which can affect the use of such places in adulthood (O'Brien, 2009). Findings discussed earlier in this chapter also suggest that childhood memories of activities within particular environmental settings foster participants' continued engagement with these during adulthood.

While learning within the context of the environment by means of interrogating some of its features is the most commonly cited source of knowledge, some participants also highlight the sense of achievement and satisfaction they gain by investigating the history of places that essentially shaped their current form of existence. Louisa, Dan and Wendy all have a passion for various aspects of local

history. Louisa points out her fascination with the Cornish landscape, especially the remnants of the mining era. She finds the old engine houses visually appealing, but it is the history behind them that really intrigues her: 'I used to stand there and just look at them and think "oh, I wonder how many people worked here"... You almost wanted to go back in time to see how it was working. I find it quite fascinating'.

Fish and colleagues (2014) suggest that by learning through nature people garner important capabilities that allow them to prosper as individuals. While the findings presented here, indeed, support the instrumental role of nature and its services for knowledge acquisition and the development of personal skills, the social and cultural dimensions of the environment are also emphasized. In fact, it appears that learning from, within and about environmental spaces and landscapes is facilitated by the socio-cultural context of the 'learner'.

6.4.5 Healthy environments and salutogenic ecosystem services

A closer examination of the data and the emerging themes reveals a pattern which suggests that most ecosystem benefits contribute to health. Health benefits also arise due to the inherent qualities of environmental spaces. Health constitutes a well-being outcome in its own right, as well as being identified by participants as a key capability that facilitates the achievement of other valued well-being objectives (Chapter 5).

Participants frequently refer to environmental spaces, or nature generally, in terms of their health promoting qualities. Adjectives such as calming, healing, cleansing, therapeutic and relaxing are used to characterise aquatic and green environments. For instance, Marie talks about the cleansing sensation she feels when she is by the sea: 'It makes me feel really relaxed. I just feel really peaceful and happy. And it's like you're covered in mud all over, but just being by the sea for a while makes you feel all sparkly and light.' The calming effect of water is recognized by others, too: 'It's just soothing and calming to watch water just float along...' (Wendy). This parallels findings by White *et al.* (2010) who stipulate the healing and restorative potential of blue spaces. Beyond experiential health benefits, participants also reiterate the importance of being outside in the fresh

air for their physical well-being. Laura, for example, highlights the ameliorative effect walking in the woods has on her eldest son's asthma.

The salutogenic (health promoting) potential of the natural environment is already well documented, with related research being concentrated mostly within the fields of environmental psychology and public health (Kaplan, 1995; Hartig *et al.*, 2003; Pretty, 2004; White *et al.*, 2010; Hartig *et al.*, 2011; White *et al.*, 2013; White *et al.*, 2013a; Bell *et al.*, 2014; Hartig *et al.*, 2014; Bell *et al.*, 2015; Finlay *et al.*, 2015). This includes work not only on the effect of exposure to green and blue spaces on human health, but also addresses some of the mechanisms and dynamics that determine how these benefits occur and to whom (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). Ideas such as Gesler's 'therapeutic landscape' (1992) - which posits that landscapes contribute to healing - or Wilson's 'biophilia' (1984) - the idea that humans are genetically predisposed to be drawn to and affiliate with other life-like processes through contact with nature - have been broadly explored within this literature. My findings suggest that sensory experiences (visual or auditory) of natural landscapes and their features contribute to participants' recovery from the stresses of everyday life. Louisa's statement aptly summarises this phenomenon: 'I think nature is a good healer. It makes people feel better when they see natural things'. Indeed, there is evidence that participants are drawn to environmental settings (e.g. beach, seaside, woods) which they associate with positive emotive experiences. However, caution is being exercised when drawing conclusions about the mechanisms that underpin such positive association with places. Although Wilson (1984) suggests that it is our genetic makeup that preconditions our relationship to nature, I argue, based on the broader findings of this study, that a plethora of factors beyond genes determines whether (a) participants engage with environmental spaces (see Chapter 5 on trade-offs and Chapter 7 on access mechanisms) and (b) whether they experience these encounters favourably.

Ecosystem services also contribute to positive health outcomes in a slightly more indirect fashion, in that the social, emotional and cognitive benefits of ecosystem services are also conducive to improved mental or physical health. Social relationships are considered beneficial for people's mental and physical health (e.g. Seeman, 2000; Cohen, 2004). The study findings highlight the importance

of environmental spaces for social interactions. While this is not applicable to all spaces, as some represent solitary places which facilitate escape, relaxation or contemplation (e.g. rivers or gardens), there is a consistent indication towards the social nature of others such as beaches or parks. This confirms the findings of existing research which highlights the inseparable nature of the social and biophysical aspects of environmental spaces (Fredrickson & Anderson, 1999; Pretty, 2004; Stedman *et al.*, 2004; Stephenson, 2008). The social significance of environmental settings is discussed by participants through memories. For example, Sam recalls a day out with his two children, niece and nephew in the woods - his account focuses on the social bond with his children and the pleasure of experiencing this environment with them: 'This was taken on the trip to Tehidy woods with my twins, niece and nephew, to feed the ducks. But there wasn't any ducks there, so we ended up just having a walk around the woods'. When asked why this scene is important, he refers to his children, rather than any aspect of the environment itself: '...cos they're my children, and they make me happy'. These results are in agreement with the work of Hartig *et al.* (2014) who highlight the instrumental role of the environment in fostering social relationships and participation in social activities.

The social relationships acted out within these environmental spaces make a valuable contribution to participants' health (Nieminen *et al.*, 2010). Feelings of belonging and being part of a nurturing social sphere contribute to psychological well-being. The need for some form of social contact is emphasized by several participants. Furthermore, established social networks encourage people to interact with the natural environment, whereas social isolation can pose as a serious mental barrier for access to environmental spaces (see Chapter 7). For instance, the absence of a companion prevents David from making use of the beach as he deems it socially inappropriate to wander around alone. What is perceived as appropriate behaviour has a bearing on participants' access to and engagement with environmental spaces (Kessel *et al.*, 2009), and in turn, implications for health. As Fredrickson and Anderson (1999) conclude 'the affective appeal of a particular place setting has as much to do with the social interactions that occur there, as with the overall visual appeal of the landscape itself' (p.36).

Knowledge and skill acquisition contributes to participants' physical and mental health. Physical well-being is enhanced due to the outdoor nature of the activities concerned. Participants refer to these as 'healthy and outdoor' practices and see them as 'free exercise'. Furthermore, the act of learning new skills or simply making use of existing ones boosts participants' mental health and well-being. They gain an immense sense of satisfaction and achievement when they witness the end results of their activities, be these photographs, other creative outputs or flowers and plants grown and nurtured in the garden. For instance, David feels a 'sense of achievement' upon seeing a photo he took turn out well: 'I thought, maybe I can get a better angle on it than anybody else' (Figure 6.14).



Figure 6.14: Photographs contribute to the sense of achievement. Photo by David.

These findings parallel Pretty's (2004) work in the context of private and community gardens. He suggests that engagement with gardening enhances the confidence and self-esteem of those with mental health issues, and encourages those who are unemployed to take part in a productive and constructive activity. In the present research similar revelations are evident in those participants' narratives who experienced periods of mental health problems (e.g. depression and anxiety). Sam, who underwent treatment at a mental health facility, discovered a passion and aptitude for growing and gardening, which he finds fulfilling and relaxing. As we learnt earlier, Charlie, inspired by the Cornish physical and cultural environment, used art to help him through the emotionally and physically taxing healing process following cancer treatment: 'Well, you get like periods of 14 weeks where you stay in this little room. You've got nothing to do...I found that doing the artwork relieves the stress of the situation.' As

someone who ‘couldn’t draw at school’, he feels a sense of pride and accomplishment when looking at his creations – they are ‘[s]omething to show off to other people.’ The significance of taking up a new hobby and developing a skill is elevated by the beneficial impact it has on Charlie’s health, because the restoration of the mind as well as the body can subsequently circumvent physical and mental health issues (Hartig, 2007).

Finally, the link between meeting fundamental needs and physical health is perhaps the most straightforward as participants applaud subsistence activities as healthy and instrumental for nourishment. However, a less apparent indirect benefit also occurs as a result of providing for one’s basic necessities. The evidence suggests that meeting such needs alleviates psychological pressures such as stress and anxiety because knowing that there is ‘enough’ lends participants a sense of security.

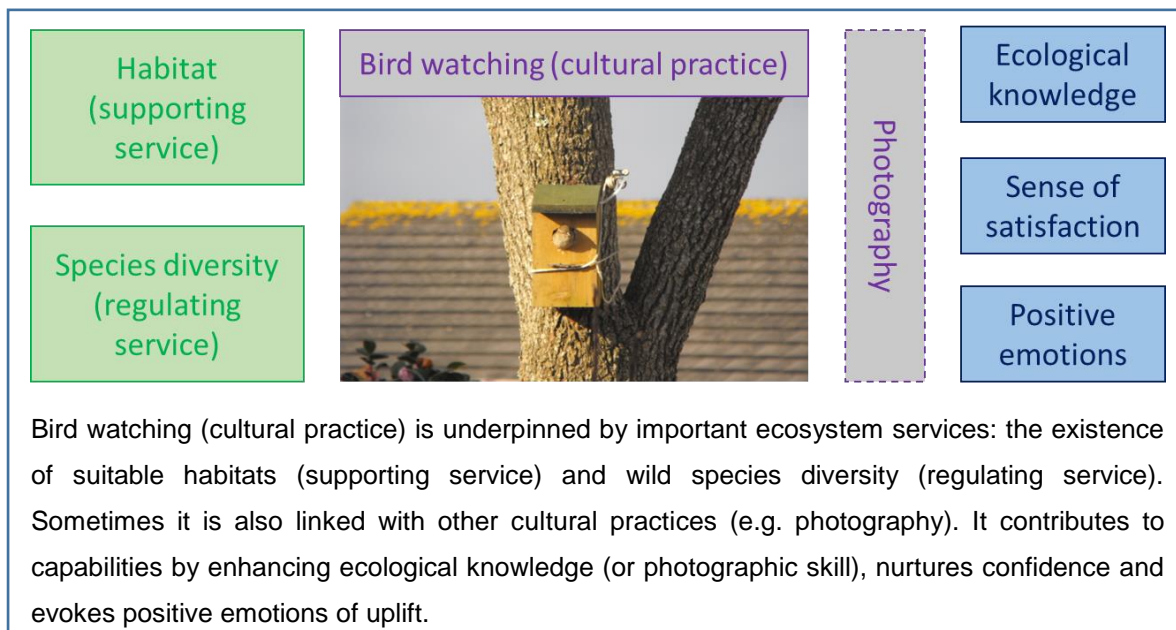
The findings presented here demonstrate the health promoting features of ecosystem services and their benefits, which occur due to participants’ exposure to various environmental settings. Though geographic proximity is frequently used as a proxy indicator of exposure (Mitchell & Popham, 2008; Wheeler *et al.*, 2012), this may downplay some of the complexities between ecosystems, their services and human health. Exposure to environmental spaces is not only mediated by physical distance (Bell *et al.*, 2014); therefore, distance alone does not reflect or explain the inequalities that prevail between people. Instead, engagement with the environment is determined by a plethora of factors, some of which are economic, physical, as well as socially and culturally determined. Chapter 7 provides a rich and contextual elicitation of the multiple mechanisms that mediate access.

Moreover, health represents an overarching meta-theme due to the reciprocal relationship, manifest in positive and negative feedbacks, between health and environmental spaces. While exposure to the natural environment is seen to contribute to health (a capability in addition to a well-being outcome – see Chapter 5), poor health can pose as a barrier to interactions with the environment and thus hinder the attainment of well-being (health as an aspect of physical access mechanisms - Chapter 7).

6.5 Reframing the ecosystem services and well-being relationship: the role of culture and social constructs

The analysis presented in this chapter offers insights into the many facets of ecosystem services and benefits, and their contribution to human capabilities and well-being. One of the objectives of this thesis is to challenge the simplistic and linear understanding of the ecosystem services - well-being nexus outlined in the MEA (2005). This is achieved by employing an interpretive and constructivist approach, which facilitates a move beyond the rigidity of the MEA ecosystem services framework.

The MEA framework is frequently regarded as a point of reference when discussing the implications of human-nature interactions for well-being. This inevitably leads to a limited view about what classifies as a service and how it fits into the four prescribed categories of provisioning, regulating, supporting and cultural services (MEA, 2005). However, the findings of this research reveal that several ecosystem services produce multiple benefits and contribute to capabilities and well-being through direct and indirect means. This confirms Chan and colleagues's (2012b) suggestion that mapping ecosystem services with corresponding well-being benefits in a one-to-one fashion is simply not feasible. A thematic analysis of participants' narratives reveals that well-being is experienced within environmental spaces both as a result of ecosystem services and cultural practices. While these two are closely related, a clear emphasis is placed by some participants on practices as the source of improved capabilities or even well-being. For instance, although bird watching is conditioned by the regulating service of wild species diversity and the supporting service of habitat provision, it is evidently the act of observing these animals that lends participants a sense of well-being. Several cultural benefits are experienced during this practice, including improved ecological knowledge and positive emotions (Box 6.1).



Box 6.1: Cultural practices as the explanatory link between ecosystem services and well-being: bird watching. Source: Author.

This study reveals a greater degree of complexity in the way ecosystem services contribute to capabilities and well-being than that suggested by the MEA. Firstly, the MEA does not fully explore the links and relationships between various service types. While it frames supporting services as ‘necessary for the production of all other services’ (MEA, 2003: 57), it overlooks important connections among other services. For instance, provisioning services indirectly give rise to cultural benefits through the cultural practices people engage in, such as gardening, foraging or collecting fuel wood. Fish (2011) highlights the inherently cultural nature of food provisioning. Furthermore, some ecosystem processes result in unexpected benefits, such as the observed cultural benefits of various geophysical processes. The findings suggest that processes such as flood regulation and erosion contribute to cultural benefits through shaping the cultural landscape and protecting traditional livelihoods. As highlighted by the MEA, supporting services are instrumental for the formation of other ecosystem services, most notably provisioning and cultural in this case.

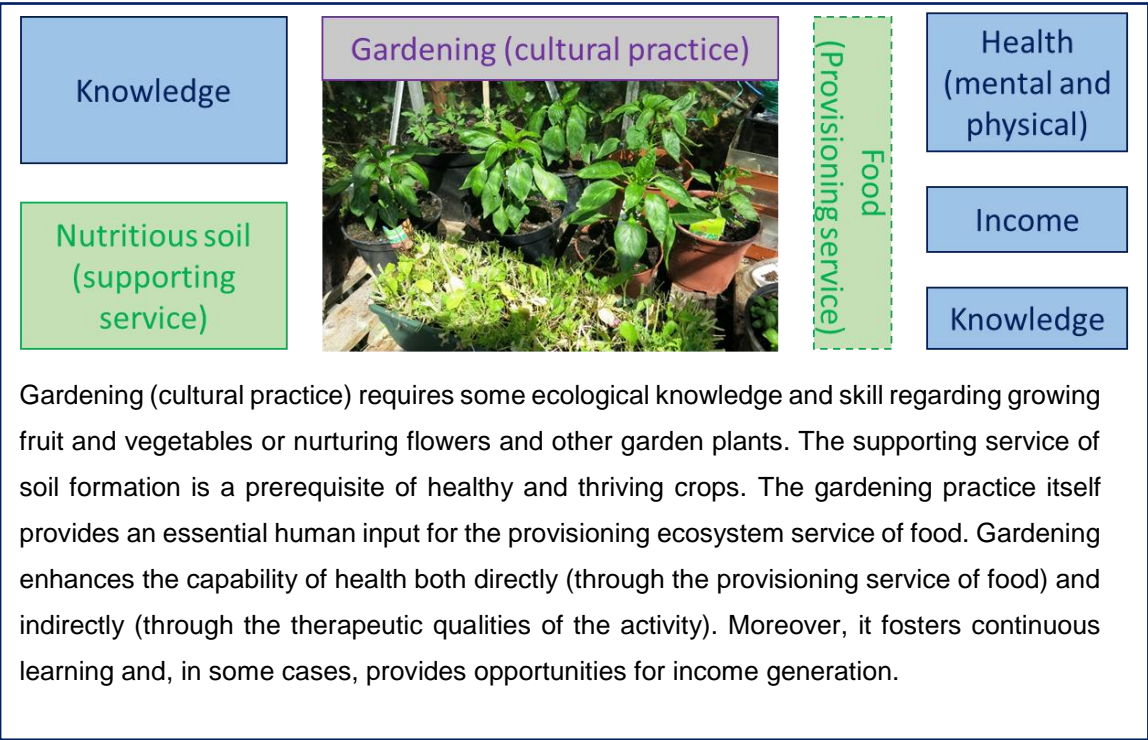
Another shortcoming of the MEA conceptual framework lies in the proposition of a unidirectional and linear relationship between ecosystem services and well-being. Instead, it is argued that what is regarded as a service associated with an ecosystem is largely dependent on participants’ perspectives, which are shaped

by cultural values and personal circumstances (Graeber, 2005; Stephenson, 2008; Rounsevell *et al.*, 2010; Fischer & Eastwood, 2016). It is suggested that the existing ecosystem services perspective may be insufficient for meaningful insights into understanding how interaction with ecosystems enhances capabilities (Winthrop, 2014). Therefore, treating ecosystem services as a social construct can potentially dispell some of the ambiguities of the MEA and reframe the classification of ecosystem services to better reflect their complex interactions.

The findings reveal a plethora of cultural benefits, the sources of which are not limited to cultural services, but include other service types as well. It is proposed that industrialised societies tend to appreciate cultural services above others (Milcu *et al.*, 2013), however, a closer interrogation of participants' accounts suggests that drawing a hard line between cultural and other services is not appropriate. Cultural ecosystem services act as a 'miscellaneous' category within the MEA framework, which contains an inventory of 'problematic' services that are not conducive to quantification or monetary valuation. Therefore, cultural services are 'everywhere and nowhere' (Chan *et al.*, 2012b: 745), in that they are often absent from assessments yet present in the nonmaterial dimensions of most other ecosystem service stypes. Although the MEA presents cultural services under a separate heading, it is recommended by Chan and colleagues that cultural services are benefits, rather than services, which arise from sources other than cultural services (Chan *et al.*, 2012a). This research reveals that what the MEA refers to as 'cultural services' are in fact intricately linked with all other service types. Provisioning, regulating and supporting services produce important non-material benefits and foster experiences that enhance participants' capabilities or well-being. This often occurs indirectly, through cultural practices which act as intermediaries bridging the gap between different service types and cultural benefits.

While cultural practices might act as the catalyst of well-being experiences, they are inseparable from ecosystem services. Although participants tend to emphasize the experiential aspects of gardening, such as feeling relaxed, escaping from problems and anxieties, and describe the garden as therapeutic,

these arise while they are engaged in growing food, a provisioning service that supports physical health by contributing to a nourishing diet (see Box 6.2).



Box 6.2: Cultural practices as the explanatory link between ecosystem services and well-being: gardening. Source: Author.

These results also challenge the biased framing of cultural services, which largely limits their remit to leisure-time activities (e.g. recreation, ecotourism) and artistic or spiritual pursuits (e.g. inspiration, spiritual and religious values, aesthetic values) (Pröpper & Haupts, 2014). The idea of branding culture as a service is all together rejected by Fish (2011). The findings of this research support this critical stance and suggest that, indeed, cultural services should not be treated as a stand-alone category, but rather as an overarching theme intimately linked with other ecosystem services, as all service types have some non-material dimensions (Chan et al., 2012a). For instance, flood regulation is instrumental for preserving the physical integrity of local landscapes to which participants attach deeply held personal meanings. This aspect of flood prevention can not be expressed in monetary terms, yet it is invaluable. Evidently, all types of ecosystem services represent some kind of socially valued outcome rather than a predetermined benefit, and are manifest in the cultural experiences of participants. Do we, therefore, need to re-frame the existing MEA ecosystem

services framework to better reflect the importance of cultural services, lifting these from an inconvenient category to an overarching theme (Figure 6.15)?

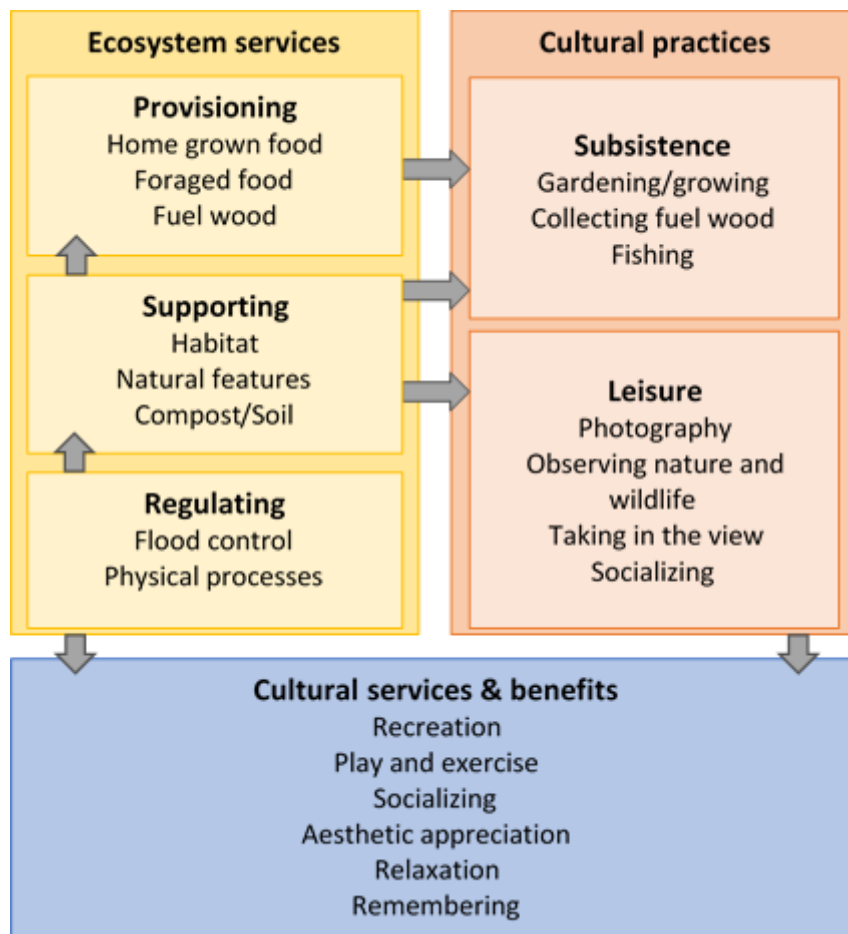


Figure 6.15: Reframing existing mainstream conceptions of the ecosystem services and well-being relationship. Source: Author.

In order to improve the leverage of cultural services in the policy and decision making arena, Fish and Church (see e.g. Church *et al.*, 2014; Fish & Church, 2014) developed a framework that recognizes the role of culture in the formation of benefits through cultural services. The findings presented in this chapter confirm the broader applicability of their framework. Moreover, conceptualising ecosystem services through a cultural lens acknowledges the reciprocity between people and their environments, helps clarify the links between ecosystem services by treating them as socially constructed valued outcomes, and reveals the multiple means by which they enhance capabilities or well-being.

It is then apparent that the capability promoting potential of ecosystem services cannot be conceived of in a cultural vacuum. The capability approach and its

capacity for enhancing existing insights on the complex ways in which ecosystem services contribute to human well-being has been explored by several authors (Holland, 2008; Polishchuk & Rauschmayer, 2012; Forsyth, 2015). However, these do not extend to empirical work; instead remain largely in the philosophical realm. My research applies the approach in an empirical setting and confirms its merits, which arise from sensitivity to context and an open-ended view of well-being. Different study participants draw on the same ecosystem service differently depending on socio-culturally determined factors, and encounter different aspects of well-being as a result. This is evidenced by the variety of benefits that emerge through participants' narratives – including some less expected ones (e.g. the perceived importance of flood protection for preserving the cultural heritage). In reference to the connection between ecosystem services and capabilities, Polishchuk & Rauschmayer (2012) propose that ecosystem services are essentially 'goods' and 'services' waiting to be converted into capabilities. I argue that this view is flawed as it downplays the role of social construction in explaining how well-being and capabilities arise through interaction with the natural environment. This is not to imply that the concept of conversion factors is completely redundant for bridging the gap between ecosystem services and capabilities. However, drawing on findings presented in this chapter, I propose that beyond the three conversion factors identified by Sen (1985) and Robeyns (2005a), the act of meaning making needs to be considered for an improved understanding of ecosystem services' contribution to capability formation.

What is then the role of ecosystem services in capability formation? As discussed in Chapter 2, existing research and related literature largely focuses on the direct impact of ecosystem services on human well-being, either by pointing to their potential for poverty alleviation (Daw *et al.*, 2011; Fisher *et al.*, 2014; Suich *et al.*, 2015) or by highlighting their beneficial effect on human health (e.g. de Vries *et al.*, 2003; Mitchell & Popham, 2008; Wheeler *et al.*, 2012; White *et al.*, 2013b; Bell *et al.*, 2014). These authors generally concentrate on the well-being outcomes produced by ecosystem services - i.e. the achieved states, such as being nourished or being healthy. Seldom are ecosystem services discussed in relation to capabilities, that is people's effective opportunities (for an example of an exception see Dawson & Martin, 2015). However, the findings of my research

indicate that the implications of ecosystem services for well-being are more nuanced than suggested by outcome-centered well-being research. As discussed in the current chapter, ecosystem services strengthen participant's relationships and foster social interaction, as well as contribute to the satisfaction of basic needs, and thus promote health and feelings of security. As such, they indirectly contribute to well-being outcomes by affecting capability formation (social affiliation and security are instrumental for capability formation - see Chapter 5, Section 5.3.2).

Moreover, ecosystem services contribute to positive emotions through the plethora of cultural ecosystem benefits experienced by participants from a variety of ecosystem services types, not only cultural ones. Lyubomirsky and colleagues (2005) emphasize the importance of positive affect for the achievement of valued goals. They demonstrate that people with frequent experiences of positive feelings possess the necessary characteristics for successfully pursuing and attaining their goals and aspirations. These include optimism, confidence, pro-social behaviour, likeability, energy and good physical health, among others (Lyubomirsky *et al.*, 2005). Therefore, positive emotions linked to ecosystem services enhance participants' ability to harness the opportunities available to them (capabilities) in order to convert these into achieved well-being outcomes (functionings).

6.6 Summary

In summary, ecosystem services contribute to participants' capabilities and well-being through the socially constructed meanings attached to them. The services elicited facilitate social relationships, place relations and a sense of security - those factors that are identified in Chapter 5 as supportive of capability formation. Alternatively, some ecosystem services are directly linked to capabilities. For instance, positive emotions and physiological benefits (e.g. due to exercise, exposure to fresh air etc.) support the capability of health. Evidently, capabilities can be instrumental in enabling access to ecosystem services. Health can condition access to environmental spaces, the sources of ecosystem services. Therefore, to explore the means by which ecosystem services can

contribute to well-being, it is essential to consider mechanisms of access alongside conversion factors (see Chapter 7).

Chapter 7. Access and capabilities

7.1 Introduction

Existing conceptualizations of ecosystem services and well-being commonly take an aggregated perspective, which rests on the assumption that the cumulative availability of ecosystem services leads to particular well-being outcomes for society (MEA, 2005; UK NEA, 2011). In addition, the beneficial effect of ecosystems on human well-being and health is often inferred using distance as a proxy for exposure and interaction with environmental spaces (e.g. Mitchell & Popham, 2008; Wheeler *et al.*, 2012). However, building on lessons from the capability approach, Polishchuk and Rauschmayer (2012) assert that drawing generalised conclusions about the contribution of ecosystem services to well-being is simply not feasible, because people translate these services into well-being outcomes at the individual level.

Daw and colleagues also warn about the pitfalls of interpreting the effect of ecosystem service benefits on human well-being without explicit reference to different groups, defined by socio-economic status, ethnicity, time or geographic location (Daw *et al.*, 2011). They argue that such an approach overlooks winners and losers in terms of who derives benefits from which ecosystem services, obscures mechanisms of access to ecosystem services that determine who gets to benefit, and fails to take into account individual circumstances that influence people's ability to translate services into actual well-being experiences (Daw *et al.*, 2011). As an alternative to the dominant aggregate perspective, Leach and colleagues (1999) use environmental entitlements²⁰ as a framework for exploring social differentiation in access to natural resources. Environmental entitlements - the benefits derived from environmental services that people can access - enhance people's capabilities (Leach *et al.*, 1999). Access in Leach *et al.*'s work (1999) is facilitated by endowments - that is the rights²¹ and resources people have. This conceptualisation, however, does not consider mechanisms of access

²⁰ Environmental entitlements build on Sen's entitlements approach, which highlights the socially differentiated nature of command over food sources (Sen, 1981).

²¹ These include formal and informal rights, e.g. social norms, customary rights etc. (Leach *et al.*, 1999)

which are not derivative of people's command over assets. Ribot and Peluso (2003) present a more refined theory of access which explicitly accounts for the interactions between people's context and their ability to benefit from environmental resources. Therefore, analysis presented in this chapter is guided by Ribot and Peluso's (2003) access theory.

The importance of context is also emphasized by the capability literature, especially in response to criticisms concerning the individualistic nature of the approach (Gore, 1997; Robeyns, 2000, 2005a). Smith and Seward (2009) propose that capabilities are realized not solely through people's individual capacities to do something, but in combination with contextual mechanisms (enabling or disabling) that shape capability. Social relations and structures are thus of crucial importance for people's ability to convert ecosystem services into well-being.

Taking into account different socio-economic groups in their respective accounts, Mitchell and Popham (2008) and Wheeler *et al.* (2012) conclude, following analysis of survey data, that exposure to environmental spaces mitigates income related health inequalities within deprived groups of society. However, these studies still focus on a generalizable sample of the population and use surveys coupled with statistical analyses (e.g. UK Census Health Questionnaire, Monitor of Engagement with the Natural Environment - also referred to as MENE) to explore the effect of exposure to nature and green space on human health and well-being. As such, they do not consider the mechanisms by which different stakeholders gain access to environmental spaces, and thus obscure the social-structural disparities inherent to society. Therefore, large scale surveys may overlook the most marginalised groups of population, for instance, those with no fixed abode. Similar obstacles are encountered by health geographers, who recognize the limitations of using only quantitative research techniques to discern the deeper nuances of the environment and well-being relationship (MacIntyre *et al.*, 2008; Jones *et al.*, 2009). For example, MacIntyre *et al.* (2008) admit that the structured surveys employed in their research tell very little about the underlying perceptions of respondents.

Consequently, there is an evident need for research using qualitative methods of inquiry in order to develop new insights into the socially differentiated nature of access to ecosystem services. It is, therefore, the intention of this chapter to develop an in-depth appreciation of the multiple interlinked factors that mediate the capacity of people who face some form of socio-economic disadvantage to draw positive experiential well-being from ecosystem services by asking:

- * What types of access mechanisms mediate this process?
- * What is their relevance within a capability approach to ecosystem services?

Findings from interview data presented here challenge the assumption of a straightforward relationship between well-being and the aggregate availability of environmental spaces and ecosystem services, as well as highlight the shortcomings of using distance as a measure of engagement with the environment.

7.2 Access to environmental spaces

Ribot and Peluso (2003) define access as ‘the ability to benefit from things’ (p.153). The *ability* to access something is supported or hindered by a complex web of mechanisms and social relationships that interact with each other. In their paper, *A theory of access*, Ribot and Peluso (2003) distinguish between two broad categories of access:

1. rights-based (nested in rights attributed by law, custom, or convention)
2. structural and relational (products of the political-economic and cultural context)

Analyses of access to natural resources (Daw *et al.*, 2011) and resource commodity chains (Ribot, 1998) have revealed the unequal distribution of benefits among end users. Such disparities occur due to power imbalances among different stakeholders, as well as due to the structural attributes of a given context. Therefore, at the heart of this study is the disaggregation of the ecosystem services and well-being nexus by means of studying access to environmental spaces - as a prerequisite of ecosystem benefits - within a group

of individuals who have experienced, or are experiencing, some form of socio-economic constraint (ill health, long-term unemployment, social isolation etc.).

Building on Ribot and Peluso’s (2003) definition, access is conceptualised as people’s *ability* to benefit from ecosystem services provisioned by environmental spaces, such as the beaches, sea, woods or even home gardens. Twelve environmental spaces were identified from data generated by the photo elicitation interview. These then formed the basis of discussion during the follow-up interview aimed specifically at unpacking access. Through the inductive thematic coding of interview data, four access categories were identified: rights-based access, physical mechanisms, social-structural mechanisms, and psychological mechanisms (Figure 7.1 and Appendix 6). While these categories encompass some of Ribot and Peluso’s access mechanisms, they are not limited to these and instead represent context specific categories.

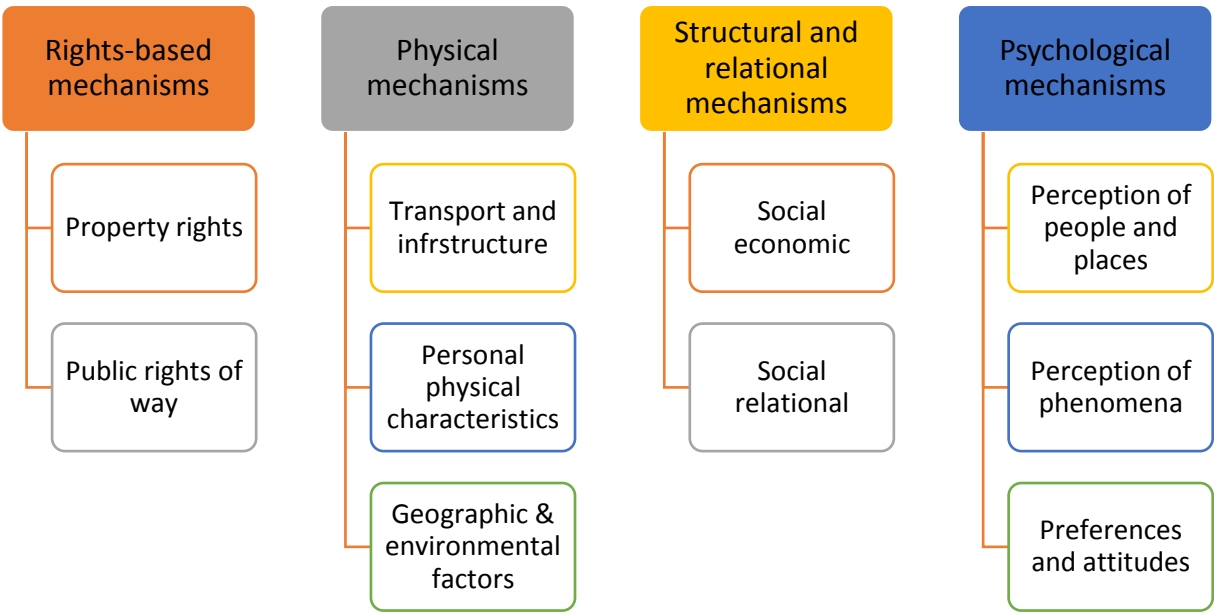


Figure 7.1: The four access mechanisms influencing people's ability to access ecosystem services. Source: Author.

7.2.1 Rights-based access: ‘I got the feeling that I was trespassing’

Rights-based access mechanisms are defined by Ribot and Peluso (2003) as those that are sanctioned by law, custom or convention. There are two forms of rights-based access, which are pertinent for the context of this research: property

rights and public rights of way, where the former grants access to home gardens and the latter to the broader environmental context outside of the home. Commons (1968) defines property rights in terms of the entitlements to engage in certain actions within a particular domain. These rights are delimited by a set of rules which define the actions that can be taken to exercise the right. For instance, Schlager and Ostrom (1992) distinguish between the right to physically access or enter a property and the right to withdraw resources from it. Property rights in this research are related to participants' ownership status of their homes. Ownership status - whether owned outright, social rented or private rented - has a bearing on the type of property participants inhabit and is closely linked with their agency capability, through the presence or lack of choice, of benefitting from the ecosystem services a home garden offers. Home gardens are identified through photovoice and photo elicitation interviewing as one of twelve environmental spaces that matter for participants' experiential well-being (see Chapter 6).

Most participants do not own their homes and instead rent these from housing associations or are housed by the Council. Due to the nature of social housing allocation, their ability to exercise choice over their preferred type of accommodation is diminished. This is especially true for those participants whose situation is particularly difficult. Such is the case when participants are housed to prevent homelessness. Wendy was left without shelter with her two young daughters due to no fault of her own: '...he [ex-husband and father of children] managed to lose us our home, because he didn't pay the mortgage, and I couldn't get work with a good enough pay at the time because I had the children. So the Council housed us. [...] They found us a B&B, then they found us a small flat. [...] And then I had the opportunity...I was offered the flat here. First time I saw it, it was grey and it was dull. It was raining and it was November. And I looked at it from the outside and I just cried. I thought, well, why? Why have I come to this?' The accommodation provided by the Council implies that her basic need for shelter is met, however, her agency to choose is entirely removed given her dependence on the Council to be housed. As a result, her ownership status bears evident consequences for her access to a garden. Similarly to Wendy, David had no choice but to take what was being offered by the Council at the time of crisis: 'I was suddenly homeless [following the passing of partner]. So I had to apply

then for residence or the occupancy of the house I was living in. [...] But of course they wouldn't have that, a two bedroom house. They [Council] wouldn't allow me to have that on my own.' Eventually, David was moved to a one bedroom flat without a garden, where he currently still lives. Wendy and David's recollections affirm the lack of decision making power people are able to exercise under such conditions.

While both individuals value home gardens, their social accommodation either does not have a garden or the garden is shared. For example, though Wendy does have access to the shared garden at her complex, her use of it is minimal due to the problems she experienced over the years: 'Unfortunately, because we have a communal garden, I only really use it for washing, because there is nowhere that we could do anything with this, because it would be all wrecked by somebody else. [...] It's a shame really, so I don't really have a garden as such to actually do anything with.' Ellaway and colleagues (2001) find that the allocation of social housing leads to the creation of mixed communities where residents' visions about standards of living diverge, leading to anti-social and environmental problems. This point is further evidenced by Wendy's account about the high turnover of residents and the subsequent low levels of cohesion or community feel within the estate, reinforcing the outlined barrier to using shared outdoor spaces around the flats.

'Public rights of way' and the 'right to roam' (Gov.uk, 2015) mediate people's ability to access and use a variety of other important environmental spaces outside of one's home. These include the coastal areas, beaches and fields, just to mention a few. The Countryside and Rights of Way Act 2000 (also referred to as CROW Act) endorses that 'any person is entitled...to enter and remain on any access land for the purposes of open-air recreation' (Countryside and Rights of Way Act, 2000). Public rights of way are understood to include public footpaths, bridleways and Byways Open to All Traffic (BOAT) – these are clearly marked. Access land comprises mountains, heaths, moors and downs. The South West Coast Path is also subject to public rights of way under the CROW Act, and extends over 491km along the scenic Cornish coast (Cornwall Council, 2005). The Marine and Coastal Access Act 2009 proposed the creation of a continuous route along the entire coast of England and Wales, now including land adjacent

to the coastal route. This was further expanded by The Access to the Countryside (Coastal Margin) (England) Order 2010, which clarified the definition of accessible coastal land to include beaches, both publicly and privately owned (Figure 7.2). Access to beaches under private ownership is granted by the ‘right to roam’, which stipulates that land around the coastal margins is accessible to the public (Gov.uk, 2015). Exempt from this rule are beaches owned by the Ministry of Defence.

Description of coastal margin

3.- (1) Land in England is Coastal margin for the purposes of Part 1 of the CROW Act (access to the countryside) if it falls within one or more of the following descriptions.

(2) The first description of land is –

(a) land over which the line of an approved section of the English coastal route passes

(b) land which is adjacent to and within 2 metres either side of that line,

and

(c) land which is seaward of the line of an approved section of the English coastal route and lies between land within sub-paragraph (b) in relation to that approved section and the seaward extremity of the foreshore,

if the land within sub-paragraphs (a) to (c), taken as a whole, is coastal land.

(3) The second description is land which –

(a) is landward of the line of an approved section of the English coastal route,

(b) is –

(i) foreshore, cliff, bank, barrier, dune, beach or flat, or...

Figure 7.2: Definition of coastal margin, to include beaches, Source: The Access to the Countryside (Coastal Margin) (England) Order 2010.

Cornwall has over 300 beaches, of which 86 are managed, leased or delivered services on by Cornwall Council. The rest are owned privately by organizations such as National Trust, the Duchy of Cornwall, Ministry of Defence, and private landowners (Cornwall Council, 2015b).

The coastal path, public footpath and beaches feature among the twelve environmental spaces highlighted by the study as important settings for well-being experiences. Therefore, access to these does not only result in indirect contributions to well-being through their instrumental role in delivering ecosystem services, but has a direct impact through interaction with the spaces themselves - for example, by means of engaging in various cultural practices, such as walking or collecting beach wood. Sam associates escaping his problems with walks along the beach: ‘Just had a good old walk down there. [...] It’s in between Hayle

and Portreath, so you've got to walk the whole length of Hayle beach. It's a good time to reflect on problems, to forget about them, really.'

Naturally, the CROW Act 2000 does not grant the right to use all types of open land. Hence, several places that people attach meaning or value to may not be accessible. Private tenure over land is often not strictly enforced, nor is such land clearly demarcated and physically closed off. Despite this, awareness of, as well as uncertainty around, land being privately owned creates a mental inhibition to access due to a fear of confrontation and feeling of wrong doing. David's experience demonstrates this well: 'I stepped into that field. [...] The fellow that was cutting this hay in another adjacent field and when he saw me in there...I could feel that I wasn't welcome in that field. [...] He was too far away to say anything, but I got the feeling that I was trespassing in a way.'

The sudden cessation of access to previously open land leads to a sense of loss and diminishes participants' opportunity to interact with certain places of importance. This is especially of concern where a substitute is not readily available, either due to a unique feature of the place in question (e.g. memories attached to the place) or as a result of physical barriers to accessing substitutes (e.g. lack of transport, distance etc.). Wendy reports regret over losing access to Trevarno Woods due to a change in land tenure - now private property and closed to the public. For her, these woods constitute memories from the past, as well as the lost opportunity to enjoy the visual beauty of bluebells during spring.

Finally, Ribot and Peluso (2003) also cite illegal access as a means of enjoying the benefits of things. Marie exercises illegal access, in the form of trespassing to enjoy the tranquillity of public gardens, which are open to the public only at particular times: 'I'd been round Tintagel after it's been closed...When everyone's gone home, you can easily just get in over the fence. You don't even have to climb.' Her entry is facilitated by a combination of intimate knowledge (see also section 7.2.3) of the grounds and minimal security measures in place to enforce the rights of the owner.

7.2.2 Physical mechanisms: 'As you get on in years, a ten minute walk is not short'

Proximity is frequently used to assess people's access to and use of environmental spaces (MacIntyre *et al.*, 2008; Mitchell & Popham, 2008; Jones *et al.*, 2009; Wheeler *et al.*, 2012). However, distance is only one aspect of the physical accessibility of places. Therefore, physical mechanisms are understood here as all those factors that facilitate participants' ability to physically gain access to environmental places and, subsequently, ecosystem services. These comprise three key aspects (transport and infrastructure, personal and physical characteristics, and geographic and environmental factors), which can be further broken down into sub-categories.

Transport and the associated infrastructure is of vital importance in predominantly rural areas such as Cornwall. It acts as an enabler for reaching important places and engaging in various activities. Motorised transport options can be public or private. Slightly less prominent are alternative means of mobility, e.g. cycling or walking.

Participants' narratives indicate that access to transport becomes more salient with age, as mobility is compromised due to ill or declining health and fitness. Furthermore, the presence or absence of means of transport has a bearing on opportunities available to participants (education, employment etc.). While the opportunity might exist, participants are not able to pursue it due to lack of physical access. Sam, who has been unemployed for several years, feels that having his own transport would improve his present circumstances by enhancing his access to work places: '...for Cornwall you need a car to be able to get around, even for places to work...But I can't afford to get a vehicle.' However, his low jobseeker's income places this beyond reach, bearing evidence to the intricate links that prevail between physical mechanisms and social-structural factors.

Although public transport links are established across Cornwall, participants typically express dissatisfaction over the poor connections, infrequency of services, and costly fares. Charlie and Marie experience regular frustrations over the inefficient delivery of this vital services. Charlie feels that 'the public transport

is not as good as it could be in Cornwall, because the trains and buses don't connect with each other...have to spend hours hanging around for connections'. Marie further emphasizes the extent of the problem: 'I can get the bus to London from Lostwithiel, but not St Austell or Bodmin. [...] Even though it's very close.' To assist with travel costs, concessions are available to people aged 60 years and over and those in receipt of unemployment benefits; however, discounts are not in place for those on low incomes²² (Department for Transport, 2013). This affects participants who are in low-paid part-time work for various reasons, for example, caring and family duties. Elderly David is certain that without his pass, he would not be able to get around as easily: 'If I didn't have that pass, it could make a considerable difference to me. It would limit my travel.'

Alternative means of mobility (e.g. cycling or walking), require reasonable health and fitness, which pose as a further challenge for the elderly and less physically able. David, who is in his 70s, had given up on cycling, because 'living in this area it's too hilly. I haven't got the lungs for it, and the legs for it'. Therefore, access through mobility is intrinsically linked to people's physical condition, such as health, fitness, age and the implications of aging. Besides acting as a physical constraint, poor health and a lack of fitness are found to cause a mental inhibition, e.g. the fear of facing a journey because it is perceived long or challenging. Although such inhibitions are not always a fair reflection of the participants' physical ability, but instead reflect social perceptions of the aging process. In effect, older participants regard themselves to be less capable as a result. Consequently, their relationship with some places can also change with age. As a coping strategy to deal with the implications of loss in physical ability, participants can disassociate themselves from previously highly regarded places. As such, their physical access to them is further hindered due to diminished efforts invested in visiting these places. This is the case for David whose perception of the journey to the beach has changed relatively over the years, thus presenting not only a physical but a psychological constraint: 'As you get on in years a ten minute walk is not short. [...] Because of the return journey to look forward to as well. To get there is downhill and the return journey is uphill.'

²² Concessions are available to children from low-income families, but not adults at present.

While, naturally, these limitations are often seen as a barrier to making use of places one wishes to, they also motivate some participants to enjoy these while they are able to, because 'it's going to be memories we going to have to live on in the end, [...] when you can't get out and about yourself (Wendy)'. For instance, an injury made Marie realise the value she attributes to remote natural places: 'A while ago I hurt my foot and I wasn't able to walk too far, and I found that...missed those places. [...] I would have to find a different way to get to those places, or to find similar places somewhere else more accessible. And I don't think that places like that are more accessible. And I think they are like that, because they aren't so accessible.'

Evidently, the geographic and physical characteristics of environmental spaces (e.g. location, distance or topography) might act as a further determinant of accessibility. When it comes to facilitating or inhibiting access, these attributes are closely interrelated with people's personal circumstances - e.g. age, health, fitness, as well as access to means of transport.

The distance involved in getting to places is revealed as a common barrier for participants in this study, largely due to inadequate access to transportation, as detailed above. Close-by places are prioritised based on temporal considerations. For instance, the time spent travelling to reach particular sites can affect the frequency of use of particular environmental spaces. Louisa is sometimes forced to make decisions that involve trade-offs, because 'if you've got to drive somewhere, and then park and pay, you want to make a bit more of a day of it. It's not like we don't want to do these things. It's just the case of having a bit longer time to do it.'

Age also has important implications for participants' perceptions of distance. In this sense, distance is a relative and changes depending on the life stage and the health condition of a person. Short distances are found to support not only participants' direct access to places, but also the indirect enjoyment of these. They value being able to see places, despite the lack of physical contact. In fact, physical contact is deemed even unnecessary, as they gain comfort from the existence of these places. As David explains: 'I don't actually use the fields, I just

appreciate them when I see them.’ These experiences, in turn, contribute to participants’ emotional and psychological well-being.

Besides distance and topography, the climate and weather also influence participants’ motivation and willingness to engage with places. David is a fair weather walker ‘so a reliable climate would be something, where I could be sure that the weather would behave itself.’ Seasonal weather patterns thus have implications for participants’ choices and preferences of places and activities, not necessarily in the sense of a barrier, but rather as an indirect mediator of physical access. For Louisa, walking is more pleasant during the summer: ‘I go for walks where we live...Obviously, more in the summer than winter, because it’s just nicer.’

Lastly, changes in people’s personal circumstances can have a profound effect on access to places, both by means of altered distance and re-defined preferences. As we learnt in Chapter 6, since moving to the coastal town of St Ives, where beaches are within easy reach, Sam is no longer motivated to use the footpaths.

It is evident that what are perceived as physical barriers also instigate subtle psychological inhibitors of access. Hence, taking distance alone as an indicator of access to environmental spaces can provide a misleading account of who can really utilize them and enjoy their beneficial well-being impacts. Jones *et al.* (2009) find that despite the geographic proximity of green areas residents of deprived neighbourhoods tend to perceive access to these more difficult, leading to less frequent visits. MacIntyre *et al.* (2008) affirm that respondents’ evaluations of distance are often at odds with objective measurements used in many large-scale survey methods. The psychosocial barriers revealed from the analysis of participants’ accounts indicate that distance is indeed conditioned by a mixture of interrelated psychological and social factors. These are discussed in the next section.

7.2.3 Structural and relational mechanisms: 'I haven't been on the beach in years, because I don't have anyone to go with'

Ribot and Peluso (2003) recognize that people's ability to benefit from resources is also shaped by the political-economic and cultural contexts within which access is pursued. These include technology, capital, markets, knowledge, authority, social identity, and social relations, collectively referred to as structural and relational mechanisms of access (Ribot & Peluso, 2003). Using interview data, a context specific classification is devised and presented, organized under two categories: social-economic and social-relational. Social-economic mechanisms are reflective of the underlying economic context, while social-relational mechanisms become important through the negotiation of social affiliation, relationships and the acquisition of relevant knowledge.

It has been proposed that people living in the most deprived areas benefit the most from exposure to green areas (Mitchell & Popham, 2008) and coastal environments (Wheeler *et al.*, 2012). As highlighted earlier, this approach assumes access based on the proximity of environmental spaces to people's residences, neglecting a variety of other factors which mediate engagement with the environment. Mitchell & Popham (2007) recognize the limitations of equating proximity with access and point to the role of the socio-economic position of individuals. This may also explain the contradiction between perceived and measured access found by Jones and colleagues' (2009) study. Socio-economic factors emerge in my research as an important determinant of participants' perceptions about what is possible in terms of access to particular environmental spaces. While economic characteristics closely interact with aspects of physical and psychological mechanisms, they also bear direct implications for participants' access to environmental spaces.

Economic factors, such as income and the cost of things, are intricately linked with access to employment opportunities and the potential for income generation. The need for earning a living inevitably leads to trade-offs between doing the things that participants value, and time spent working. Marie's work as a carer is often tiring, leaving her with little drive to pursue what she enjoys: 'I come home

totally exhausted and don't want to do anything...So my energy level is what might restrict me.'

On the other hand, the absence of sufficient income is cited as a major constraint due to the negative implications it has on access to transport. This extends to public means of transportation as well, owing to the costliness and the previously mentioned lack of concessions for individuals on low incomes. Money is thus one of the key factors - others being time, distance, weather and need for transport - that shape people's perceptions of what is and is not possible, and as such leading to trade-offs. For instance, if a place is remotely located, charges admission, needs transportation and is time consuming to get to and from, participants opt not to pursue it and look for closer and cheaper alternatives. Marie, prefers beaches, but as she lives inland, they are not always a feasible option: 'See how much time I've got, and if it needs transport...If I've got more time, then I'll go to the coast. If I've got less time, I maybe work on my garden.' Whereas, Sam is most concerned about the cost implications as 'most places like that [public gardens], unless you go there on a free day, they cost quite a bit of money to get to anyway. I tend to just keep it very rarely going to places like that.' The logistics of getting to places are off-putting for David: '...if I was to use public transport I'd have to do a lot of planning. Whereas, if I had my own transport, I could just say "oh, let's hop in the car and go" [...] But it isn't that simple.'

Therefore, social relationships and networks can be instrumental for offsetting some of the effects of economic constraints. These are collectively referred to as social relational mechanisms, which are derivative of the broader social context of individuals. By means of the existing societal rules and conventions they bring about and reinforce people's differential ability to gain access to and benefit from environmental spaces. Ribot and Peluso (2003) distinguish between access through social identity and other social relations. The former requires the maintenance of memberships in communities or various groupings, organized around a common interest or goal, while the latter encompasses relationships such as friendship, trust and reciprocity. I discuss these under the collective category of social networks, which incorporates both of the above aspects. I also include knowledge here, as knowledge is acquired and distributed through social interactions and exchanges, especially local knowledge.

Affiliation to individuals or groups with an interest in outdoor activities is found to support participants' engagement with places they value. Doing these activities in a group context also helps them to overcome inhibitions linked to the perception of certain places being unsafe. For example, Wendy is wary of venturing out to remote areas on her own, but belonging to the RSPB meant that she 'used to go bird watching on a regular basis out to Penwith Moors and around here, just everywhere really.'

Companionship and family are explicitly referred to as important mediators of access. The lack of company deters some participants from pursuing activities they favour, leading to feeling lonely and socially isolated. For example, David who lives in a small coastal town has not visited the beach for 15-20 years, despite it being within walking distance. Apart from the hilly topography of the route posing as a physical barrier, it transpires that his decision is motivated by deeper yet more subtle considerations: 'I used to make use of the beach. I haven't been on the beach in years, because I don't have anyone to go with, and I don't even have a dog to walk.... I would like to go swimming, but I don't have anyone to go down to the beach with...I just wished I had somebody else, or something else, to take along with me and I'd probably do it more regularly.' Charlie's account further underpins that companionship matters for access to places: '...if I had a family I'd go more often [to public gardens], because that would motivate me more'.

It is then evident that while places might be within physical reach, a social barrier may discourage people from utilising them. Moreover, shared experiences do not only facilitate access, but enhance people's emotional well-being. Wendy finds greater satisfaction in experiencing things with others: 'There are lots of walks there. There is not a great deal of pleasure doing it on your own. It's like everything, whether you're shopping or looking at a view. It's good to have someone to share it.'

Because valued environmental spaces are often found in remote or hidden locations, knowledge of the area and the logistics of reaching it are imperative for access (Kessel *et al.*, 2009). As mentioned earlier, Marie values tranquil places

which are off the beaten track. She can access them with the help of her local knowledge: 'I think it's [beach] quite difficult to get to if you don't know where it is. There is a little path that you can get down. But unless you know where it is in the grass...You walk past on the coastal path. Unless you notice that the grass is flattened a little bit, you wouldn't know where it is.' Finding out about places through social networks can also facilitate access. Louisa is relatively new to the Redruth area and a keen walker: '...getting the time to go on more walks, and finding out where they are as well. Because I know where the local ones are to me, but there are other ones further afield.'

Furthermore, the findings reveal that an interest in and knowledge of the characteristics of places, such as the fauna and flora, instigates visits and motivates the use of places. People's understanding of what is being accessed - including the qualities and amenities - plays a key role in determining the use of places (Jones *et al.*, 2009; Kessel *et al.*, 2009). Despite the admission cost, Wendy tries to visit public gardens from time to time in order to appreciate the seasonal plants: '...it was a lovely day that day, as you can see. The Rhododendrons were at their best. The year before we were there...and they had the Camellias.' Whereas, Marie ventures out in the early hours to seek out wild animals before they retreat to their refuge: 'I quite like animals you see in fields. I love seeing a fox and cubs playing in the hay when you get up in the morning'.

A consistent theme which links social mechanisms with psychological ones emerges from the interview data. Strong social relations and connectedness to networks enhances participants' engagement with environmental spaces while, on the other hand, the lack of these creates a psychological inhibitor which deters them from pursuing valued activities or places. Following findings from the research of others, it appears that a reciprocal relationship exists between environmental places and social cohesion, in that people living in greener environments experience a lower incidence of loneliness and a greater presence of social support (Maas *et al.*, 2009). As such, the presence of environmental spaces in one's immediate living environment fosters positive outcomes, both in terms of physical and psychological health and well-being (Kawachi & Berkman, 2000). These then contribute to a range of psychological mediators of access, which are discussed in the following section.

7.2.4 Psychological mechanisms: 'When it's on your doorstep, you sometimes don't go'

Psychological mechanisms emerge from the data as a fourth salient mediator of the extent to which people are able to benefit from the services of environmental spaces. Three important aspects are identified within this domain: perceptions of people and places, perceptions of phenomena, and preferences and attitudes. These are distinct from the previous types of mechanisms in that they are inherent to people's personality traits, including their attitudes that are conditioned by the societal and cultural context, as well as personal circumstances.

Places embody more than simply a physical setting, and are attached a meaning and value through participants' personal experiences and cognitive interpretation (Relph 1976; Tuan 1977; Sack 1997; Stedman, 2003 after Brandenburg and Carroll 1995). As Tuan (1977) puts it, spaces are transformed into places through human experience. Thus it is crucial that the conceptualization of access to places goes beyond the physical and takes into account people's psychologies, including preferences, attitudes and perceptions, which drive people to seek contact with these places in the first place.

To date, the case for psychological access mechanisms as important mediators of people's ability to engage with natural environments has not been substantiated in the academic literature and remains poorly documented. Meanwhile, other fields - such as health psychology, social work and social psychology - have recognized the role people's psychologies play in the acceptance of medical help, care or treatment (Cook *et al.*, 1999; Freeman, 1999), the academic performance of minority groups (Lett & Wright, 2003), and the uptake of physical exercise (Sallis *et al.*, 1990). In these contexts psychological mechanisms are most frequently discussed as negative factors, i.e. barriers. In this study, however, psychological mechanisms have acted both as enablers and barriers to participants' access to environmental spaces.

Place characteristics affect participants' perceptions, which in turn influence their preferences of and attitudes to places. These characteristics are not limited to

objectively observable physical features, for example, the quality of the built and natural environment. Instead, respondents evaluate places according to subjective criteria that embodies a mixture of aspects - including social, cultural, political and economic - leading to either positive or negative feelings (Mesch & Manor, 1998; Stedman, 2003). The outcome of such place judgements can either inhibit or foster their engagement with environmental spaces.

Memories and past experiences shape the meanings participants attach to particular places (Stedman, 2003). The recall of memories induces positive or negative connotations, which shape their willingness to engage with places, thus serving as a psychological mechanism of access. Associating places with adverse experiences engenders a conscious effort to avoid these. For instance, Marie's experience of public gardens had led to her seeing these as isolating, artificial and pretentious: 'I'm not very keen on public gardens...There's too many signs saying "keep off the grass"...I just think it's too gentrified often, and too organized...If it's nice weather and the trees are out, you get hundreds of people trapesing around and no one really looking...people go, because they think they should go, but they're not really interested'. As a result, she avoids visits to such places. Wendy's perception of the coastal path is overshadowed by the recall of bad memories: '...when I was on the dole once...It was a February, and I just thought "I got to get out"...and went out on that top path, past the Ship Inn and out on there...it wasn't until I've actually slipped on the path and looked down and I thought "oh, nobody knows where you are"...I won't do it again.' Although she enjoys walks on the path and the scenic views this affords, she does not venture out as often as she would like to for want of company. Sam talks about fields with indifference. He rarely comes into contact with them, but this is perfectly all right as far as he is concerned: 'I used to use fields a lot through hunting, through family. That was only to be able to eat, really, when I was growing up. Not something I used to enjoy, but it was something that we did to put food on the table, you know. I tend to stay out of fields now.' Fields are associated with negative childhood memories, which he wishes to distance himself from. This creates a psychological barrier which leads to the evasion of fields, the physical setting that they are played out in.

On the other hand, pleasant memories create and strengthen a bond between people and places. This positive emotional connection between people and their environment is also referred to as place attachment (Low & Altman, 1992). In this case, it acts as a psychological enabler underpinning participant's access, on occasions outweighing the negative effect of some physical barriers (e.g. lack of access to transport, distance, cost of travel etc.). Despite financial constraints, Charlie makes a pronounced effort to return to the place where he grew up as frequently as his means allow him. He talks about his train journeys to St Ives with excitement, referring to the photograph depicting his view from the train: '...this is my train journey from St Ives...it's an ever changing vista...it's just access to getting back to St Ives again. It's a trip I've done all my life. I did it as a child on a steam train, and now I'm doing it as an adult'. This means more to him than a pleasant day out in the picturesque seaside town; it is access to his roots, where he comes from. Sam, who struggles to afford public transport, is willing to walk miles to visit Gwithian beach, because it holds happy childhood memories and provides a relaxing space that he can escape to.

Perceptions about the safety of places vary across people and are largely shaped by personal experiences, as evident from Wendy's earlier account of unpleasant memories of a near accident. Safety considerations are highlighted in relation to remote areas. While some participants associate remoteness with a feeling of safety and calm, others feel exposed and vulnerable in such contexts unless they are accompanied by others. For example, group walks instead of lone rambling are preferred by some. According to Charlie '[t]he footpath is nice, but they're dangerous.' Wendy also has other concerns, apart from the possibility of an accident, such as the one she had experienced: 'I wouldn't walk on my own...Nobody knows where you are sort of thing. You just don't know, do you? Who you gonna meet! I would be very wary of walking on some footpaths, certainly. I just think it's fairly remote and you're on your own'. Contrary to Charlie and Wendy, Marie is not fazed by remote places: 'I have been quite a few miles on the coastal path on my own and haven't seen anyone... I'm happy to go on my own...I'm much more scary than anything else along that coastal path.' She particularly enjoys the tranquillity afforded by solitary visits to the coast, including finding hidden beaches where she can escape the hustle of life and relax.

Indeed, feelings of calm, tranquillity and relaxation are the experiences participants most often seek in remote settings. Thus the ambience of places acts as an important mediator of psychological access. Together with personal preferences, ambience shapes people's motivation to engage with certain environmental spaces. Tourism is seen as a primary cause of changes in the overall atmosphere of some environments, particularly the beaches and coastal areas. Charlie feels that holidaymakers spoil the tranquil idyll of picturesque beaches: 'One of the best walks, I think, is Porthcurno...Unfortunately, all the tourists have found the place now, so it's always packed out with tourists.' These places no longer provide a refuge for relaxation and contemplation for locals, such as Charlie, but become a venue dominated by the hustle and bustle characteristic of popular tourist destinations. On the other hand, while Marie finds a sense of satisfaction in relaxing on the beach whilst observing visitors, she does still prefer solitary places: 'I like to get a quiet place, I guess, when I go to the beach...And I quite like to sit listening to all the different holidaymakers. I quite enjoy that aspect of it, but best of all I like a nice quiet place.'

Evidently, the behaviours exhibited by others in these contexts are likely to influence people's motivation to utilize places. Participants' own conduct is constrained by perceptions of what is socially acceptable. These vary across individuals, resulting in a distinct understanding of what is or is not appropriate (Kessel *et al.*, 2009). For instance, David, an elderly male participant, does not feel comfortable about going to the beach alone: 'I was hoping when I came down to Cornwall that being by the sea I'd make more use of the sea...Apart from a few youngsters I'd gone swimming with, there's been very few occasions. Whereas, at a swimming pool, that'd be different. I would go on my own to do that.' Whereas, Sam, a younger male, did not feel this was problematic: 'I can go off fishing on my own, I can go to the beach on my own, or just go for a walk down round town on my own. It doesn't really bother me too much.'

Access to places is also affected by participants' attitudes, motivation and preferences. These factors gain elevated significance when attachment to places is not well established. In such instances, places appear to be evaluated solely on their merits in terms of, for example, functionality or quality. Personal preferences are intertwined with and reinforce several of the other mechanisms

that shape participants' ability to benefit from environmental services. Preference related psychological barriers are found to arise due to the dislike of certain place characteristics or the fact that no activities of interest are offered by the locale. Despite of her love of all things natural, Wendy is sceptical about woods and forests, because she is 'not a lover of a lot of trees together'. Being surrounded by trees lends her a sense of claustrophobia, therefore she prefers open spaces. A qualitative study carried out in the North of England reveals similar findings in regards to woods and concludes that people experience natural environments in diverse ways – what some may find therapeutic and calming, others might regard off-putting or even scary (Milligan & Bingley, 2007). While decisions about engagement might be a matter of preference, it is also possible that participants are drawing on a mixture of prior personal experiences and cultural beliefs associated with a given environment. For instance, Milligan and Bingley (2007) cite the representation of forests in folklore and myth as culturally significant determinants of how these places are viewed and utilised.

Preferences are also reflected in decisions over trade-offs between different types of environmental settings, as well as between the environment and other goals, opportunities and ambitions. Dan's decision to move to the inland city of Truro rather than the coast is motivated by his preference to be close to the 'power base of Cornwall' (trade-offs are discussed in more depth in Chapter 5 Section 5.4.2).

Often physically accessible places are not utilized due to the absence of motivation. Motivation is seen here as intimately linked with structural and relational attributes, including social isolation and poor social networks, as well as a result of character traits, such as a negative predisposition or a 'can't do' attitude. Charlie, a native Cornishman, has never visited the Lizard peninsula. He perceives the 20 mile journey as quite some effort: '...it's quite a trek from here, because the roads are quite windy, and I'd take couple of hours, three or four hours anyway, but the time you get down there...' Whereas, motivation to access places is enhanced if they have a practical or functional purpose. For instance, serving as a means to a different end, as in Dan's case: 'I will go through a field or public garden, because it's a shortcut.'

Finally, places that participants do value and feel akin to are frequently ‘forgotten’ or simply taken for granted. A complacent attitude towards places thus acts as yet another mental barrier to access. When talking about places he visited and places he wishes to get to, Dan recognizes that ‘...when you live in places that people go to visit on holiday...When you live there and it’s down the road, you tend not to go there. You just think: tomorrow.’ Charlie also agrees that ‘...when it’s on your doorstep you sometimes don’t go.’

7.2.5 The interlinkages between access dimensions, ecosystem benefits and agency freedom

A young male participant’s personal story showcases the intricate ways in which various dimensions of access mechanisms interact and reinforce each other, mediating participants’ ability to benefit from ecosystem services, as well as to fulfil their broader well-being aspirations (Figure 7.3).

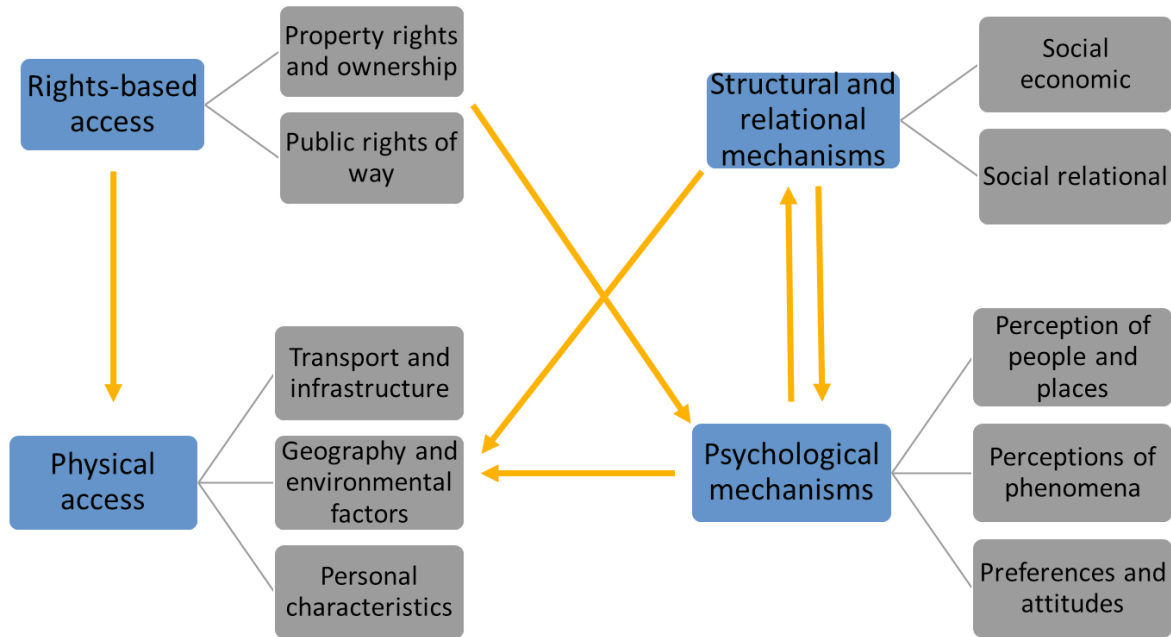


Figure 7.3: Interlinkages among the different access mechanisms. Source: Author.

My first interview with Sam revealed the extent to which his agency freedom (Sen, 1985) to pursue his goals (to live within close geographic proximity to his children), values (family being prioritised above everything else, including self) and obligations (to be a father to his children) were being compromised by his unfavourable personal circumstances. Sam was living in homeless

accommodation and as a next step he was placed into social housing in the town of Redruth. This, however, impaired his ability to exercise his agency freedom to achieve the things that he regarded important, such as spending time with his children who lived 11 miles away. Distance, lack of access to transport exacerbated by his long-term unemployment, low income and scarce social capital meant that he could not fulfil his well-being aspirations. However, interactions with the natural environment alleviated his situation. Environmental spaces offered not only an escape, but also the ability to 'reflect on problems, to forget about them' (Sam). He enjoyed walking in the Carn Brea area and down to the beaches, particularly Portreath and Gwithian. The latter carries deep personal meaning due to memories from his childhood and recollections of happier times. Sam's main mode of transport is walking and occasionally the train for longer distances. He admits that he does not visit his favoured places as often as he would like to: 'depends on my willingness to walk to these places...walking there is the easier part. It's the being there and walking back' (Sam). While public transport links are in place, they are not affordable for him. Sam would use the train a couple of times a week if necessary as it is considerably cheaper: '...buses are expensive around Cornwall. Extremely expensive' (Sam).

We met for a follow-up interview in 2015. During the year that had passed Sam's circumstances have improved, leading to a greater degree of well-being freedom (Sen, 1985) as he had achieved his objective of being close to his children and family. He now lives in a council property in the coastal town of St Ives, not far from his birth place. This change also re-defined his access to places, as well as his relationship to some environmental spaces. His access to transport remained unchanged partly due to his economic status, being still unemployed. His access to beaches improved due to his new location: 'I'm only five minutes off the beach, so I'm at the beach all the time' (Sam). There are, however, signs of conscious disconnect with footpaths in his discourse - these are reminders of life in Redruth. Long walks on the footpath are no longer pursued: 'I don't really use them much more now...' 'cause I don't need to in my day-to-day life' (Sam). Perhaps because there is no need to escape from where he is now: 'It's a home, you know? Whereas before it was just a place to stick my head. It's totally different' (Sam).

7.3 From environmental spaces to well-being experiences: the need for a socially differentiated approach

This section synthesizes the findings of analysis, and discusses their potential practical and theoretical implications.

7.3.1 Access to environmental spaces – more than proximity?

In their seminal paper, Daw *et al.* (2011) observe that current ecosystem services literature is driven by an aggregated view of human well-being, which overlooks the important implications of social differences that lead to disparities in regards to who benefits from ecosystem services and how. They refer to this approach as "social analysis", "from the perspective of society as a whole" (Daw *et al.*, 2011: 371), which fails to recognize the winners and losers of this process. This, in turn, further marginalizes already disadvantaged members of society who are either ignored altogether or misinterpreted as their views do not fit the dominant rhetoric (Dawson & Martin, 2015). Daw and colleagues (2011) assert that access mechanisms are crucial for people's ability to derive well-being from ecosystem services. This challenges the assumption that the aggregate availability of ecosystem services leads to uniform well-being across the whole of society. Despite calls for a disaggregated focus, the literature on access to ecosystem services is still in its infancy.

The analysis in this chapter contributes to filling this gap, as it specifically focuses on eliciting the complex mechanisms by which participants' gain access to ecosystem services. The findings provide empirical evidence which substantiates the necessity of disaggregation, and reveal four types of access mechanisms that mediate access to ecosystem services. These partly resonate with the typology advanced by Ribot & Peluso (2003), as well as include a fourth, psychological, mechanism which is relatively underexplored in the environmental literature.

Rights-based mechanisms stipulate a legally sanctioned entitlement to access and use a particular place or space. The ownership structure of land is less ambiguous in the UK than it is in developing countries where much existing research on access takes place (Schlager & Ostrom, 1992; Ribot, 1998; Leach

et al., 1999; Ribot & Peluso, 2003). The analysis elicits two rights-based mechanisms of access: property rights and public rights of way. The remit of property rights is limited to facilitating the use of home gardens, which are emphasised for their multiple benefits during the photo elicitation interviews (Chapter 6). Due to socio-economic disadvantage, participants' ability to choose their homes is diminished or, in some cases, completely absent, curtailing their access to home gardens. Public rights of way, including the right to roam, govern participants' use of the coastal areas - such as the coast path and beaches - and public footpaths. Some of these areas are privately owned, while others are owned and managed by local councils. However, legislation that stipulates the right to 'roam' these lands grants entry to the public. Nevertheless, some uncertainty remains around which land these pertain to, partly due to the absence of clear and visible borders or physical barriers to entry.

Access to places is also secured through illegal means (e.g. breaching property rights, trespassing), however, this is much less common. It is important to note that illegal access occurs as a result of choice, and the environmental places accessed this way are, in fact, open to the public at particular times. Therefore, illegal access is not prompted by exclusion from the use of places, but rather by the preference for their solitary enjoyment, which instigates pursuing entry 'out of hours'.

Physical access is traditionally conceptualized through the physical proximity of places (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). This view, however, only provides a partial and oversimplified account of the physical accessibility of environmental spaces. The analysis presented in this chapter clearly indicates that a plethora of mutually reinforcing and complementary factors make up physical access, which render distance and proximity a relative concept. These include the person's physical characteristics, as well as the availability of transport and related infrastructure, which inevitably affect mobility. Participants' perception of the geographic aspects of physical access, distance or topography, varies depending on their physical abilities and the means of transport available to them. Furthermore, several physical mechanisms lead to mental barriers of access, which arise from judgements about what is possible and what is unattainable or unfeasible given one's situation (e.g. age, health, means of

transport, location etc.). Therefore, it is clear that different aspects of physical access are interrelated and have important implications for the extent to which proximity (or distance) can facilitate access to environmental spaces. Thus distance is indisputably conditioned by psychological and socio-economic factors.

Socio-economic factors are generally referred to in a negative light and are seen as barriers by participants. For example, the combination of low income with the high cost of things. The findings show that these also mediate access through the trade-offs that participants negotiate between their economic activity and leisure pursuits (Chapter 5, Section 5.4.2), because time spent earning a living often leaves participants with little energy to travel to places of interest. Social economic factors, together with social relationships, make up the structural and relational mechanism of access. While Ribot and Peluso (2003) highlight the role of social identity and social relations in negotiating access to natural resources, I find that social mechanisms can also act to deny access to environmental spaces. This is manifest in narratives about a lack of companionship, which amplifies physical distance and forestalls engagement with places that are within physical reach. Structural and relational mechanisms are thus irrefutably linked with aspects of physical and psychological access mechanisms, shaping participants' evaluation of their possibilities.

The findings also reveal a fourth, currently underexplored, access mechanism, which has received little attention to date within the environmental studies literature. I refer to this fourth category as psychological mechanisms, because they are intertwined with participants' personality traits, which are partly shaped by the social and cultural context. These include perceptions of places, people and phenomena, as well as attitudes and preferences. Kessel *et al.* (2009) suggest that how people perceive particular environments and the behaviours they associate with these can act as symbolic barriers to access. Evidently, the meaning attached to places has considerable implications for participants' engagement with these. For example, memories, connotations and past experiences - whether positive or negative - can hinder or enable access to places. The analysis also reveals that psychological access barriers are

countered by notions of place attachment (Low & Altman, 1992), which are manifest in a strong emotional bond to places.

The findings in this chapter reaffirm Daw *et al.*'s (2011) assertion that a complex range of access mechanisms determines whether an individual can benefit from ecosystem services. These findings also refute distance-centred conceptions of access, which evaluate exposure to or engagement with environmental spaces based merely on physical proximity (e.g. Mitchell & Popham, 2008; Jones *et al.*, 2009; Wheeler *et al.*, 2012). Evidently, such approaches provide an oversimplified interpretation of access, and fail to account for the intricately linked web of complex mechanisms that govern it. Social relationships, legally sanctioned rights and various psychological factors facilitate interaction with environmental spaces and determine whether an individual can access a valued ecosystem service. These mechanisms are shaped by participants' socio-economic, cultural and environmental context. Therefore, access mechanisms are fundamentally qualitative and need to be studied and understood as such.

My research demonstrates that it is possible to develop an access typology which reflects the unique circumstances of a given group, and acknowledges the role of the social, economic and cultural context in shaping these. These insights can potentially catalyse policies or other interventions (e.g. programmes delivered by community charities) designed to enhance people's access to valued environmental spaces. As it is probably not feasible to carry out separate analyses with each and every sub-group of the population, due to the cost and time involved, they need to be targeted at marginalized and disadvantaged groups of society who are likely to face a diversity of challenges and obstacles in accessing and thus benefiting from ecosystem services. Therefore, they could benefit from intervention or assistance aimed at removing barriers and creating opportunities where few or none exist.

7.3.2 Placing access within the ecosystem services and well-being relationship

While a better understanding of access does contribute to a socially differentiated understanding of how different groups of people benefit from ecosystem services,

it is important to note that access is only one aspect of the highly complex process which links ecosystem services and human well-being. That is, access to ecosystem services does not guarantee improved well-being. Figure 7.4 synthesizes the interwoven mechanisms and relationships that govern the ecosystem services and human well-being relationship. These are intricately linked to and shaped by aspects of people's socio-economic, cultural and geographic context. The well-being and ecosystem services relationship is seen here as a process, therefore, it is presented as a perpetual cycle. This conceptualization also acknowledges the role of non-environmental factors, which constitute different capabilities, such as social relationships or employment (Chapter 5). The achieved well-being (or functionings) shapes people's needs, preferences and attitudes, thus feeding into access mechanisms and the social construction of ecosystem services. Consequently, if people's well-being is altered through a combination of environmental and non-environmental sources, this is likely to have implications for their future ability to engage with environmental spaces; and it can also redefine their perceptions of what constitutes a service.

Therefore, ecosystem services arise at the intersection between access and social construction. However, while access mechanisms facilitate people's engagement with environmental spaces, access to ecosystem services alone does not lead to enhanced well-being. Informed by the cumulative findings of the three empirical chapters, I propose instead that ecosystem services endow people with an 'environmental capability', which forms part of a set of possible functionings that they can choose from (i.e. their capability set). These also include non-environmental capabilities, such as those elicited in Chapter 5. The act of choosing is mediated by the extent of freedom people are able to exercise, which is constrained by the interlinked and multidimensional nature of capabilities, and other contextual factors, inevitably leading to trade-offs (Chapter 5, Section 5.4.2). Those 'environmental capabilities' that people are able to, and choose to, pursue are referred to in this research as ecosystem benefits, or the point at which ecosystem services enhance well-being (see Table 7.1 for a summary of these).

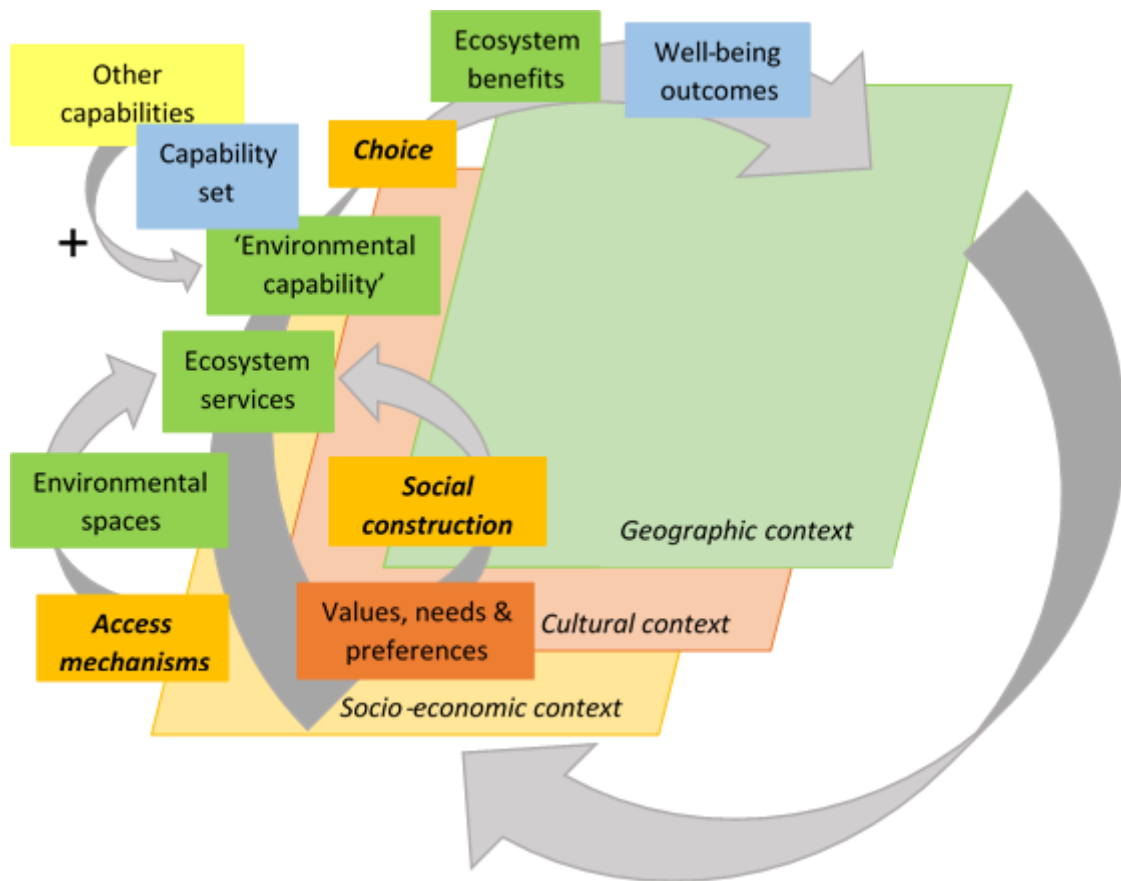


Figure 7.4: From environmental spaces to well-being experiences. The colour scheme links the components of the figure with the corresponding context. Source: Author.

These findings affirm the compatibility of the capability approach with socially differentiated and disaggregated analyses which are perceptive of the distinctions between different groups of people. To complement current, mostly aggregated, research, Daw *et al.* (2011) call for a “private analysis” from the perspective of individual groups within society’ (p.371). Evidently the underlying principles of the capability approach are in harmony with Daw and colleague’s vision of disaggregating the ecosystem services and well-being relationship. The findings presented here demonstrate that the capability approach provides a framework for ‘holistic disaggregation’. As such, it interprets the well-being and ecosystem services linkage as a process, placing the mechanisms (access) and processes (social construction, choice) that govern it within the broader socio-economic, cultural and geographic context. Hence, while better understanding how people negotiate access to ecosystem services contributes to disaggregation, access mechanisms are intricately linked with other contextual factors and processes, therefore, they need to be studied and understood in relation to these.

Element	Explanation
<i>Context: socio-economic, cultural, geographic</i>	Interlinked contextual mechanisms are seen to affect and shape people's values, preferences and needs of ecosystem services, as well as their ability to access these
Values, needs and preferences	These depend on people's personal circumstances, which are shaped by the context
Social construction	The process by which meaning is attached to ecosystem services – i.e. deciding what constitutes a service
Access mechanisms	These affect people's ability to access and interact with important environmental spaces and are shaped by contextual factors
Environmental spaces	Include blue, green and blue-green environments, which host a range of ecosystem services
Ecosystem services	Aspects of the environment that potentially contribute to well-being. They are the result of social and ecological processes
'Environmental capability'	One type of valued capability – derivative of exposure to natural environments
Other capabilities	Non-environmental capabilities – e.g. employment, social relationships, housing etc.
Capability set	Made up of environmental and other capabilities – effective opportunities people have
Choice	Shaped by personal circumstances and contextual factors – reflect the degree of freedom a person is able to enjoy
Ecosystem benefits	Actual improvement to well-being by means of ecosystem services
Well-being	Achieved outcomes – arise from environmental, as well as other sources of well-being

Table 7.1: Explanation of elements demonstrating the ecosystem services and well-being relationship in Figure 7.4. The font (italics, bold etc.) mirrors that used in Figure 7.4.

7.4 Summary

This chapter presents empirical findings eliciting four types of access mechanisms that mediate participants' ability to engage with important environmental spaces, and through these access to ecosystem services valued for well-being. These findings also make important contributions to theory. Research examining people's access to ecosystem services is still in its infancy,

especially within developed countries. While Daw *et al.* (2011) observe that due to societies being more equal in the global north, the distributional implications of ecosystem services and benefits in these contexts are diminished compared to developing countries. Nevertheless, my research demonstrates that disaggregation is also essential in developed country contexts, and can be especially targeted at groups known to face a variety of challenges which may also affect their ability to benefit from ecosystem services. By doing so, entry points for intervention can be identified.

Chapter 8. Conclusion

8.1 New insights into ecosystem services and well-being

My thesis presents a novel approach to exploring the complex relationship between ecosystem services and well-being using the capability approach as the underlying theoretical and evaluative framework. Despite the sharp rise in research interest and the volume of research output investigating various aspects of human dependence on the natural environment (Fisher *et al.*, 2009), the MEA's conceptual framework remains the default for conceptualizing and interpreting the contribution of ecosystem services to well-being. However, it is increasingly recognized that the MEA framework simplifies this complex relationship by implying that ecological and social systems are joined in a linear manner (Norgaard, 2010; Daw *et al.*, 2011). Dawson and Martin (2015) argue that current ecosystem service analyses suffer from 'socio-ecological reductionism' (p.62), in part due to their aggregate view of people's values and preferences of, as well as access to, ecosystem services. Daw *et al.* (2011) critique the MEA's aggregated view of well-being, which proposes uniform outcomes across populations 'without explicit reference to different groups of humans who unevenly share the different benefits and costs of ecosystem services' (p.371). It is, therefore, suggested by these authors that ecosystem services and their benefits experienced by the less advantaged members of society should be investigated separately, because these groups are often either overlooked or misinterpreted (Daw *et al.*, 2011; Dawson & Martin, 2015).

Therefore, the contribution of this thesis is in addressing the identified research gap by providing a disaggregated empirical analyses of the ecosystem services and well-being relationship. This represents a departure from existing approaches in two ways. Firstly, a social constructivist approach to ecosystem services acknowledges the dynamic interplay between social and ecological systems and offers an alternative space for exploring how ecosystem services and benefits arise. Secondly, leaving outcome-based well-being approaches behind and instead focusing on participants' effective opportunities (or capabilities) exposes the relative significance of ecosystem services among other sources of well-being, including their contribution to people's ability to pursue

valued ends. Freedom - manifest in choice and agency - acts as the linking node for analysing and identifying the mechanisms that govern the ecosystem services - well-being relationship.

A further contribution of my research rests in uncovering the intricacies of the well-being and ecosystem services link in a developed country, because the vast majority of existing studies take place in countries of the global South (e.g. Cavendish, 2000; Fisher, 2004; Pyhala *et al.*, 2006). A key difference between the two contexts resides in people's material dependence on ecosystem services, especially where the less advantaged in society are concerned. This is manifest in a high level of direct dependence on ecosystem services for meeting basic needs (e.g. food and shelter) and securing livelihoods (e.g. from fishing, agriculture, forest products) in poorer countries, whereas in developed countries such dependence is not as apparent. However, this should not be interpreted to mean that people in developed contexts enjoy greater equity in terms of ecosystem services related well-being. I used the Cornish 'well-being paradox' as the empirical setting for a small-scale, in-depth and contextual analysis, which involved working with members of the community who experienced some form of socio-economic disadvantage. My research produces contextualized knowledge about how poverty and disadvantage in Cornwall affect participants' relationship with nature.

This final chapter draws together the findings presented in my three empirical chapters (Chapters 5, 6 and 7), synthesising the key themes that emerged from the data analysis. I consider how these inform existing knowledge and assumptions about ecosystem services' contribution to well-being and reflect on the relevance of the capability approach for ecosystem services research. I conclude by considering the key implications of my findings for policy and future research. This research contributes to - and complements - existing work by challenging reductionist approaches and presenting an inductive and exploratory inquiry into unpacking the dynamic interlinkages between ecosystem services and well-being.

8.2 Synthesis of empirical findings

The empirical aspect of this research produced a wealth of insight into the close relationship between the socio-economic and cultural context - which to some degree shapes participants' personal circumstances - and the freedom to articulate and pursue well-being aspirations. This meta-theme weaves through the three empirical chapters and it is reflected in participant's conceptualization of the good life (Chapter 5), their perception and experience of ecosystem services and the subsequent benefits (Chapter 6), the interaction with which is mediated by mechanisms of access (Chapter 7). Here I summarise the key findings that emerge in response to the research questions posed in Chapter 1 of this thesis. I contemplate the theoretical implications of my work for current conceptualizations of the ecosystem services and well-being relationship.

8.2.1 Local well-being constructs

- 1) How do people living in Cornwall conceptualize well-being?
 - a) Which capabilities are valued?
 - b) What underpins the formation of capabilities?
 - c) What affects the conversion of capabilities into functionings?

Chapter 5 is dedicated to developing a bottom-up understanding of well-being as articulated by the participants who experienced some form of socio-economic disadvantage. Evidently, visions about a good life are shaped by participants' personal circumstances. These circumstances consolidate aspects of the social, economic and geographic context, and evolve as a result of participants' personal journeys through space and time. The chapter shows that this interface between participants' socio-economic context and personal circumstances is instrumental for capability formation. Access to opportunities, affiliation to places and people, and a certain sense of security and safety are the three pillars underpinning valued capabilities.

The second half of the chapter focuses on the more pragmatic issue of converting valued capabilities into achieved functionings. I was not necessarily interested in

itemising participants' achieved states as such, but rather concentrated on uncovering the nuances of the process by which the transition between effective opportunities and outcomes occurs. Examining this question through a freedom lens, I show that capabilities are closely intertwined in a web of mutually reinforcing relationships acted out on the backdrop of a broader context. It appears that contextual factors emerge as the common driving force behind capability formation and conversion. This finding validates Robeyns' (2016) assertion that alongside conversion factors, structural constraints also affect people's capability sets. While one might argue that the distinction between conversion factors and contextual mechanisms is blurred as some conversion factors are, in fact, mediated by the context (e.g. social or environmental ones), I suggest that focusing solely on a well-defined typology of conversion factors could overlook important aspects of the dynamic and iterative interaction between the context, capabilities and human agency.

This interaction is especially evidenced by the trade-offs relating to decisions about which capabilities to pursue. I show that trade-offs arise due to external factors (e.g. social or economic), as well as due to the interlinked nature of capabilities. In these instances, participants' decisions are directly or indirectly (as in the case of interlinked capabilities) constrained by the context and, therefore, their freedom to pursue well-being aspirations is diminished. However, trade-offs also occur as a result of active choice or preference, and reflect the different roles and obligations held by participants. This may not alter participants' physical well-being; however, pursuing other-regarding objectives²³ can lead to a feeling of contentment. Although their ability to achieve a self-regarding goal is curtailed under this scenario, agency freedom is being exercised nonetheless. The broader concept of agency freedom is linked with participants' principles, values, obligations and conception of the good and, evidently, in some instances they choose to compromise their own flourishing for that of others. Writing on living standards, Sen (2008) asserts that other-regarding objectives should be excluded from well-being assessment as these transgress into the remit of a broader exercise of evaluating agency achievement. However, the findings of my research seem to counter this argument. If happiness or contentment is seen as

²³ See Chapter 5 for discussion of empirical findings concerning altruistic or other-regarding preferences. These are also discussed in Chapter 2 (Section 2.2.3).

a functioning (Sen, 2008), valued by a participant for his or her well-being, and if this emotional state arises as a result of pursuing and fulfilling other-regarding objectives, then it is unclear how the agency and well-being aspect of a person can be considered in separation. I, therefore, argue for a more holistic approach, which accommodates both the agency and well-being achievement of the person, as these can overlap.

A more theoretical contribution of Chapter 5 concerns the concept of freedom itself. These findings suggest that all freedom is socially conditioned, not only in terms of constraints, but also in terms of choices. If choices reflect participants' values and preferences, which are undeniably shaped by the broader social, cultural, economic and geographic context, then one might question whether a person is ever at liberty of enjoying what Sen refers to as 'well-being freedom' (Sen, 1985).

8.2.2 Ecosystem services and well-being relationship

- 2)** How do ecosystem services (if at all) contribute to participants' well-being?
- a) Which ecosystem services are most salient?
 - b) How are ecosystem services linked to well-being?

The main objective of my research concerns the ecosystem services and well-being relationship, therefore Chapter 6 explores whether the fulfilment gained from the wealth of natural amenities available to residents in Cornwall mitigates the negative impact of socio-economic deprivation. I consider ecosystem services to be socially constructed (Castree, 2001; Latour, 2004), a result of co-production between nature and people (Fischer & Eastwood, 2016), rather than a one-way flow of services stemming from the stocks of nature (Norgaard, 2010). This approach recognizes the role of the wider context for the creation of ecosystem services, including the social, economic and cultural aspects alongside biophysical ones. I show that ecosystem services interact with well-being in three important ways.

First, ecosystem services contribute to capability formation through fostering place attachment, identity formation and social relationships. Ecosystem services and cultural practices shape these by means of the various cultural benefits, which arise from all types of ecosystem services, not only cultural ones. Second, participants' interaction with the environment, and subsequent enjoyment of ecosystem services and their benefits, gives rise to positive emotions, which are conducive to the achievement of goals (Lyubomirsky *et al.*, 2005). As such, ecosystem services strengthen participants' agency to convert opportunities into functionings. This ability to imagine and pursue the kind of life they wish to lead is referred to as 'agency belief' by Victor *et al.* (2013: 30). Third, ecosystem services contribute to well-being in direct terms, by enhancing participants' physical and psychological health. This finding parallels existing literature which links the environment with human health (e.g. Mitchell & Popham, 2008; Wheeler *et al.*, 2012; White *et al.*, 2013a; Bell *et al.*, 2015). However, health is not merely a well-being outcome; rather it constitutes an overarching meta-theme, which emphasizes the reciprocal relationship between the environment and well-being. This finding demonstrates that while the environment is one of many sources of good health, the health outcomes achieved by participants mediate the ability to access environmental spaces and to pursue those valued capabilities which are intricately linked with health (e.g. employment).

A social constructivist lens also illuminates how ecosystem services are valued and which services are instrumental in promoting enhanced well-being. Cultural ecosystem benefits emerge as the most prominent for participants' well-being. The findings indicate that these are not only linked to 'cultural services'. It is often assumed in the literature that industrialized societies appreciate cultural services over others (Milcu *et al.*, 2013). According to the MEA, cultural services are the 'non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences' (MEA, 2005: 40). This leads to a biased framing of cultural services which links them with Western ideals of leisure activities, recreation and artistic pursuits (Pröpper & Haupts, 2014). My research reveals evidence to counter this narrow perception of cultural services and shows that cultural ecosystem benefits also arise from all other service types, which encompass intangible as well as tangible aspects. Moreover, I find that well-being is often enhanced as a result of

participants' cultural practices which are closely linked to ecosystem services, especially cultural and provisioning ones. These findings contribute to an emerging body of work which calls for the re-discovery of culture in nature (Fish, 2011; Chan *et al.*, 2012b; Fish & Church, 2014). My research thus reveals that drawing a hard and fast line between different services types is not feasible. Therefore, I highlight the growing need to re-frame the dominant classification of ecosystem services. Based on my empirical findings and existing literature (Chan *et al.*, 2012a), I propose to present cultural services and benefits as an overarching theme of socially valued outcomes rather than a separate ecosystem service category (see Chapter 6, Section 6.5).

What do these findings tell us about the Cornish 'well-being paradox' (introduced in Chapter 3)? According to MacKerron & Mourato (2013) people feel happier in natural environments. Could then ecosystem services be responsible for the Cornish 'poor, but happy' phenomenon? The general idea that people can feel happy despite living amidst objectively poor circumstances is well-documented in the literature (Sen, 1983; Veenhoven, 1991). Adaptation to circumstances is cited as the most likely cause of this phenomenon (Sen, 1999b; Diener *et al.*, 2006; Biswas-Diener & Diener, 2006). This research finds little evidence to confirm that full adaptation to circumstances occurs among participants. Only one participant exhibits an explicit downward adaptation of aspirations, when stating that it is not conducive to his well-being to desire the unachievable. Most other participants aspire to improved outcomes by imagining and articulating their plans, hopes and ambitions for the future. My findings reveal that ecosystem services are instrumental in forestalling downward adaptation. The positive effect of ecosystem services on the emotional and psychological state of participants sustains their motivation to aspire and pursue valued life goals. However, participants remain aware of their personal circumstances, which they regard as a barrier to achieving some of their valued objectives. These findings, therefore, challenge the validity of a 'poor, but happy' paradox. As I have shown, the interlinkages between participants' context and personal circumstances, especially where access is concerned, mediate the extent to which ecosystem services can support well-being.

8.2.3 Access mechanisms

- 3)** Which factors support/hinder access to ecosystem services?
- a) What types of access mechanisms mediate this process?
 - b) What is their relevance within a capability approach to ecosystem services?

Chapter 7 challenges the view that ecosystem services inevitably lead to well-being, and recognizes the role of access mechanisms in mediating participants' ability to engage with the natural environment. It is argued that aggregated approaches to ecosystem services and well-being fail to account for social differences between people and the consequent disproportionate distribution of benefits (Daw *et al.*, 2011; Dawson & Martin, 2015). As I was interested in exploring the contribution of ecosystem services to the well-being of participants who were affected by some form of socio-economic disadvantage, it was imperative that before drawing any conclusions I examined the various mechanisms that influence participants' ability to benefit from ecosystem services. I show that effective access to environmental spaces is a pre-requisite of ecosystem services related well-being. This reiterates the need for developing a socially differentiated understanding of the ecosystem services and well-being relationship (Daw *et al.*, 2011).

Furthermore, this chapter also aims to fill the research gap present in developed countries, where access is mostly evaluated based on physical proximity, measured 'as the crow flies' (Mitchell & Popham, 2008; Jones *et al.*, 2009; Wheeler *et al.*, 2012). Due to the inherent limitations of this measurement approach, current knowledge about access is incomplete, as it does not consider the implications of social, economic and cultural factors. Unsurprisingly then, existing theorizations of access grew out of research within developing contexts (Ribot, 1998; Leach *et al.*, 1999; Ribot & Peluso, 2003). Chapter 7 is guided by Ribot and Peluso's (2003) theory of access, which is sensitive to contextual factors. I find that the mechanisms identified by these authors can also be used as a framework in a developed context, following some adaptation. Adjustment is necessary due to the differences in the way society and the economy are

organized in the UK. Nevertheless, the three core mechanisms identified by Ribot and Peluso (2003) - physical, social-structural and rights-based - are also instrumental for mediating access to environmental spaces in a developed country setting, such as Cornwall in the UK.

However, my research also reveals a fourth, psychological, factor that influences participants' engagement with environmental spaces. Psychological mechanisms of access remain underexplored in environmental research in developed and developing contexts alike. Therefore, it is hoped that by highlighting their relevance and importance, my work can instigate research interest in the role of people's psychologies for engagement with the natural environment. I show that, while important in their own right, psychological mechanisms are intimately and reciprocally linked to all other mechanisms of access. Participants' preferences and attitudes – shaped by the social and cultural factors – play a key role in the psychological aspects of access.

A disaggregated approach to ecosystem services resonates with Sen's idea of shifting the focus from outcomes to opportunities. In this sense, the capability of exposure to the environment and the freedom to pursue well-being objectives related to the environment is conditioned by mechanisms of access. Understanding whether and how people access ecosystem services can have important implications for policy action. It is suggested that exposure to the natural environment can reduce health inequality within the most deprived quintile (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). However, in order to benefit from the services of environmental spaces, people must negotiate a range of access mechanisms, which include but by no means are limited to physical proximity. Consequently, these findings highlight the need for holistic interventions, which take into account the needs of different social groups, and create opportunities that enable access to ecosystem services.

8.3 Placing the social in ecosystem services

This thesis makes a novel contribution to understanding the ecosystem services and well-being relationship by moving away from outcome-centred conceptions of well-being and treating ecosystem services as socially constructed. The

capability approach emphasizes effective opportunities over achieved outcomes. This framework, in combination with qualitative and participatory research methods, leads to valuable insights into the interactions between social and ecological systems that together produce ecosystem services. Highlighting the importance of the broader socio-economic context is an important contribution of this research and provides an alternative to the dominant ecological focus present in practice and academia. Ecosystem services research draws on the MEA's conceptual framework, which frames ecosystem services as ecological in their origin. That is, the quality and availability of ecosystem services are linked to biological diversity and ecological processes. These approaches do not consider the role of people or their social, cultural and economic background in the production of these services²⁴. However, as my thesis demonstrates, context matters for people's needs and perceptions of ecosystem services and their access to environmental spaces.

While my work was largely driven by a set of clearly defined empirical objectives aiming to fill a current gap in research, the findings also have several important theoretical implications. Novel insights into the well-being and ecosystem services relationship complement existing knowledge in three important ways. First, the inductive exploration of how people construct their well-being in relation to ecosystem services interrogates existing assumptions about a linear relationship between these. The resulting findings refine how we understand ecosystem services and how they matter to people. Second, adopting the capability approach leads to theoretical, as well as empirical, advances. From an empirical perspective, the capability approach is identified as the most suitable theoretical and analytic framework for a constructivist and exploratory inquiry into the ecosystem services and well-being linkage. However, the findings also prompted theoretical reflections about aspects of the capability approach (e.g. in relation to other-regarding preferences and freedoms). And lastly, the investigation of the multiple mechanisms that govern participants' access to ecosystem services revealed that, despite being relatively unexplored in the

²⁴ Although later iterations of the ecosystem services – well-being model (Haines-Young & Potschin, 2010; UK NEA, 2011) highlight the role of human capital inputs, but not the role of social construction.

ecosystem services literature, psychological factors constitute important mediators of access.

In response to calls for disaggregated analyses (Daw *et al.*, 2011; Dawson & Martin, 2015), this thesis presents a challenge to reductionist approaches. It sought to select appropriate research methods that could contribute original insights and not only complement, but also expand the existing body of knowledge. Contrary to population-level studies (e.g. Mitchell & Popham, 2008; Wheeler *et al.*, 2012 in the UK), I opted for a sequential design and a mixture of qualitative and participatory methods (Chapter 4). Progressing each participant through four separate stages of data collection enhances the validity of the collected data and ensures the robustness of findings through triangulation. By questioning people about the same issue using a mixture of visual self-directed and verbal tools (e.g. the importance of ecosystem services for well-being was explored through photographs, captions written by participants and interviews) not only strengthens the rigour of emerging data, but also facilitates deep insights into often complex processes and relationships that govern people's freedom to live the life they value. Using a multi-stage and multi-method research design proves especially fruitful for conducting disaggregated analyses of the ecosystem services and well-being relationship with disadvantaged members of society, where trust emerges slowly and a disclosure of sensitive information may be consciously avoided in a single interaction, due to the stigma attached.

Furthermore, the merits of using participatory methods are already recognized by researchers in the capabilities tradition (Alkire, 2002; Frediani, 2005). Despite this, empirical attempts to integrate the capability approach into ecosystem services research using participatory methods are virtually non-existent. This thesis confirms that combining the capability approach - a theoretical framework relatively underexplored in the ecosystem services literature (some exceptions include Polishchuk & Rauschmayer, 2012 and Dawson & Martin, 2015) - with methods which are sensitive to people's personal circumstances and broader social, cultural and economic context, casts a fresh perspective on the ecosystem services and well-being relationship. It demonstrates how undertaking in-depth, context-specific and qualitative work that takes a constructivist approach really complements existing research on well-being. This is because it conceptualises

well-being as a process and enables us to really understand the causal relationships that link it with ecosystem services in a reciprocal fashion.

Unpacking these complex interlinkages also holds relevance for policy. In Chapter 3 I highlight that the popular discourse of 'happy and self-supporting communities' prevalent in policy circles can justify inaction on the part of decision makers. This discourse is substantiated by evidence from rural and health geography research. Rural geographers suggests that disadvantaged people often deny the presence of poverty or disadvantage, and instead choose to emphasize low rates of crime, child safety, healthy environments and strong supportive communities (Shucksmith, 1994; Cloke *et al.*, 1997). Further to this, health geographers provide evidence underpinning the notion of a healthy environment effect, which, according to these studies, is most beneficial for the most deprived quintile (Mitchell & Popham, 2008; Wheeler *et al.*, 2012). My research shows that while participants do recognize the advantages of living in Cornwall and, in some cases, express an explicit preference for the environmental aspects of life over materialistic ambitions, a closer look at the data reveals that socio-economic factors inextricably affect the choices people are able to make and the freedoms they are able to enjoy as a result, impacting on the ability to pursue material and non-material aspirations alike.

Therefore, appropriate policies are needed which address the current challenges posed by the complex web of social, economic and cultural mechanisms perpetuating disadvantage. My findings thus indicate that integrating the capability approach into well-being and ecosystem services research can contribute to improved policy interventions, which are concerned with people's effective opportunities rather than achieved outcomes. Merely targeting well-being outcomes could lead to ineffective policies, which fail to address the processes and mechanisms that bring about those outcomes in the first place.

While it would be clearly fruitful to further integrate the capability approach into ecosystem services research, literature attempting to do so is only just emerging (Polishchuk & Rauschmayer, 2012; Dawson & Martin, 2015). While a number of authors address the need to better acknowledge the role of nature and the environment within the capability approach (Holland, 2008; Ballet *et al.*, 2013;

Forsyth, 2015; Watene, 2016), this does not extend to applying the capability approach as a framework for better understanding how ecosystem services enhance well-being. Therefore, I propose that further work is needed in order to develop a capability theory (Robeyns, 2016) for ecosystem services which can be applied to generate in-depth and contextual insights into the complex links between ecosystem services and well-being across a variety of geographic and cultural contexts.

8.4 Conclusion

In this thesis I challenge reductionist approaches to well-being and interrogate current knowledge about the interlinkages between ecosystem services and well-being. Drawing on the principles of the capability approach, I present a novel analysis which provides a deep insight into the relationships and mechanisms that govern this relationship.

The capability approach embraces an inductive and socially disaggregated vision of well-being by not defining a list of basic capabilities, and thus recognizes the significance of context for shaping people's needs and well-being aspirations. As an evaluative framework for exploring the *reciprocal* relationship between ecosystem services and well-being, it is also conducive to disaggregated ecosystem services analyses which are sensitive to the differences between various social groups who disproportionately share and enjoy the benefits of such services. Existing empirical work, including my research, though scarce, confirms the compatibility of the capability approach with disaggregated analyses, and warrants the development of a capability theory for ecosystem services which can potentially reframe our current understanding of the relationship between ecosystem services and well-being.

Appendix 1: Participant recruitment brochure/information leaflet

 <p>Interested?</p> <ul style="list-style-type: none">• You can leave your name and contact details on the 'Sign up sheet' today• Or, need more time to think? – take a leaflet, have a read and a think, and get in touch later <p>I look forward to working with you in the future!</p>	<p>Contact:</p> <p>Email: ls416@exeter.ac.uk</p> <p>Telephone: 01326 259 490 (and leave a message with our receptionist, Mark)</p>	 <p>Life in Cornwall Study</p> 
<p>About the researcher</p> <p>My name is Lucy, and I am a second year research student at the University of Exeter's Penryn Campus. I am working on a project which is exploring what it means to live a good life in Cornwall.</p> <p>Your opinion matters!</p> <p>I am looking to engage with members of the community who are willing to participate in the study by sharing their knowledge and opinions with me.</p> <p>Participation is anonymous and your contribution will be treated confidentially.</p> 	<p>What will be your involvement?</p> <ul style="list-style-type: none">• What? :<ul style="list-style-type: none">○ 2 hr long workshop○ photography exercise (done in your own time)○ 1-1.5 hr interview○ 2 hr long workshop• When? - Meetings will be organized to fit your schedule• Where? – Meetings will take place at a convenient venue or location• How long is a session? – the length of sessions will vary between approximately 1hr for interviews, up to 3hrs for interactive workshops and/or group discussions• What is provided? – refreshments and lunch/snacks will be provided	<p>What will you gain?</p> <ul style="list-style-type: none">• Learn new skills• Get your voice heard – everyone's input counts, there are no right or wrong answers• Work with a researcher on an exciting project• Work together with other members of your community <p>Example workshop</p> <p>Photography exercise</p> <ul style="list-style-type: none">• A creative workshop, which will involve: capturing your images, writing captions on these, and discussing them with me during an interview.• No need to worry if you do not have your own camera – I can lend one to you for the duration of the exercise• Possibility of organizing an exhibition at the end

INFORMED CONSENT FORM

Name of researcher: Lukrecia Szaboova

Date:

Participant code:

	Please tick to confirm
I confirm that I have read and understand the information leaflet for the above study	
I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily	
I understand that my participation is voluntary and that I am free to withdraw within two weeks, without giving any reason	
I agree to take part in the above research study	
I agree to the interview being recorded	

Signature

Interview 1

Pre-interview: Timeline

(10 min)

- Please draw a timeline, from the year you were born to date
- Take your current age and divide it by three to split the timeline into three segments
- Within each segment identify the memorable life events/milestones (write dates and a short caption about the event – e.g. got married, left home, lost job) which had an impact on what happened next – these can be good or bad things

Part 1 of interview: Life history information

(20 min)

Please tell me a little bit about each life event:

- Why was it important?
- How did it change/affect your life?
- Was it a result of a choice/decision you have made or was it out of your control?

Part 2 of interview: Contextual information

(20 min)

- Where do you live?
- How did you come to live there?
- Can you please describe in a couple of sentences your immediate living environment = neighbourhood?
- Can you please describe in a couple of sentences your broader living environment = town/area?
- How do you get around? [*Asking about means of transport*]
- How do you find it?
- Can you please describe some of the advantages/disadvantages of living here?

Part 3 of interview: Photo elicitation

(40 min)

Process

- Please pick 5 photos from your set that you would like to talk about

- I then choose an additional 3 photos which I would like to find out about

Questions

- Why did you take this photo?
- What were you trying to portray with it?
- What were you doing at the time?
- Who were you with?
- Why are these particular places/activities/people important for well-being?
- How were you feeling when you took the photo?
- Why and how this particular place is important for your well-being?
- Is there anything else you would have liked to have photograph, but didn't get a chance?

Appendix 4: Interview II: Capabilities and access to ecosystem services

Interview 2

Part 1: Choice, agency, and capabilities

Q1: Can you please describe the characteristics of the life you aspire to have?

- What are the important things you would like to fulfil?
- What kinds of things would you like to be able to do?
- What would you like to have?
- What would you like to achieve?

(Aspirations)

Q2: To what extent do you feel that you are able to live that kind of life?

(How wide is the aspiration gap?)

Q3: What are you doing in order to achieve the life you aspire to?

- What actions do you take?

(Agency/behaviour)

Q4: What are the constraining factors to living that life?

- What is stopping you from achieving what you'd wish to?

(Capability freedom)

Q5: What are the most important things that help you achieve that life?

(Capability freedom)

Q6: To what extent do you feel you have control over the things that matter most to you?

- Are there any things that you feel are beyond your control?

(Agency/Capability)

Q7: Are you satisfied with the degree of control you are able to exercise in regards to the important matters in your life?

YES → *Why?*

NO → *Why not? How could this be improved?*

Q8: Overall, how do you feel about life at present?

(Life satisfaction – derived from the gap between aspirations and achievement)

Q9: What things do you take into consideration when deciding on what to pursue?

- Why do you choose what you choose?
-

Part 2: Access to ecosystem services

Q1: Please sort these cards with the various environmental spaces into 3 piles based on your use of them:

1. Don't use at all
2. Use infrequently/rarely

3. Use on a regular basis

Q2: 'Don't use' pile: Why do you not make use of these spaces?

Q3: If you had the opportunity/chance would you want to make use of any of the environmental spaces you don't currently?

If YES → Ask *which ones* → Q5

If NO → Ask *why not* → Q7

Q4: Can you tell me what would be your motivation for visiting/using those places?

Q5: What activities would you undertake at each of these places?

Q6: 'Use infrequently/rarely' pile: Can you please tell me how often do you use these spaces?

Q7: If you had the chance, would you want to make more use of these spaces?

(Opportunity to access spaces & personal preferences)

If YES → Ask *which ones* → Q9

If NO → Ask *why not* → Q11

Q8: What is stopping you from making more use of these spaces?

Q9: What would be your motivation for using them more?

Q10: When you do use these spaces, what activities do you undertake?

Q11: What do you gain from these experiences?

Q12: 'Use on a regular basis' pile: what is your motivation for using these spaces?

Q13: What activities do you undertake within them?

Q14: What do you gain from these experiences?

Q15: Can you please name some examples of the environmental spaces that you use either regularly or on an infrequent basis?

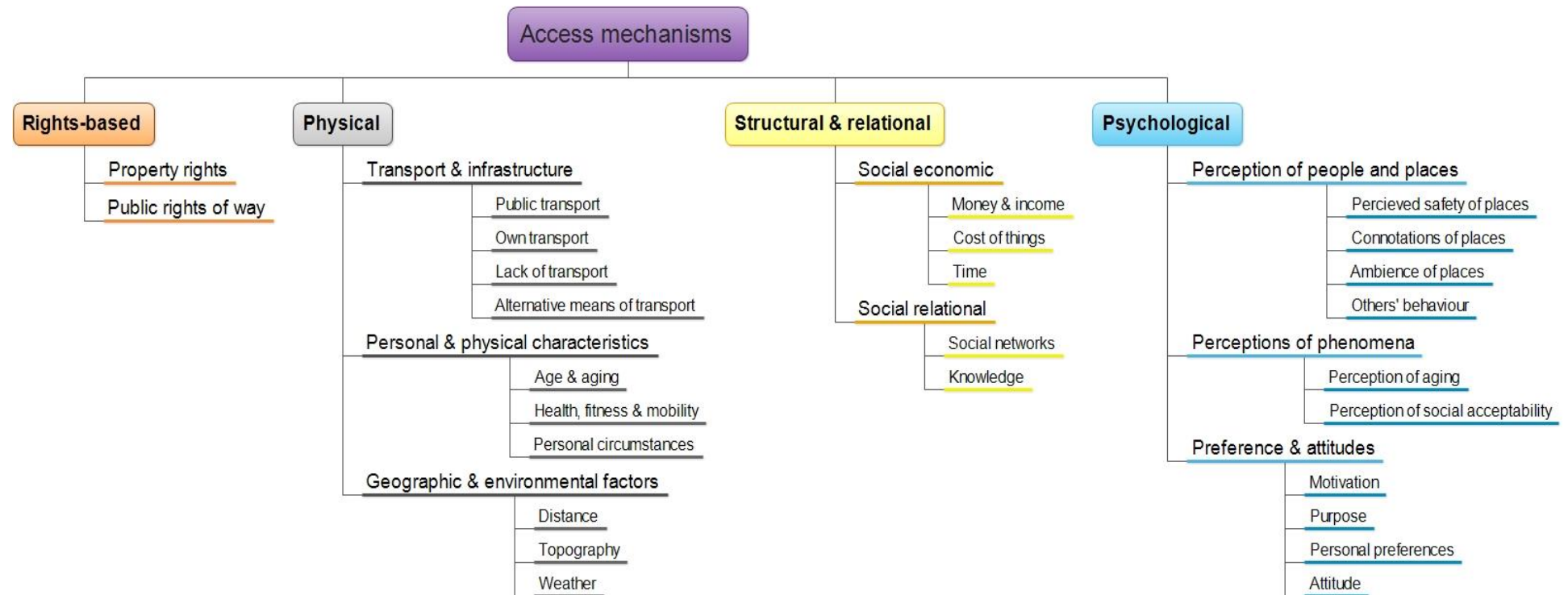
Q16: What meaning do these particular places hold for you?

Appendix 5: Examples of photo cards used as prompts during Interview II, Part 2 (access to ecosystem services)





Appendix 6: A detailed typology of access mechanisms governing the ability to benefit from ecosystem services. Source: Author



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