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MULTIPLE DIMENSIONS OF WELLBEING IN PRACTICE

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Introduction

In 2005 the Millennium Ecosystem Assessment (MA) placed the relationship between human wellbeing and ecosystems firmly at the centre of the agenda for academics and policy makers concerned with sustainable development for the following decades (MA, 2005). The decision to use the concept of human wellbeing was relatively novel and ambitious at the time. Four years later, that decision was decisively underlined by the Commission on the Measurement of Economic Performance (Stiglitz et al., 2009), commissioned by the then French President Nicolas Sarkozy and chaired by Joe Stiglitz, Amartya Sen and Jean-Paul Fitoussi. This report made a comprehensive case that if we are to achieve sustainable and inclusive development in our societies, then it is necessary to reform our major systems of statistical data collection from being focused on measuring progress in terms of production and consumption, to measuring it in terms of human wellbeing. Since that report there has been an explosion of initiatives to conceptualise and measure human wellbeing, and to put it into practice in academia and policy (Bache and Reardon, 2016; Helliwell et al., 2017).

Many different wellbeing frameworks have been advanced, but there is considerable consensus in the literature concerned with its application in public policy that the concept of wellbeing should be multi-dimensional (Stiglitz et al., 2009). It should take account of the objective condition of people and their subjective assessments of their lives (Adler and Seligman, 2016). Most frameworks also increasingly and explicitly recognise a relational dimension, arguing that aside from the objective and subjective condition of the person, it is also necessary to take account of their social relationships and how these shape the terms whereby they are able to participate in society (Gough et al., 2007; White, 2017). These three dimensions were present in the wellbeing model that was originally used in the MA – for example, material conditions and health (objective), security and social relations (relational) and freedom defined in terms of what an 'individual

values doing and being' (subjective) (MA, 2005), but they have been significantly elaborated in the broader wellbeing literature since then (Boarini et al., 2014).

Since the MA, there has been considerable development of the concept of wellbeing in respect of its application to studying the relationship between people and the natural environment (Helne and Hirvilammi, 2015; McGregor, 2014; Woodhouse et al., 2015). There is also a strong historical root to the current wellbeing and Quality of Life literatures in the field of health (see Schmidt and Bullinger, 2007 for an overview), which has been drawn upon in ecosystem services research to demonstrate the connections between health and the natural environment (Sandifer et al., 2015). However, it is worth noting here that the commonly used phrase 'health and wellbeing' speaks largely to an expanded concept of health, but in doing so gives health a separate status (returning to a uni-dimensional model of the human), or gives health a higher (and expertly imposed) prioritisation. The multi-dimensional concept of wellbeing reviewed in this chapter takes health as being one of many wellbeing domains ('health in wellbeing'), to align with the MA framework.

This chapter reviews the ways that research in the Ecosystem Services for Poverty Alleviation (ESPA) programme has taken up the multi-dimensional notion of wellbeing, and explores how this work provides new insights into the relationship between poverty and ecosystem services. We draw on a desk-based synthesis of ESPA-funded academic publications that use multi-dimensional conceptual frameworks or methodologies to study poverty or wellbeing, and discuss these in the context of the broader wellbeing and environment literature. The chapter is organised as follows. First, we clarify the relationship between multi-dimensional wellbeing and contemporary thinking about poverty and poverty alleviation, emphasising the significance of moving from multi-dimensional poverty to multi-dimensional wellbeing framings. We then provide an overview of three key contributions of 'ESPA wellbeing research' to wider debates on ecosystem services and poverty reduction. These are: (i) recognising the need for social differentiation; (ii) identifying and tackling trade-offs (between different ecosystem services and dimensions of wellbeing); and (iii) highlighting inequality and injustices around how ecosystem services are distributed. These contributions are closely related, and could be viewed as a logical set of queries to unpack any ecosystem service and wellbeing relationship: first, how people are different in terms of their wellbeing needs and strategies; second, how ecosystem services contribute to people's wellbeing in different ways, and what factors underpin who benefits and who does not; and third, the uneven distribution of ecosystem services to wellbeing, and the extent to which this is perceived as fair or unjust. Each contribution is supported by empirical examples from ESPA research, and the broader literature. Collectively, these examples demonstrate the value of adopting multi-dimensionality in their assessment of wellbeing, in particular subjective and relational dimensions, which generate new insights and opportunities for poverty reduction. The chapter concludes by summarising how these insights might contribute to improving the sustainable management of ecosystems in ways that contribute to poverty reduction.

Poverty and wellbeing: from income to multi-dimensionality

We start by clarifying the relationship between poverty and human wellbeing. Given the emergence of a sophisticated multi-dimensional poverty literature (Alkire and Santos, 2013; van Staveren et al., 2014), the relationship between the concept of wellbeing and how we understand poverty has become blurred. This has been evident in the ESPA programme, where the focus on making a difference in terms of poverty alleviation has encouraged many researchers towards more of a poverty frameworks approach (Suich et al., 2015). Furthermore, the terms wellbeing and poverty are frequently used interchangeably, often as the antonym of one another (Roe et al., 2014). This lack of distinction retains many of the drawbacks of the poverty approach but also loses much of the positive value offered by framing the analysis in terms of a broader conception of wellbeing.

Anyone who lives or works with poor people in any part of the world soon realises that there is more to their lives than their poverty. Poverty may be oppressive and relentless, but it does not drive out other aspects of the humanity of these men, women and children. The recognition of the rounded humanity of people living in poverty is what has stimulated the rise of multi-dimensional approaches to understanding poverty, and ultimately the shift towards wellbeing. Important contributions include Amartya Sen's capabilities framework, which has underpinned a campaign for thinking about poverty in terms of 'human development' and as being about more than just income (Nussbaum and Sen, 1993). He argues that judgements of a quality of life should focus on what people are able to achieve, rather than solely on what they have or what they lack. Around the same time, the emergence of 'participatory' approaches to development (Chambers, 1983) argued that, to understand poverty fully we must hear from the people who are themselves experiencing it. The World Bank's Voices of the Poor (VoP) study (Narayan et al., 2000) formally introduced the voice of people living in poverty to the poverty policy arena, and affirmed that there are other dimensions of being poor that are important to consider. Most significantly however, it underlined that peoples' subjective perceptions of what they need to participate in society or to live a decent life are important to consider in any deliberation about poverty alleviation. These developments have shifted the poverty debate from a narrow focus on objective dimensions of poverty (and mainly income poverty) to a broader discussion about wellbeing – about what people need to be able to have, to be able to do and be able to feel in order to be well in society (Gough et al., 2007). These developments were clearly evident in the MA framework, which thus helped stimulate a departure from common singular, income-based notions of poverty (Pinho et al., 2014).

From the extensive literature we can distil three key reasons that have both moral and scientific aspects, why it is considered important to shift from a poverty frame of analysis to a wellbeing framing (see Box 15.1). The first is that poor people cannot be defined by their poverty alone and, even in dire circumstances, they are still actively engaged in the pursuit of what they perceive of as wellbeing for

BOX 15.1 Three reasons for shifting to a wellbeing framing

- Poverty analyses can miss crucial wellbeing strategies which underpin the relationship between ecosystem services and human wellbeing.
- Wellbeing is a well-rounded interpretation of a person's life, which avoids labelling poor people as hapless victims.
- Wellbeing provides a holistic, person-centred analysis incorporating social and subjective assessments of life.

themselves and their families (Gough et al., 2007). Poverty framings shape the focus of analysis to emphasise what people lack, and they do not sufficiently focus on what they have, how innovative they are with what they have, and what they are trying to achieve. In doing this they delimit analysis in ways that can miss important attributes of people's lives, which can often influence the ways that their wellbeing considerations drive their relationships with ecosystem services (Coulthard et al., 2011). The poverty framing also means that the research focus is likely to be inadequate in its consideration of non-poor populations, overlooking those living on the margins of poverty and those doing well – analysis of both groups can reveal important insights into poverty dynamics (Krishna, 2011). The second is that defining people only in terms of their poverty denies the fundamental humanity of poor people, tending to categorise them as hapless victims rather than active agents capable of change. A positive focus on wellbeing enables analysis to avoid the labelling and stigmatisation of 'the poor', the process of 'othering' that is often present in policy and practice (White, 2010). The third is that well-being provides a holistic outlook that rejects compartmentalisation of people's lives (as per *homo economicus*), but focuses on the person (Douglas and Ney, 1998; McGregor and Pouw, 2017). This more holistic ontology demands a more socially informed analysis of people's lives and their relationships with others, which in turn provides a more substantial insight into the production and reproduction of poverty and how their engagement with the environment relates to this (McGregor, 2014; White, 2010).

Key contributions of multi-dimensional wellbeing research

The importance of social differentiation and the need for disaggregated assessment of how ecosystem services can contribute to wellbeing

The MA stimulated international recognition of the universal dependence of human wellbeing on ecosystem services. A major contribution of ESPA research

has been to detail this dependence across a breadth of different ecosystem services spanning contexts as diverse as small-scale fishers in coastal Bangladesh (Hossain et al., 2016) to pastoralists in sub-Saharan Africa (Homewood et al., 2018). This detailing has highlighted the importance of understanding social complexity, as an important first step towards understanding ecosystem services–wellbeing relationships (Abunge et al., 2013; Dawson and Martin, 2015; Dearing et al., 2014). Different people have different ideas about what is important for their wellbeing and about how they should seek to achieve wellbeing; they also have different dependencies upon ecosystem services. For example, poor people are usually more directly and immediately dependent for their livelihoods on the exploitation of the natural environment than are others (such as middle- and upper-class city dwellers or wealthier people residing in rural areas) in their societies (Bidaud et al., 2017; Trivedi, 2009).

Drawing from examples across coastal ecosystem services, Daw et al. (2011) argue the importance of disaggregating wellbeing in such a way that focuses on who derives which benefits from ecosystems, and how such benefits contribute to the wellbeing of the poor:

> First, different groups derive wellbeing benefits from different ES [ecosystem services], creating winners and losers as ecosystem services change. Second, dynamic mechanisms of access determine who can benefit. Third, individuals' contexts and needs determine how ES contribute to wellbeing. Fourth, aggregated analyses may neglect crucial poverty alleviation mechanisms. . .
>
> (Daw et al., 2011: 370)

For the design and implementation of interventions in ecosystems, it is important to understand what wellbeing differences exist in the population. These lines of social difference may be wealth orientated, but others (e.g. caste, religion, gender) may also be significant. In their study of conflict surrounding the designation of the Gulf of Mannar National Park and Biosphere Reserve, India's largest marine protected area, Bavinck and Vivekanandan (2011) start by recognising the diverse social makeup of the coastal community, which includes diverse castes and religions, both of which influence livelihood traditions. They argue that conflicts between individuals or groups derive from their various and sometimes contrasting wellbeing goals. In the study, conflicts occur between different users of the marine resource, in particular small-scale fishermen and trawler fishermen who operate over the same fishing grounds, with the former blaming the latter for damage to fish stocks and small-scale gears. Conflict also occurs between park managers and fishers, the former harbouring aspirations for strong marine conservation within the park, which is heralded as a biodiversity hotspot of global value. Fishers' aspirations, however, are often more integrated with concerns of social justice, conflict avoidance and the fairness with which conservation regulations are implemented. In particular, small-scale fishers lament weak consultation with the park authorities, and feel that conservation efforts would be better served by controlling destructive fishing

practices such as trawling, through stronger implementation of existing legislation. The authors argue that park authorities need to be aware of the variations that exist in the wellbeing aspirations of coastal populations, and that such variety can only be suitably addressed through a diverse governance approach and through political participation. They argue that the development of governance partnerships could contribute to more balanced decision making and a greater appreciation among the target population of the 'fairness' of MPA policy, in order to improve the legitimacy of the park's rulings.

Dawson and Martin (2015) problematise the inadequate recognition of social complexity in ecosystem services research (see Box 15.2), using the term 'socio-ecological reductionism'. They further argue that a multi-dimensional wellbeing framing can enable a fuller exploration of linkages between ecosystem services and human wellbeing. This is demonstrated in Dawson et al. (2016), who apply multi-dimensional wellbeing to critically analyse the wellbeing impacts of 'Green Revolution' agricultural modernisation policies in rural Rwanda, such as the adoption of modern seed varieties and credit systems to increase yields of specific

BOX 15.2 COMMON INSTANCES OF SOCIO-ECOLOGICAL REDUCTIONISM

1. Failure to consider different types of values: different people may value an ecosystem service differently based on how it contributes to their wellbeing, and thus may react differently to changes in how that service is managed.
2. Aggregation of people and preferences: over-simplification of population characteristics (e.g. by using average statistics) means that winners and losers resulting from a particular change are unrecognised.
3. Failure to understand power relations and politics: these determine who controls, or benefits, from ecosystem services, and who does not.
4. A focus on single land-use types: an overly narrow focus neglects multiple uses of the wider landscape, and risks missing synergies and trade-offs.
5. Lack of attention to changes and their drivers at multiple scales: the relationship between ecosystem services and wellbeing is affected by environmental, social, demographic, political, economic and technological changes, which operate at different spatial and temporal scales. People's wellbeing may be influenced by microsocial processes, or global economic change; some changes may be gradual, whilst others may be rapid shocks.

Source: Dawson and Martin (2015)

marketable crops. While policies have been deemed successful in raising yields and reducing poverty levels (as measured through conventional means), the authors found that this national-level image of success diverged significantly from local experience. By considering what farming households value and aspire to achieve, and assessing the progress towards these self-determined goals, a different view of how agricultural policy reform was contributing to poverty alleviation emerges. This assessment highlights negative impacts for particular groups of people, exacerbating landlessness and inequality for some of the poorest, and finds that only a relatively wealthy minority have been able to take up the imposed modernisation schemes. The authors conclude that policies promoting a Green Revolution in sub-Saharan Africa cannot automatically be considered to be pro-poor.

Identification and tackling of trade-offs between the environment and human wellbeing

The conditions of poverty, combined with critical dependence on ecosystems, can produce circumstances in which poor people, and resource governors, must face hard choices. These choices may involve people having to make difficult trade-offs either in terms of which aspects of their own wellbeing they will prioritise (for example income or dignity), or whether they will prioritise some aspect of their wellbeing over the health of the ecosystem. At their most extreme, these trade-offs can be emotive and charged with moral challenge: they may be between their children eating today or taking actions that may be to the detriment of the environment on which they depend (Dearing et al., 2014). As the examples discussed thus far have illuminated, social disaggregation reveals how different people are dependent upon ecosystem services in different ways, resulting in a plurality of different values attached to ecosystem services (Bavinck and Vivekanandan, 2011). Just as important are the power relations and politics, which mediate access to ecosystem service benefits (Dawson and Martin, 2015) and influence trade-offs resulting from different resource governance decisions.

Daw et al. (2015) detail trade-offs (defined as 'when gains for one ecosystem service or group of people results in losses for others' (p. 6949)), which became apparent through an innovative interdisciplinary method applied in the context of Kenyan coastal fisheries. This combines ecological simulation of marine ecosystem services, participatory assessment of social-ecological system structure and qualitative research into subjective wellbeing of five different stakeholder groups dependent on the fishery, differentiated by livelihood and gender. These three data types were integrated into a simplified 'toy model' that illustrates the dynamics of the system and how it delivers benefits to different user groups. Despite an apparent win-win between conservation and profitability at the aggregate scale (McClanahan, 2010), food production, employment and wellbeing of different actors are differentially influenced by management decisions leading to trade-offs. The ecological model of the fishery suggests a win-win between system-level goals of conservation (through reducing environmentally damaging beach seining) and profitability

(greater landings of high value fish), a management rationale that is promoted throughout Kenyan fisheries and in other parts of the world (McConney and Baldeo, 2007). However, model outputs suggest that the potential conservation–profit win-win comes at the expense of local food production, which declines because of reduced fishing effort with beach seine, which land high volumes of cheap 'trash fish' (McClanahan, 2010). Disaggregating different stakeholders revealed a range of potential trade-offs and win-wins in different groups' wellbeing, with particular disadvantages for those dependent upon beach seine for employment, and women traders who rely on beach seine landings for affordable fish, which is fried and sold locally. Not only do these groups represent some of the poorest and most vulnerable in the society (Béné and Merten, 2008), but trash fish is also an important source of protein-rich food security for the wider coastal population (see also Daw et al., 2016). As the authors conclude:

> Environmental management inevitably involves trade-offs among different objectives, values, and stakeholders. Most evaluations of such trade-offs involve monetary valuation or calculation of aggregate production of ecosystem services, which can mask individual winners and losers. . .Such trade-offs are often ignored because losers are marginalized or not represented by quantification . . .
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> (Daw et al., 2015: 6949)

Inequalities in ecosystem service distribution

A third area of research relates to the extent to which inequalities are inherent in ecosystem service distribution, and how this can lead to injustice (see also Dawson et al., this volume). As the MA recognised, there is a fundamental inequality in the ways in which ecosystem services are accessed and transformed into wellbeing outcomes (Fisher et al., 2013). While the exploitation of ecosystem services has enabled huge growth in wellbeing for some, others have experienced little benefit, while the negative effects of environmental degradation, and the management interventions designed to reduce degradation, often fall disproportionately on poor people (Coulthard et al., 2011; McDermott et al., 2013; Satyal et al., 2017). Examples can be found in many different contexts. Lakerveld et al. (2015) describe how the inadequate establishment of access rights to forest resources after independence in India led to widespread state appropriation, which ruptured and disabled prior community-based institutions. The Forest Department, with limited institutional capacity and political pressures to favour commercial interests, was unable to prevent large-scale deforestation, and a return to a depleted open-access resource has impacted both environmental health and the ability of forest dwellers to locate sufficient wood for their daily needs. Similarly, Dearing et al. (2014) describe the deterioration of water quality in catchment areas in China (Yunnan Province and Shucheng County) as being predominantly driven by economic development, particularly agricultural intensification and increased fertilizer use and

local fossil fuel-based industries. They cite the 'huge challenges' facing local government to harness the momentum of economic growth to reduce poverty, while reconciling growth with the need to restore badly damaged ecosystems and ecological processes.

The more direct relationship that poor people have with the natural environment has often led to the poorest people being blamed for ecosystem degradation. ESPA research has been a critical commentator of the over-simplification of Malthusian arguments that brush over questions of how ecosystem services are distributed (Coulthard et al., 2011), and the displaced impacts of higher consumption lifestyles (Fisher et al., 2013). ESPA research has also helped recognise that, perhaps because of the visibility of poor people and their dependence on the environment, some conservation and environmental management regimes can and have been particularly punitive for the poorest people. For instance, Pinho et al. (2014) detail that in Latin America, Payments for Ecosystem Services Schemes (PES) are often touted as a pro-poor natural resource management option, despite evidence that the poor still face discrimination, with very limited real benefits on the ground (see Menton and Bennett, this volume). As Sikor (2013) remarks, different types of ecosystem services result in justices and injustices for different people so that any ecosystem management needs to consider a socially and spatially differentiated assessment of its impacts on people. In his book *Just Conservation*, Adrian Martin (2017) brings together wellbeing and social justice to directly challenge some of the injustices that resound in current conservation approaches:

> Some problems are presented as being so urgent that they require states to operate outside of everyday norms of fairness – to act in the wider interest of a nation, or the planet, even if this rides roughshod over the rights of a few. There is a danger that conservation is thought of in this way: that its need for action is so exceptional that almost any activity to save biodiversity is morally justified. . .However, it is flawed thinking to conclude that effective responses to this crisis will necessarily run into conflict with norms of social justice.
>
> (Martin, 2017: 19)

Bidaud et al. (2017) use a multi-dimensional wellbeing framing to illuminate some of the social impacts, and subsequent injustices, resulting from a biodiversity offsetting project established by the Ambatovy mine, a major nickel and cobalt mine in Madagascar, a country that has large numbers of poor people living alongside some of the world's most valued biodiversity. The study is particularly relevant for its effective use of multi-dimensional wellbeing that reveals 'hidden' social impacts that mono-dimensional approaches are likely to miss, and has clear relevance for similar offsetting projects worldwide. The research details local people's perceived impacts of introduced biodiversity offset projects on wellbeing. First, results show that the offset projects were implemented in sites where people are very poor, and have high dependence on the forest for everyday necessities (illustrating impacts

on poorer sectors of society). Second, local people perceived that the biodiversity offset project had highly differentiated impacts on wellbeing. In particular, development benefits (such as donated chickens and agricultural equipment) were seen as benefitting some, but also erosive to social relations (conflicts had arisen around the distribution of development benefits), a good example of a trade-off between material and relational wellbeing. Furthermore, in some sites the conservation restrictions were enforced by locally employed people who were expected to report on their neighbours, which introduced new social tensions. An even bigger source of social tension relates to pressure on land among villages with growing populations in the conservation areas.

The research highlights an injustice in the ways that development benefits are distributed, which clearly illustrates the role of power and social position in determining ecosystem service access. Data reveal that the most important predictors of a household receiving donations or training is not the extent of forest dependence (indicated by distance to forest, or collection of forest products), or poverty, but rather being a member of a forest management association. While the offset project has both positive and negative impacts on wellbeing for different groups of people, overall, local perceptions highlight a negative impact, through restricted land use and declining social relations. In a similar vein to earlier examples, the authors point to a lack of social differentiation of communities at the local scale as being particularly problematic: 'There remains a mismatch between who benefits from the development activities and who bears the cost of the conservation restrictions' (Bidaud et al., 2017: 11).

Conclusions

Our review of ESPA research which has adopted a multi-dimensional framing of wellbeing in its approach, illuminates the value of multi-dimensionality and its capacity to unpack differences between people and their ecosystem service–wellbeing relationships. The importance of acknowledging social complexity and disaggregating how ecosystem services translate into wellbeing outcomes is highlighted in all the empirical examples above, as a necessary precursor to the adequate evaluation of how ecosystem change and policy interventions affect people's lives. Considering the material, relational and subjective dimensions of wellbeing underpins a much more detailed analysis and understanding than mono-dimensional approaches, and can paint a very different picture of progress in poverty reduction – as demonstrated particularly well by Dawson et al. (2016) and their critique of agricultural reform in Rwanda. Ignoring social difference in any assessment of ecosystem service–wellbeing relationships is therefore clearly problematic and leads to inadequate assessment of interventions and failure to spot injustice, especially for marginalised and poor men, women and children.

This has implications for sustainability narratives at the global level. The recently arrived notion of 'the Anthropocene' tends to be deployed in global debates in ways that blame 'people' generally and in an undifferentiated way for their misuse

of the natural environment resulting in profound changes in the world in which we live. However, when we look at particular situations of environmental degradation we find a good deal of evidence across ESPA research and beyond that suggests that it is often more wealthy actors that are the more significant drivers of ecosystem degradation (Dearing et al., 2014; Klein, 2015; Szabo et al., 2016). In this sense we can understand that processes of environmental degradation and of unsustainable development are driven by a desire for wellbeing in some form or another but, as ESPA research underlines, this is not enough to conceive ecosystem damage and decline as being poverty driven. At a systemic level it is the wellbeing aspirations and demands of people at all places in nation states and in a global system that drive ecosystem pressures. Compared with the level of damage that is driven by the wellbeing aspirations of poor people, the level of damage that is driven by demand in highly integrated globalised markets and that articulates metropolitan cities and remote rural communities is massive.

Given the stated goal of the ESPA programme to find ways of aligning sustainable management of ecosystems and poverty alleviation, the notion of the Anthropocene appears to be inadequate in its specification. It introduces the potential for an anti-poor bias into sustainability policy thinking, and in that sense the label 'Capitalocene' would appear to be more sensitive to the social justice issues that are involved (Moore, 2015; see also Holmes et al., 2017). Rather than separating thinking about ecosystems from thinking about people and how societies and economies are organised, as single-disciplinary science does, it appears to be more fruitful to conceive of people as agents who are part of these ecosystems and who are making decisions at all levels based on their wellbeing aspirations and motivations. It is this aspect of the ESPA programme, with its stimulation of interdisciplinary research across natural and social sciences, which has enabled a much greater incorporation of multi-dimensional wellbeing analysis in ecosystem services research. As some have argued, the future success of the global sustainability agenda depends on the absorption of significant and sophisticated conceptions of wellbeing into its analysis (Helne and Hirvilammi, 2015; McGregor, 2014), and the application of multi-dimensional wellbeing in ESPA research is an important contribution.

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