Towards 'sustainable wellbeing': advances in contemporary concepts

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Abstract:

Wellbeing and sustainable development are key global policy priorities. Conceptual ambiguity allows definition in diverse circumstances yet has implications for both. A new branch of literature, termed here as 'sustainable wellbeing,' applies needs, capability and happiness frames to sustainability. Prominent development-economic and individual approaches from the social sciences suggesting that wellbeing is context and value dependent with objective, social and relational dimensions. The relational dimensions encompass human relationships, but also necessarily human-nature connections. 'Systems thinking' is useful in addressing complexities across scales from individual wellbeing pathways to interdependent human and environmental systems. Four framing issues are highlighted as core ethical considerations, which are also instrumental in determining human wellbeing and sustainability: poverty and equity; freedom and autonomy; nature, ecosystems and 'Mother Earth'; and growth and flourishing. Related to the holistic systems approach, potential 'flourishing synergies' are highlighted as win-wins. These could support growth in human flourishing, with associated declines in consumption demand and related environmental pressures. Sustainable wellbeing pathways could offer insights for research and policy on sustainability, wellbeing and transitions. These pathways

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are primarily concerned with resolving the interrelated over-consumption and wellbeing failures of the affluent, which are deepening inequality and threatening the natural world.

Keywords: wellbeing, capabilities, needs, sustainable development, systems thinking, consumption

1.0 Introduction and background

The concept of sustainable development (SD) emerged almost forty years ago in ideas of a sustainable society, nature conservation and resource management (Sathaye et al., 2007). Its continued evolution has been driven by global recognition that social and economic development must be reconciled with the growing environmental degradation that it is causing, and the escalating risks to a variety of human and natural systems that this entails. Global studies and syntheses increasingly find a human fingerprint on a growing array of unfolding crises for the natural world. Biodiversity and ecosystem losses have initiated major species extinctions of insects (Sánchez-Bayo and Wyckhuys, 2019), mammals, birds, fish and reptiles (WWF, 2018) and plants (Kew, 2017). The 'anthropocene' unravelling of biodiversity is mirrored in other dimensions on which humans and the living planet depend. Steffen *et al.* (2015) identified four of nine planetary boundaries that have crossed what is described as the 'safe operating space' for humanity. Meanwhile, the unfolding risks of climate breakdown are now well characterised (IPCC, 2014; IPCC, 2018), documenting the capacity not only to undo the development progress of the twentieth century, but to potentially drive catastrophic outcomes across human and natural systems in the twenty-first.

The social and economic development paths that are driving these outcomes are strongly linked to consumption, particularly the over-consumption of the affluent (Fleurbaey et al. 2014). How our social and economic systems deliver human needs and wellbeing has profound implications both for the living planet, and ultimately for the human systems dependent on it. This is further complicated by the ethical imperative to eradicate poverty, or 'under-consumption'. While some social and economic development

gains have been made through poverty reduction[2], global social progress has been uneven, and inequalities in consumption drive ecological collapse and deepen inequality. The interrelated challenges of social equity and environmental sustainability have driven change in public, policy and academic discourses. This has included profound shifts in analytical approaches and an evolution in global development policy from Local Agenda 21 to the UN 'Sustainable Development Goals.' SD now also frames within its ambit key policy priorities in the science and policy of climate change (IPCC, 2014,), understanding pressure on biodiversity and ecosystems (MEA, 2005) and human development. It has become a central theoretic conception in the analysis and policy of environmental problems, and how they are interrelated with human activities. Yet despite this role, SD often remains vague in definition.

In 1987 the 'Brundtland report' of the World Commission on Environment and Development introduced its seminal definition of SD that seeks to balance the human-environmental relationship; "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (WCED, 1987)[3]. Jabareen (2006) acknowledged the central place for meeting basic needs, and the resulting tension between 'sustainability' and 'development'. Halsnæs et al. (2007) articulated the emerging basic principles of SD as: the welfare of future generations; the maintenance of essential biophysical life support systems; more universal participation in development processes and decision-making; and the achievement of an acceptable standard of human wellbeing (Halsnæs et al., 2007). Fleurbaey et al. (2014) defined SD as: development that preserves the interests of future generations, that preserves the ecosystem services on which continued human flourishing depends, or that balances the co-evolution of the three pillars or spheres; economic, social, environmental.

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[2] The International Panel on Social Progress acknowledged that the average global citizen lives today in a better place than in the past, but that inequality has been concentrating income, wealth and power since the 1980's (IPSP, 2018), driving environmental degradation and foreclosing solutions.
[3] An internationally agreed guiding principle adopted by heads of states and governments in the 1992 Rio Declaration (Principle 3), and reaffirmed at 2012 UN Conference on sustainable development.

The global synthesis of Halsnaes et al., noted that there is intrinsic ambiguity in the concept of sustainability, and how it is perceived as an irreducible holistic concept, where economic, social, and environmental issues are interdependent dimensions. This has prompted a growing body of concepts and models to explore reality from different angles and in a variety of contexts. The framework known under the loose term of 'Systems Thinking' has emerged as a synthetic and transdisciplinary response to the inability of normal disciplinary science to deal with complexity and systems – the challenges of sustainability (Halsnaes et al., 2007). Vagueness of definition has formed a constructive ambiguity that allows debate between different interests, yet this ambiguity has also led to criticism (Sathaye et al., 2007). There are benefits to conceptual flexibility for the diversity of circumstances, and distinctly for embodying the plurality of social, cultural and political contexts. However, there is also clear evidence that the actual outcomes are demonstrably unsustainable.

The concept bears similarities to other norm-based meta-objectives such as 'democracy,' 'freedom,' and 'justice' (Meadowcroft, 2000), where society embarks on a dynamic process to balance a variety of goals through politics. SD involves many cultural, social, and economic dimensions that cannot be resolved by scientific methods, but are inherently questions of values, preferences, and policies (Nakicenovic et al., 2000). Equity is an integral dimension, as intra and intergenerational equity are intrinsic. This includes the moral justification from ethical principles and legal justifications, but also pragmatic effectiveness, as equitable arrangements are more likely to be socially acceptable and politically feasible (Fleurbaey et al., 2014). From discussing capital, Neumayer pointed to an important distinction between 'weak' and 'strong' sustainability (Neumayer, 2010). While the weak approach assumes that human-made capital can be used to substitute natural resources and ecosystem services, strong sustainability establishes that critical natural stocks such as the climate system and biodiversity must be maintained (EEA, 2015)[4]. This technical discussion

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[4] If we significantly undermine the capacity of the environment to support human life by surpassing ecological thresholds and planetary boundaries, then substitutability cannot be perfect. Sustainability science asserts that all forms of natural capital are not perfectly substitutable and some must be protected as they underpin human life (EEA, 2015).

of 'substitutability' can be extended to the ethical discussion of 'anthropocentrism' and 'ecocentrism'. Whether the value of the natural world is defined by its utility to humans and social progress, as in most SD frameworks (Kopnina et al., 2017), or whether it is regarded as having intrinsic value in itself. This crossover of natural science with ethics remains a crucial gap in knowledge in clarifying some of the crippling ambiguities of the values embodied in SD (Kopnina et al., 2018; Imran et al. 2011). This lies in parallel to a number of related challenges with how SD is conceived in practice, including: continuing to focus primarily on environmental and economic dimensions, while overlooking social, political and cultural change (Sathaye et al. 2007; Fleurbaey et al., 2014); favouring incremental efficiency even when systemic transitions and transformations[5] are necessary (EEA, 2018; EEA 2015); failing to adequately address path-dependencies including embedded power-dynamics (Kirby and O'Mahony, 2018); and a fundamental ambiguity in what constitutes human 'needs' and 'wellbeing' (Kjell, 2011; Helne and Hirvalammi, 2015). It is to this last challenge that this article turns.

Kjell (2011) observed that within sustainability research human 'needs' and 'wellbeing' are poorly understood, conceptualised and elaborated upon. Yet a shift has widely occurred in sustainable development literature from articulating human 'needs' to 'wellbeing' across synthesised principles (Sathaye et al., 2007; Fleurbaey et al., 2014: IPCC, 2018[6]) and comprehensive reviews (McGregor, 2014; Atkinson, et al., 2014). In seeking to better define these terms, and their place in sustainability science and policy, a new branch of literature has emerged mainly in the last decade and could be described as 'sustainable wellbeing'.

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[5] Moving beyond incremental improvements in environmental performance to achieve fundamental transitions or transformations in core systems, entailing 'profound changes in dominant institutions, practices, technologies, policies, lifestyles and thinking' (EEA, 2015).

[6] '*Well-being for all*' is at the core of an ecologically safe and socially just space for humanity, including health and housing, peace and justice, social equity, gender equality and political voices, alignment with transformative social development and the 2030 Agenda of '*leaving no one behind*' (IPCC, 2018).

The concept of 'human needs' has repeatedly manifested in sustainable wellbeing literature (Raworth, 2017; Gough 2017; Helne and Hirvilammi, 2015; Hirvilammi and Tuula Helne, 2014; Rogers et al., 2012; Guillen-Royo, 2016; Buchs and Koch, 2017)[7]. The alternative to needs, the capability approach, can also be found (Oakley and Ward, 2018; Lessman and Rauschmayer, 2013; Anand and Sen, 2000). Hybrid needs-capability approaches have been developed (McGregor 2008; Mcgregor 2014; Coulthard et al., 2011; Rauschmayer and Omann, 2011; Rauschmayer et al., 2015). The application of happiness studies is also found (Kajikawa, 2008; Kjell, 2011; NEF, 2012; Cloutier and Pfeiffer, 2015; Sachs, 2016), while frameworks that focus on capital include Weber's 'life chances'[8] (Boulanger, 2011) and 'welfare diagnostics'[9] (Jakob and Edenhofer, 2014). A number of synthesised frameworks consider the links of poverty and needs to ecosystem services (Duraiappah, 2004; Agarwala et al., 2014; Roberts et al., 2015[10]; Schleicher et al., 2017) and placing 'people-nature connections' in a comprehensive systems framework (Diaz et al. 2015). The Stiglitz-Sen-Fitoussi commission (Stiglitz et al., 2009), and the related OECD 'Better Life Initiative' have placed wellbeing indicator measurement in a systemic frame.

Needs-based approaches frequently draw on ethical principles in the challenges of poverty and deprivation, the Brundtland definition and the SDG's. Raworth's '*doughnut economics*' introduces twelve basic human needs from the SDG's to form the social floor of development, and planetary boundaries as the environmental ceiling (Raworth, 2017). Gough (2017) applies a similar approach using universal human needs as the social floor, specifically; social

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[7]Guillen-Royo (2016) applies Max-Neef's needs-based Human Scale Development (HSD) to sustainability and wellbeing. Buchs and Koch (2017) link human wellbeing to postgrowth via basic needs.

[8] Boulanger (2011) extols the ethical framing by Rawlsian justice using Weber's sociological 'life chances' concept.

[9] Jakob and Edenhofer (2014) propose 'welfare diagnostics' as a welfare theoretic basis putting societal goals centrally, by establishing minimum thresholds for essential capital stocks of natural capital and public goods.

[10] Roberts et al. (2015) noted the importance to wellbeing of 'sustainability,' 'environment,' 'other species,' 'ecosystems,' and 'nature,' while applied wellbeing research has tended not to include such categories.

participation, health and autonomy. Gough also refers to the importance of planetary boundaries and the priority on addressing poverty. Gough adds the 'recomposition of consumption' to set a maximum limit on 'luxury consumption' of resources. McGregor (2008) focuses on 'development' and poverty, and proposes wellbeing as socially and psychologically co-constructed; with objective, subjective and relational dimensions, a hybrid framework based on needs, freedoms and subjective experiences. McGregor rejects individualism in favour of Giddens structuration (Giddens, 1986) to emphasise living well in relation to society[11] (McGregor, 2014). Similar to Gough, McGregor (2014) alludes to the important asymmetry of poverty as one kind of 'wellbeing failure,' while excess and over-consumption of the affluent indicate another kind.

Coulthard et al. (2011) adopt a social conception of wellbeing to reconcile poverty reduction with conservation; based on needs, quality of life and freedom. Helne and Hirvilammi (2015) and Hirvilami and Helne (2014) arrive at a multidimensional and relational conception of wellbeing, the 'Having-Doing-Loving-Being' (HDLB) model. This modification of Erik Allardt's needs-based approach focusses on the interconnectedness of individual wellbeing with that of society and the environment. Agarwala et al. (2014) propose an approach to poverty and ecosystems in developing countries that is interdisciplinary and flexible, proposing a strong social-relational and social-context framing, and integrates subjective and objective aspects[12]. This relational context is also found in Cloutier and Pfeiffer (2015), arguing that happiness is commonly thought of as an individual characteristic, but that it is also one of community, influenced by factors external to the individual. Similar to the Mcgregor criticisms, Kjell (2011) argues that contemporary wellbeing approaches are demonstrated to be isolating, individualistic and decontextualised. Kjell

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[11] McGregor (2014) offers a robust criticism of *'methodological individualism'* that presumes people operate primarily with a telos of seeking to live well as individuals. McGregor emphasises the narrowing and reductionist devices typified by *'homo economicus'* and argues for a social conception.

[12] While including the relevance of *etic* (externally assessed) versus *emic* (from within the culture) accounts.

presses individuals' interdependencies with other people and nature, suggesting that sustainability and well-being research can benefit from the synergy towards what he terms 'sustainable well-being'.

Rogers *et al.* (2012) propose a vision for transition of wellbeing to social sustainability primarily based on needs, but also Sen's capability approach to include freedom. They cite Deneulin and McGregor's (2010) framing of wellbeing as socially constructed rather than individual, arriving at a list of elements of 'comprehensive well-being' based on needs embedded in ecosystem wellbeing. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) conceptual framework of 'nature and people,' is a more comprehensive account than narrow economic and market-based values and involves epistemological and ethical innovations (Diaz et al., 2015). The systems thinking approach considers social and ecological components[13] across scales, culture and time, and the key relationships between them. The ethical categories expand values from solely anthropocentric to include ecocentric, by declaring nature's own intrinsic value[14]. The IPBES employ a synthetic definition of 'good quality of life'[15] that insists on a broad interpretation as per the Millenium Ecosystem Assessment (MEA, 2005). This IPBES directly embed human wellbeing in nature and ecological systems, while recognising: the instrumental value of freedom and social construction as a process; that wellbeing is highly value-based and context-dependent, and the contributions of different knowledge systems and cultural traditions.

Systems thinking is also evident in Lessman and Rauschmayer (2013), who reconceptualise sustainable development using the capability approach, through considering systems levels beyond the individual.

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[13] The six primary interlinked are: nature; nature's benefits to people; anthropogenic assets; institutions and governance systems and other indirect drivers of change; direct drivers of change; and *good quality of life*.
[14] A major distinction is adopted between *intrinsic values* and *anthropocentric values*, both of which have *existence value* and *future-oriented value*.
[15] Defined as; "A perspective on a good life that comprises access to basic materials for a good life, freedom and choice, health and physical well-being, good social relations, security, peace of mind and spiritual experience" (Diaz et al., 2015).

Rauschmayer and Omann (2011) and Rauschmayer et al. (2015) develop this crucial systems context for SD referring to 'sustainable human flourishing' through Sen's capabilities and Max-Neef's needs, where the strategies to meet needs determine whether a lifestyle is materially rich or materially light, and ultimately the material and related environmental footprint. Related to this, Oakley and Ward (2018) envision a route to sustainable prosperity where human flourishing is not linked to high material consumption, but to capabilities, through cultural and creative practices and communities. These approaches to wellbeing co-benefits are in line with the earlier concept of ´double dividend´ of Jackson, to reduce environmental pressures and improve wellbeing simultaneously (Jackson and Marks, 1999; Jackson, 2005), where human beings flourish within the ecological and resource constraints of a finite planet (Jackson, 2009).

Efforts towards synthesis of wellbeing theories include: Parfit's 'tripartite model' (Parfit, 1984), MacKerron's five standard approaches to wellbeing (MacKerron, 2011) and Sachs six dimensions of happiness (Sachs 2016)[16]. The exploration of 'human wellbeing' and 'the good life,' has an ancient global history, spanning spiritual, religious, cultural, philosophical and secular traditions, and is represented in voluminous theories (McGillivray, 2007; Varelius, 2013; Sachs, 2016). In 'sustainable wellbeing' literature, prominent contemporary approaches include: needs; capabilities; quality of life and happiness, and often also encompass the contribution of economic welfare (such as material consumption, income and preference satisfaction[17]). While noting the importance of economic welfare, particularly in cases of poverty and deprivation, Agarwala *et al*. (2014) highlight that wellbeing as a concept actually emerged largely in response to the inadequacy of uni-dimensional and monetary examinations.

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[16] Parfit (1984) identified three broad philosophical theories; hedonism, desire fulfilment or satisfaction and objective lists. Mackerron (2011) five standard approaches include: preference satisfaction; objective lists; eudaimonic/flourishing; hedonic and evaluative approaches. Sachs (2016) referred to religious and secular traditions highlighting six dimensions of happiness: mindfulness; consumerism; economic freedom; the dignity of work; good governance and social trust.

[17] Roberts et al. (2015) emphasise the criticisms of the orthodox neo-classical economics approach that relies on 'preference satisfaction' accounts of wellbeing, by income and utility maximisation.

The modern concept of 'wellbeing' is common to disciplines of anthropology, economics, psychology, sociology, and other social sciences (Fleurbaey et al., 2014). While some of these approaches are already employed in the sustainable wellbeing literature, advances in the social sciences include sub-disciplines that have largely not been considered: psychological wellbeing, physical health and wellness and the new branch of 'wellbeing research'. This review embraces the prominent approaches found in contemporary social science disciplines, and sub-disciplines, with the aim of considering recent advances and the potential implications for a concept of sustainable wellbeing. The development and economic frameworks include: human needs and capability approaches and the contribution of the Stiglitz-Sen-Fitoussi commission. The individual approaches include: happiness studies: psychological wellbeing; physical health and wellness and the distinct new sub-discipline of 'wellbeing research'.

This review is targeted towards those researching and implementing policy for sustainable development and low-carbon transition, including sustainable consumption and lifestyle, but also those more broadly concerned with wellbeing research and policy. After the introduction and background, in section 2 the development and economic frameworks and the individual frameworks are reviewed. Section 3 provides a synthesis and discussion of 'sustainable wellbeing'. It includes some consideration of operationalising the concept in analysis and policy action with a focus on synergies as 'win-wins'. Section 4 provides concluding remarks that round the review.

2.0 Approaches to human wellbeing

2.1 Development and economic
2.1.2 The human needs approach
An extensive frame relevant is evident in the theory of 'human needs' progressed from the 1940's by Abraham Maslow. Maslow (1943) proposed a theory of human motivation based around a hierarchy of needs; physiological, safety, love, esteem and self actualisation. Maslow's later work amended this theory, placing self-transcendence as a motivational step beyond self-actualisation (Maslow, 1969). The theory has been influential in psychology and sociology, but has been criticised for the ranking of needs and the hierarchy proposed. McGregor (2014) argued that Maslow's later work showed a move away

from a simplistic hierarchy with physiological needs at the bottom. Allardt (1976) defined wellbeing through the satisfaction of non-hierarchical needs in three groups: having, loving and being[18]. This influenced the later work of Human Scale Development in Max-Neef *et al*. (1989), who made an important contribution by defining fundamental needs as ontological and non-hierarchical occurring through four existential categories of; being, doing, having and interacting. Under this approach needs are finite, few and classifiable, and can be used to critique conventional economic 'wants'.

The needs tradition has been useful in explicating a holistic, inclusive and multidimensional conception and in questioning the role of consumption. Notable recent empirical results have offered support. Kingdon and Knight (2006) showed that education, health, employment and living conditions that can affect physical functioning, as 'basic needs,' are statistically significant determinants of happiness. In a large multi-country study, Tay and Diener (2011) examined the association of needs fulfillment and subjective well-being (SWB), finding that needs are indeed universal, with life evaluation most associated with fulfilling basic needs, and positive feelings associated with social and respect needs.

While basic needs analysts have insisted that non-material as well as material needs must be included, in practice it has focused primarily on material goods and services (Stewart, 2006). Amartya Sen was critical of both welfare economics (income) and what he saw as 'commodity fetishism' in basic needs (Sen, 1984). Newer forms of basic needs have attempted to consider opportunities for a full life, particularly the poor and deprived (Clark, 2006). Despite its usefulness, Reader (2006) describes how the basic needs approach to development, while in vogue in the late 1970's and 1980's, has fallen out of favour and has largely been replaced by the capability approach (CA), largely abandoning needs for a more general theory of wellbeing across both the affluent and those experiencing poverty.

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[18] By material resources in *having*, by how people relate to each other in *loving* and by what an individual is and what he or she does in relation to society in *being*.

2.1.3 The capability approach

The consequentialist concept of human development, as ends rather than means, emerged through increasing criticism of economic growth as a means to secure increases in wellbeing for a majority of the population (Qizilbash, 1996). Sen's CA (Sen, 1985; 1992) developed from welfare economics as the leading alternative framework for thinking about human development (Clark, 2006). As a framework for thinking it is related to the basic needs approach to poverty, but with the philosophy of freedom of individual choice at its core. CA is now used across a broad range of disciplines, most prominently in development thinking, welfare economics, social policy and political philosophy, and for a wide variety of subjects related to people's wellbeing (Robeyns, 2003). It stands in contrast with philosophical approaches that concentrate on happiness or desire-fulfilment, and theoretical and practical approaches that concentrate on income, expenditures, consumption or basic needs fulfilment. It is often presented as an intermediate between more narrow resourcist and hedonic approaches by allowing all of the relevant dimensions of life to taken into account (Sen, 1985; Fleurbaey, 2009; Fleurbaey and Blanchet 2013). This line of argument proposes that framing wellbeing as needs leads to an excessive focus on minimums and external resources, while also noting subjective wellbeing only encompasses a small part of relevant functionings.

The CA has the basic proposition that we should evaluate development and progress on what people are effectively able to do and to be, as '*the expansion of the "capabilities" of people to lead the kind of lives they value – and have reason to value*' (Sen, 1999), but it has been described as 'more a paradigm than a well-defined theory' (Robeyns, 2003)[19]. Sen was deliberately not prescriptive on the list of capabilities with the aim of flexibility in application in diverse social and cultural contexts, a strategy on Sen's part to avoid paternalism and curtailing freedom. To deliver on this framework, Martha

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[19] The capability approach involves two key terms of '*functionings*' and '*capability sets*' where functionings are described as the doings or beings of an individual such as material consumption, health and level of education. These can then de described by a functioning vector which an individual can choose to value (Sen, 1999). A capability set is then the set of potential functioning vectors that an individual can obtain, where functionings are achievements, and capabilities are opportunities.

Nussbaum (2005) specified a list of ten core human capabilities that are argued as fundamental, universal entitlements to secure social justice as detailed in Table 1.

The capability approach has expanded considerably, and has been refined since its inception, with much literature in support (Stiglitz, Sen and Fitoussi 2009). Nevertheless, it has a variety of criticisms. Fleurbaey (2009) points to numerous difficulties which a lack of specification creates for empirical applications[20]. Schokkaert (2009) offers the practical example of the Human Development Index (HDI), which by equally weighting three dimensions (log GDP per capita, education, life expectancy) suggests that they are perfectly substitutable, while it is clear that losses in life expectancy cannot be compensated for by income or education. Fleurbaey and Blanchet (2013) describe two important restrictions on Nussbaum, which led Sen to abandon needs and to introduces 'functionings' of all sorts of doings and beings, at any level of affluence and development, that may matter in defining a flourishing life. Only the possibility of achievements could be guaranteed, and only at minimum levels. Echoing criticisms of needs by Stewart (2006)[21] the authors argue that basic levels have an important drawback in understanding wellbeing "*It makes it impossible to develop a full theory of individual well-being and social welfare (i.e., covering all levels of well-being and not just situations of poverty and subsistence)*" (Fleurbaey and Blanchet, 2013: 207). Gasper, (2004) describes Nussbaum's framework as a starting point not a static list, yet Clark (2006) criticises paternalistic rejection of local values and cultural norms[22].

While in theory Sen's capability approach may provide greater account of individual wellbeing and human flourishing, in practice it runs into a range of difficulties with sustainability, crucially relating to individual freedom and how this impinges on the freedom of others. Clark (2006) outlines difficulties

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[20] While functionings may be more straightforward measuring capabilities as pure potentialities are not. In addition, attaching an appropriate system of weights is problematic. Schokkaert (2009) suggests that many proclaimed applications of CA approach appear to be merely studies of living conditions incorporating nonmarket data.

[21] The needs theorist Frances Stewart argues that "However, the capability approach has a much more elegant philosophical foundation; moreover, in principle it applies to rich as well as poor people" (Stewart, 2006).

[22] Sen (1999), Alkire (2002) and Clark (2006) call for democracy and public participation in the definition of human values.

in the philosophical underpinnings of freedom, what we have individual reason to value and the place for human agency. Gasper (2002) suggests that the philosophical approach to individual freedom as choice is problematic, and requires an appropriate account of reason and the balance between the needs and freedom of the individual with that of others. Gasper and van Staveren (2003) argue that freedom must be anchored by justice and the value of caring for others, reflecting Sen's earlier work, including the contribution of democracy, respect and friendship. Qizilbash (1996) argues that the actual full extent of freedom is limited by 'negative freedom,' where our actions may impinge on certain rights which must not be violated. To resolve this conceptual difficulty Deneulin and McGregor (2010) propose an innovative reframing of CA, rather than just an individual conception this requires a social conception, from 'living well' to 'living well together'.

The considerable challenge of negative freedoms in the social dimension has major implications for the environmental dimension of sustainability. Clark (2006) points to the tension between capability equality and expansion, not only the balance between individuals, but the balance with future generations and environmental sustainability. Anand and Sen (2000) attempted to rectify this with the concept of '*integrated sustainable human development*,' integrating both the claims of the present and future generations as a 'generalised capacity' of the environment to produce wellbeing. However, this runs in to difficulties when considering that natural capital is not perfectly substitutable (EEA, 2015), and that planetary boundaries (Häyhä et al., 2016) cannot be transgressed if this capacity for capabilities is to be transmitted to future generations. Peters *et al*. (2015) suggests that it may be necessary in some way to constrain peoples' combinations of functions to reconcile capabilities with sustainability. It appears that the roots of CA in a social egalitarianism (of functionings), may not be fully reconciled with its evolution towards comparative advantage of individuals (in empowering capabilities). Leßmann points to practical difficulties in implementing the capability approach with sustainable development Leßmann (2012). Sen's more recent work has suggested that equality matters apart from capabilities and that the approach does not provide a full theory of justice (Sen, 2009). Fleurbaey and Blanchet (2013) propose that the main message of capability is to avoid narrow evaluations of individual well-being, in particular resourcist measures and welfarist measures.

2.1.3 The Stiglitz-Sen-Fitoussi Commission

The Stiglitz-Sen-Fitoussi Commission was established in 2008 by then French President Nicola Sarkozy to consider measurement of economic performance and social progress beyond GDP. Rather than a wellbeing theory in itself it is an influential synthesis of thinking which recommended the need to move from economic production to measuring people's well-being, and the central importance of sustainability (Stiglitz *et al*., 2009). The consensus report made an important distinction between an assessment of current wellbeing and an assessment of sustainability, of whether wellbeing can last over time. Current wellbeing was attributed to economic resources and non-economic aspects of peoples' lives including; capabilities, subjective experience and the natural environment in which they live. Sustaining levels of wellbeing over time was attributed to the legacy of natural, physical, human, social stocks of capital passed to future generations. The sustainability issue was acknowledged as complex, even more so than the already complicated issue of measuring current wellbeing.

In Stiglitz et al. (2009), a multi-dimensional and interconnected definition of wellbeing was adopted, and was something of a watershed in understanding wellbeing in development, with eight dimensions (Table 1). This was followed by the release of the OECD 'Better Life Initiative' in 2011, in line with their recommendations, measuring progress on eleven dimensions of current well-being. The dimensions were described as universal, and relevant to all societies across the world irrespective of their level of socio-economic and human development. Stiglitz *et al*. argue that all of the dimensions shape people's wellbeing and must be considered simultaneously. They stated that changing the emphasis does not mean dismissing GDP and production measures, but emphasising that wellbeing is important because there is an increasing gap between the information contained in aggregate GDP and what counts for people's well-being.

2.2 Individual psychology and physical health

2.2.1 Happiness studies

The field of happiness studies has led to a re-direction of analysis and policy towards analysing and understanding what tends to be a more broad concept of 'wellbeing' and what makes for better lives (Helliwell *et al*., 2012). Happiness is an ambiguous concept associated with the field of positive psychology and is often used as a catchword for subjective wellbeing (SWB) (Fleurbaye *et al*., 2014). Diener and Seligman (2004) describe how happiness itself can measure pleasure, life satisfaction, positive emotions, a meaningful life or a feeling of contentment among other concepts. Happiness is evaluated at the aggregate population or economy-wide level using microeconomic techniques from two major branches; objective wellbeing and the more recent pursuit of SWB. Frequently tied to issues of measurement, and the different philosophical and theoretical debates that underpin the concept, a seminal contribution was made by Diener through the model of SWB (Diener, 1984). Though it is still accompanied by disagreement on its definition and theoretical basis (Linton *et al*., 2016), it has nonetheless climbed up the ladder of priority in both research and public policy.

The World Happiness Report of Helliwell *et al*. (2012) characterised as a subjective experience, but one that can be objectively measured and analysed and related not only to individual characteristics and objective circumstances but those of the wider societal context. Within the Report, Layard *et al*. (2012) looked at external factors (income, work, community, governance, values and religion) and 'personal' factors (mental health, physical health, family, education, gender and age) and concluded from 30 years of happiness research that while income is important, particularly for those experiencing poverty, it has limitations in its contribution to average global wellbeing. They assert 'diminishing marginal utility of income' and that the results of both life satisfaction and SWB show a greater contribution of other determinants; social support, health, freedom and the place of corruption. Sachs (2016) examined the relationship between economic freedom or 'libertarianism,' wealth generation or 'consumerism' and SD or 'holism,' against global happiness SWB data for 119 countries. Sachs concluded that it is SD that is statistically significant in determining happiness. Richardson et al., (2018) highlighting that social

safety nets and public health are among factors that contribute to happiness. While there have been strides forward, criticisms remain, as it offers an incomplete perspective on wellbeing (Sen, 1985), psychological adaptation and the hedonic treadmill hides objective inequalities leading to concerns of social justice (Fleurbaey, 2009; Stiglitz et al., 2009), measurement difficulties and biases towards hedonic wellbeing (Fleurbaey and Blanchet, 2013) and it does not appear sufficient as evidence to support development of public policy on its own.

2.2.2 Psychological wellbeing

While the economic literature focusses on the importance of objective circumstances, the importance of individual psychology and mental health is prioritised in psychology. The literature on individual psychology, and the related 'science of well-being' in applied psychology, have sought to move from an approach to mental health that is pathological, dealing with mental health problems, to deal with 'positive mental health' (Seligman and Csikszentmihalyi, 2000). Positive mental health includes the concept of '*flourishing*'[23] (Huppert, 2009), where wellbeing is defined as more than the absence of disorder. The theoretically derived dimensions of positive psychological health include; Self-acceptance, Positive relations with others, Autonomy, Environmental mastery, Purpose in life, and Personal growth (Ryff, 1989). The seminal work of Ryff on her scales of Psychological Well-Being is the most widely used measure of positive psychological functioning.

Keyes (1998) went a step further by explaining that while psychological wellbeing represents the necessary private and personal criteria, social well-being epitomises public and social. Within this, the social dimensions consist of social coherence, social actualisation, social integration, social acceptance and social inclusion. Individuals can be described as functioning well when they see society as meaningful and understandable, society as possessing the potential for growth, when they feel they belong to and are accepted by their communities, when they accept most parts of society and see themselves as contributing to society. Keyes individual-society description can also be seen in Adler and Seligman's concept of personal, societal and institutional 'flourishing' (Adler and Seligman, 2016).

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[23] 'Flourishing' can be defined as; fulfilment, purpose, meaning, indeed happiness (Horwitz, 2002), or by the influential work of Keyes (2002) as incorporating the main components; emotional, psychological and social well-being.

A systemic perspective on individual psychological wellbeing can therefore be articulated by linking the psychological model of personal agency and 'volition' in happiness (Lyubomirksi *et al*., 2005), the derived dimensions of individual mental health and sufficient support for mental health services (Boyce *et al*., 2013), to Keyes inter-related social wellbeing (Keyes, 1998).

2.2.3 Physical health and wellness

At the individual level, the importance of physical health and wellness is well established in happiness research. Psychological adaptation can occur to most changes in objective life conditions, including that measured by SWB, with few exceptions such as physical pain and psychological problems (Kahneman *et al*., 2003; Fleurbaye, 2009; Krueger and Stone, 2008). Nevertheless, models of physical health have also begun to undergo a shift. Larson (1999) outlined different conceptualisations including; the *medical model* as the absence of disease, the *WHO model* as not merely the absence of disease or infirmity but a state of complete physical, mental, and social well-being (WHO, 1946), and the *wellness model* of progress toward higher functioning, energy, comfort, and integration of mind, body and spirit. In discerning the differences between these conceptualisations, Naci and Ionnadis (2015) note that the medical model is concerned with ill-health rather than wellbeing. Most medical research addresses the effectiveness of drug interventions, and little is known about the causes of 'wellness'. This is a similar limiting condition to that previously noted in psychological wellbeing, where the focus can remain on ill-health rather than positive wellbeing. Naci and Ionnadis attempt to define an agenda for 'wellness research' which responds to gaps in knowledge by defining wellness as; "…diverse and interconnected dimensions of physical, mental, and social well-being that extend beyond the traditional definition of health" as healthy people can differ vastly in terms of their wellness; whether their life is filled with creativity, altruism, friendship, and physical and intellectual achievement.

2.2.4 Wellbeing research

The emerging field of 'wellbeing research' has pioneered an innovative holistic representation of individual wellbeing. A promising approach that balances the different life domains is offered by '*wellbeing pathways*' (Henderson and Knight, 2012; Huta and Ryan, 2010) and '*full-life*' or '*integrated*

pathways' (Waterman, 1993; Seligman *et al*., 2004; Peterson *et al*., 2005; Huppert and So, 2009), to addressing difficulties previously noted in the separation of 'hedonic' and 'eudaimonic' living.

Wellbeing science tends to refer to a more broad concept than 'happiness,' incorporating both hedonia and eudaimonia as distinct concepts that are mutually supportive (Huta and Ryan, 2010; Kashdan *et al*., 2008). The two philosophical traditions of hedonia and Eudaimonia have served as the backbone for the new science of wellbeing (Ryan and Deci, 2001). However, Kashdan *et al*. (2008) argue that while the distinction between hedonia and Eudaimonia arises in philosophy it doesn't transfer well to science, the boundaries are overlapping and there is no universal definition of eudaimonic wellbeing. While they are distinct and contribute to wellbeing in unique ways they are also highly related (Huta and Ryan, 2010). Empirical results from numerous studies reviewed by Kashdan *et al*. (2008), show that in general eudaimonia is not simply linked to a qualitatively different kind of happiness but quantitatively higher levels of hedonic wellbeing. Henderson *et al*. (2013) argue that increasing both hedonistic and eudaimonic behaviors may be effective in increasing wellbeing and reducing psychological distress. The combinations of hedonia[24] eudaimonia[25] and engagement activities[26] that lead to higher overall wellbeing; physically, psychologically, socially, and in terms of flourishing (such as growth and fulfillment), can be described as '*integrated wellbeing pathways'*. Among the life domains, the social and relational feature prominently, and the relatively overlooked dimension of harmony/balance, constitutes an important aspect of lay people's conceptions of happiness (Delle Fave *et al*., 2011).

In defining wellbeing pathways Delle Fave *et al*. (2011) outlined eleven different life domains[27]; Work, Family, Standard of Living, Interpersonal Relationships, Health, Personal Growth, Spirituality/Religion, Society issues, Community issues, Leisure, and Life in general, as further

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[24] Linked to the Benthamite tradition of desiring pleasure and avoiding pain, and classically to Epicurus. The hedonic perspective suggests that maximising pleasure and avoiding pain is the pathway to happiness (Henderson and Knight, 2012).

[25] Kashdan *et al*. (2008) describe eudaimonia as having associations with goals, particularly those related to intimacy rather than power, and also associations such as flow, altruism and helping and autonomy, classically related to an Aristotelian view. Henderson and Knight (2012) describe eudaimonia as directed towards living a life of virtue, actualising one's inherent potentials, personal growth and meaning

[26] Engagement is equated with 'flow,' as a state characterised by intense absorption in one's activities (Csikszentmihalyi, 1997).

[27] In a study of seven different countries; Australia, Croatia, Germany, Italy, Portugal, Spain, and South Africa.

recommended by Henderson and Knight (2012) for future wellbeing research. It is important to note that balance, family, health and interpersonal relationships were ranked highest, overlapping to some degree with the conclusions from Layard *et al*. from happiness studies. In a study of Eudaimonic and Hedonic Happiness Investigation (EHHI) of citizen definitions of happiness across twelve nations[28], results showed that inner harmony[29] predominated among psychological definitions, and family and social relationships among contextual definitions (Delle Fave *et al*., 2016). Henderson and Knight (2012) suggest that achieving a balance between different needs, commitments and aspirations is perhaps more important than 'having more,' and that further research is necessary to more fully disentangle the wellbeing dimension of harmony and balance[30].

3.0 Synthesis and discussion

Economics and psychology have dominated the understanding of wellbeing but the term is not universally defined. Huppert's 'science of wellbeing' covers physiological, psychological, cultural, social and economic determinants (Huppert *et al*., 2005), as a holistic approach that encompasses the different domains of life. There are a multiplicity of theories that may contribute to bringing further clarity (McGillivray, 2007), and Huppert (2014) has flagged the difficulty that this complexity inevitably entails.

The needs based (Maslow, 1943; Max-Neef *et al*., 1989) and capability approaches (Sen, 1985; Sen, 1992; Nussbaum, 2005) have been useful in arriving at a multidimensional conception of human wellbeing. One of the main messages of capabilities is to avoid excessively narrow and reductionist measures of resourcist and welfarist quantities (Fleurbaey and Blanchet, 2013)[31]. Multidimensional

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[28] Participants were 2799 adults (age range = 30–60, 50% women) living in urban areas of Argentina, Brazil, Croatia, Hungary, India, Italy, Mexico, New Zealand, Norway, Portugal, South Africa, and United States.

[29] 'Harmony,' the most frequent subcategory within the psychological definitions of happiness, included the components of inner peace, inner balance, contentment, and psychophysical well-being (Delle Fave *et al*., 2016).

[30] Delle Fave *et al*. (2016) discuss the importance of harmony and balance in happiness across all countries, while noting that there are cultural and age related differences in the degree of identification of happiness with high arousal positive affect (HAP: excitement, euphoria, enthusiasm) and with low arousal positive affect (LAP: serenity, peacefulness, tranquility).

[31] Fleurbaey and Blanchet (2013) point to criticisms of wellbeing measurement: i) resources are at best an indication of some possibilities in the domain of consumption, and fail to capture important functionings, and ii) subjective well-being is either a small part of the relevant functionings (mental states) or, in the case of satisfaction, unreliable for interpersonal comparisons because of hedonic adaptation.

wellbeing is now supported not only by an ancient heritage of philosophical discourse (Varelius, 2013; Sachs, 2016), and a variety of needs, capability, happiness, quality of life, social progress, psychology and physical wellness approaches, but by contemporary conceptual discussion (McGillivray, 2007; Alkire 2002) empirical results (Tay and Diener, 2011; Layard *et al*., 2012; Sachs, 2016), expert panels (Stigltiz *et al*., 2009), citizen deliberation and participation (Delle Fave *et al*., 2011; Delle Fave *et al*., 2016) and the new science of wellbeing (Huppert, 2005). Wellbeing tends to be defined more broadly than happiness, as happiness is not the only goal of good and valued lives (Huta and Ryan, 2010). In happiness studies, Kashwas *et al*. (2008) have discussed the issue of 'bracket creep,' suggesting that there are too many caveats with happiness. But wellbeing is by definition a complex and caveated social conception, and defined differently in diverse circumstances of values and contexts. The transdisciplinary concept of 'wellbeing' that is emerging from various disciplines is by necessity a multi-dimensional frame, and is an issue of real substance for sustainable development.

This necessary ethical principle of autonomy and avoiding paternalism, or non-consensual definitions, also creates challenges. From the perspective of an academic discussion, it is likely infeasible to comprehensively detail all of the voluminous theories (McGillivray, 2007; Sachs, 2016). Copestake (2008) proposes that there are occasions when a narrow perspective is necessary, but that such a decision can only be made within a wider framework of understanding wellbeing. This can avoid a 'straitjacket' but assist as a diagnostic tool (McGregor *et al*. (2012), 'opening a discussion rather than closing it' Stiglitz *et al*. (2009) as the co-existing components of wellbeing are an important practical and theoretical tool, as a rough set or list of dimensions (Alkire, 2002).

In considering the components or determinants of wellbeing, the literature shows that despite differences, there are considerable overlaps. The development and economic and individual psychology and physical health approaches are detailed in Table 1, along with a number of other prominent approaches. Common to the wellbeing approaches is to emphasise wellbeing determinants beyond the individual and the contribution of social and relational factors. Social and relational factors are

repeatedly found to be crucial to individual wellbeing (Tay and Diener, 2011; Huppert, 2009; Naci and Ioannidis, 2015; Keyes 2002) but also to societal wellbeing (Helliwell and Putnam, 2004; Bartolini, 2014; Bartolini and Sarracino, 2011, Delle Fave *et al*., 2011; Delle Fave *et al*., 2016). This conclusion is consistent with the results of studies in behavioral economics, neuroscience and evolutionary biology, as humans are now conceived of as profoundly prosocial (Richardson *et al*., 2016). The importance of social wellbeing, both in terms of personal relationships and wider society has been highlighted by Keyes (1998) in psychological wellbeing and McGregor *et al*. (2012) in wellbeing and development. These developments in the literature support two defining conclusions, that wellbeing has both objective and subjective dimensions[32], and that relational dimensions are key in understanding human wellbeing (McGregor, 2008; Agarwala, 2014; Diaz et al., 2015)..

The relational dimensions involve society but also people-nature connections (Diaz et al., 2015). The individual approaches have often tended to downplay society and structural determinants, and to avoid consideration of ecosystems, environment and nature entirely. While the importance of the 'sustainability,' 'environment,' 'other species,' 'ecosystems,' and 'nature,' have been repeatedly noted (Stiglitz *et al*., 2009;, Nussbaum, 2005; Hellne and Hirvallami, 2015; Roberts *et al*., 2015) applied wellbeing research has tended not to exclude such categories. Yet more systemic perspectives have also been emerging from the individual approaches. Ryff (1989) championed the crucial importance of society in psychological wellbeing, and the wellbeing research of Delle Fave et al., (2016) provided a robust defence of the 'ontological interconnectedness characterising living systems,' across conceptual frameworks, disciplines and cultures. This recognition leads to epistemological considerations.

Rojas (2007) suggests that as wellbeing is a complex phenomenon, it should be understood broadly across the domains of life as per Easterlin (2006). Ramalingham and Jones (2008) state that

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[32] Buchs and Koch (2017) emphasise that there is frequent confusion between the content of wellbeing (theory) and the assessment of wellbeing (methods), as both can be either objective or subjective.

academically this requires a transdisciplinary or at least interdisciplinary lens. While issues of wellbeing measurement have often been to the fore, Waterman (2008) advises that a purely empirically-driven approach ignores the complexities of the wellbeing construct. However, sustainability is also now perceived as an irreducible holistic concept. Economic, social, and environmental issues in SD are interdependent dimensions that must be approached within a unified framework of 'systems thinking,' as a transdisciplinary synthetic approach (Halsnaes et al., 2007). This epistemological framework recognises human, natural and combined systems, as interrelated in hierarchical structures that grow and adapt[33]. This holistic integrated route could assist as a platform to engage with difficult challenges of individual agency and social structure, and how they could dynamically interact and evolve in the context of wider systems in which they are embedded. Applying sustainability science and systems thinking to wellbeing could support moving beyond 'decontextualised methodological individualism,' to include the psychological and social co-construction (McGregor, 2008; McGregor and Sumner, 2010), and also the interdependent systems of 'nature' and ecosystems, conceptualised as 'people-nature connections' by Diaz et al. (2015).

A systems perspective encourages consideration of interrelationships between different dimensions, but also requires consideration of the core ethical issues of SD. These framings are also instrumental determinants of human wellbeing due to the interdependencies of global systems. These framing issues are summarised in four categories intrinsic to sustainable wellbeing: poverty and equity; freedom and autonomy; nature, ecosystems and Mother Earth; and growth and expansion.

Poverty and equity are ethical considerations which have defined discussions of wellbeing, from consideration of Rawlsian justice within and across generations (Anand and Sen, 2000) to frequent allusion to needs (WCED, 1987) and Raworth's social floor of development (Raworth, 2017). However, poverty and equity are also known to markedly affect subjective wellbeing (Fleurbaye et al., 2014), highlighting the links between individual and societal wellbeing. Happiness and wellbeing aspirations

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[33] This theory is based on the idea that systems of nature and human systems, as well as combined human and nature systems and social-ecological systems, are interlinked in never-ending adaptive cycles of growth, accumulation, restructuring, and renewal within hierarchical structures (Holling et al., 2002).

could not be described as a replacement for income, the meeting of needs or equality in general. How wellbeing is actually applied is therefore of great importance (Hanratty and Farmer, 2012; Jenkins, 2016), so that it does not become a smokescreen to avoid addressing inequality and poverty. Yet the ability to live well, and physical and mental health are important to all people, including those in poverty, and can be preventative of pathology (Lyubomirski *et al*., 2005; Huppert, 2009). Needs without wellbeing appears categorically incomplete, but wellbeing without equality is ethically incomplete. In response, Alkire (2006) argues for a nuanced synthetic approach that addresses both the satisfiers of basic needs and the expansion of capabilities.

Freedom and autonomy return repeatedly as ethical issues, as freedom to determine what the 'good life' is through individual autonomy, and also to choose the strategies to pursue it. This is often repeated by thinkers such as Sen and has become a defining condition. However, freedom is practically and ethically limited by negative freedom (Alkire, 2006). Sustainability science has shown that the freedom of the wealthy occurs at the expense of those currently in poverty, future generations and the natural world (Fleurbaey et al., 2014). If freedom is taken as an absolute, then the capability approach risks replacing 'commodity fetishism' (Sen, 1984) with a freedom fetishism. This has implications for considering 'freedom for whom?' and points to the inclusion of Denuelin and McGregor (2010) idea of not just 'living well' individually, but 'living well together' (Denuelin and McGregor, 2010).

Nature and ecosystems, or 'Mother Earth' in indigenous philosophies (Diaz et al., 2015), have been shown to have critical instrumental value as both determinants and components of human wellbeing, and that this is relevant across all scales from individual and local to global. This determinant is often categorised as 'ecosystem services' (MEA, 2005) and is reflected in planetary boundaries (Steffen et al., 2015) and Raworth's environmental ceiling (Raworth, 2017). Diaz et al. (2015) provided an important contribution by clarifying that beyond this instrumental value to humans, nature itself has intrinsic value. The anthropocentric conception of nature could therefore be described as ethically incomplete where it ignores ecocentric values.

Growth and expansion are instrumental in determining wellbeing and sustainability. The patterns of expansion of human impacts on the environment have major ethical implications for the three preceding categories: poverty, freedom and nature. In addition to income and economy, wellbeing approaches illustrate expansionist and 'growth' concepts in hedonic wellbeing, capability expansion, personal growth and human flourishing This is consistent with the theory of 'systems change,' where nature and human systems are interlinked in cycles defined by growth, accumulation, restructuring and renewal (Holling et al., 2002). Sustainability science shows a type of 'growth' can clearly be discerned in increasing emissions and resource consumption, the physical drivers of unsustainability that occur due to current patterns of expansion of wellbeing, particularly from the wealthy (Fleurbaey et al., 2014). Inequality of consumption and growth is now characterized as a mega-driver of growing environmental degradation (Assadourian, 2010; Häyhä et al., 2016).

Both wellbeing and sustainability encompass common challenges of over-consumption, and its impacts on human health (WHO, 2009; Roy et al., 2018)), wellbeing (Easterly, 1999; Dumludag, 2015; Zhang and Zhiong, 2015; Noll and Weick, 2015; Gokdemir, 2015) and society and the environment (Fleurbaey *et al*., 2014)[34]. 'Over-consumption' was characterised as a social pathology by Fromm (1976) and Gruber *et al*. (2011) has highlighted that in the case of happiness, and indeed in the case of food, it is possible to have too much, to experience it at the wrong time, to pursue it in the wrong ways, and to experience the wrong type.

The crucial distinction with 'growth' as a phenomenon is the structure and type of expansion, as it determines whether or not it drives increased consumption and environmental damages. In systems change theory, sustainability could be pursued by 'restructuring' and 'renewal,' as alternative forms of growth and expansion, and this in line with the integrated systemic thinking embodied in the concept of 'sustainable development pathways' (Sathaye *et al*., 2007). In Max-Neef's existential categories avoiding increases in consumption could be framed as expansion of being, doing and interacting, rather

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[34] Fleurbaey *et al*. (2014) also note that under-consumption of those in poverty is not only a parallel challenge, but is further entrenched by the inequality of the over-consumption of the more affluent.

than 'having.' This is similar in focus to Gough's 'recomposition of consumption' (Gough, 2017), but may be achieved through the means of alternative pathways rather than relying on limits or moral arguments. Balancing the domains of life in general, including those related to consumption and economic wellbeing, are important in achieving wellbeing pathways at the individual level (Sirgy and Wu, 2009, Delle Fave *et al*., 2011; Delle Fave *et al*., 2016; Henderson and Knight, 2012). As 'balance' is a prominent consideration in a 'wellbeing pathways' approach, this dovetails with the articulation of 'balance' in sustainability discourse, and the related need to address over-consumption. This forms a potentially useful synergy of wellbeing expansion with sustainable development. '*Sustainable wellbeing pathways*' could then be described as encompassing wellbeing synergies that support individual, societal and ecosystem wellbeing.

Moving to pursuit of wellbeing as an expansionist synergy with sustainability is in keeping with a rich vein of theoretical literature, which remains largely unexplored in practice. A seminal contribution by Jackson (2005) described the ´double dividend´ to reduce environmental pressures and improve wellbeing simultaneously. Expansion that involves such wellbeing pathway concepts as; balance, inner harmony, personal growth, self-actualisation and prosociality at the individual level, could potentially be made more consistent with protecting and developing human, social, cultural and natural capital at the aggregate level. Thus wellbeing pathways could become a tool not only towards balance, personal development and greater individual wellbeing, but a key to unlock synergies for sustainable development in balance with others and future generations.

Waterman's idea of the 'eudaimonic staircase,' (Waterman, 2007) suggests that processes to enhance eudaimonia, in self-realisation and development of one's potential, are potentially limitless. From a sustainability perspective, such eudaimonic processes can potentially come with little or no negative impacts on environment or society,[35] and may even entail benefits to sustainability[36]. The IPCC SRES

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[35] As they could be in resource efficient or low impact activities and functionings.
[36] Where personal growth is in forms that prioritise the development and protection of human, social, cultural and natural capital.

showed that decoupling growth from emissions (dematerialisation) and wellbeing from growth and consumption (immaterialisation) are both important elements of a transition to a low emissions world (Nakicenovic et al., 2000). While techno-economic dominated scenarios continue to explore the former, the latter remains scantily explored (Kirby and O'Mahony, 2018), and a continuation of the current pathway is only one of multiple plausible alternative futures. Articulating sustainable wellbeing in sustainable development pathways, transformation scenarios and transition visions, could be a means to address this gap. This 'immaterialisation' has been described as a 'stronger if more controversial' form of decoupling than 'dematerialisation' by efficiency (Fleurbaey et al., 2014), as the latter has failed to arrest emissions and growing environmental degradation. A fundamental and systemic change is necessary to address the twin challenges of sustainability and wellbeing policy. A focus on sustainable wellbeing provides scope for understanding of policy action and synergies, providing new routes for transformation to sustainable development beyond incremental technical efficiency.

Table 1 Frameworks of human wellbeing from prominent approaches

Framework	**Human needs and human-scale development**	**Central capabilities**	**Economic Performance and Social Progress**	**Happiness studies**	**Psychological wellbeing**	**Wellness and health**	**Wellbeing research**
Discipline	Economics	Economics	Economics	Psychology	Psychology	Physical health	Psychology
Dimensions, constituents and determinants	Subsistence, protection, affection, understanding, participation, leisure, creation and identity and freedom.	Life; bodily health; bodily integrity; senses, imagination and thought; emotions; practical reason; affiliation; other species; play and political and material control over one's environment.	Material living standards (income, consumption and wealth); health; education; personal activities including work; political voice and governance; social connections and relationships; environment (present and future conditions) and Insecurity, of an economic as well as a physical nature.	Income, work, community, governance, values and religion, mental health, physical health, family experience, education and gender and age.	Self-acceptance; quality ties to others; sense of autonomy in thought and action; ability to manage complex environments; pursuit of meaningful goals; sense of purpose in life and continued growth and development as a person.	Mental well-being; social wellbeing; physical well-being; spiritual wellbeing; activities and functioning; personal circumstances and global wellbeing.	Work, family, standard of living, interpersonal relationships, health, personal growth, spirituality/Religion; society issues, community issues, leisure and life in general.
Wellbeing account	Objective list	Objective list	Objective and subjective	Subjective and objective measures	Subjective	Subjective and objective measures	Evaluative-subjective

Nature and ecosystem services	Not clear, implies ecosystem services to humans	Other species	Ecosystem services to humans	Not included	Not included	Not included	Not included
Source	*Max-Neef et al. (1989)*	*Nussbaum (2005)*	*Stiglitz et al. (2009)*	*Layard et al. (2012)*	*Ryff (1989)*	*Linton et al. (2016)*	*Delle Fave et al. (2016)*

Framework	**OECD Better Life**	**IPBES people-nature connections**	**Doughnut Economics**	**3D Wellbeing/ Wellbeing in developing countries**
Discipline	Economics	Transdisciplinary	Economics	Interdisciplinary social science
Dimensions, constituents and determinants	Health status; work and life balance; education and skills; social connections; civic engagement and governance; environmental quality; personal security; income and wealth; jobs and earnings; housing; and subjective well-being.	Access to food, water, shelter, health, education, good social relationships, physical, energy and livelihood security, equity, cultural identity, material prosperity, spiritual satisfaction, freedom of choice, action and participation in society.	Food, health, education, income and work, peace and justice, political voice, social equity, gender equality, housing, networks, energy and water.	Material, relational and subjective
Wellbeing account	Objective and subjective list	Not defined	Objective and subjective data	Objective list and subjective evaluation
Inclusion of nature and ecosystem services	Ecosystem services	Both nature for its own value and ecosystem services to humans	Ecosystem services	Ecosystem services

Source	OECD better life initiative	Diaz et al. (2015)	Raworth (2017)	Gough and McGregor (2007). McGregor and Sumner (2010)

4.0 Concluding remarks

Wellbeing and sustainability are interrelated both as analytical challenges and global policy priorities. The unfolding damage to the natural world, to planetary boundaries and the risks of climate change, require responses based not just on efficiency and changes to systems of provision, but fundamental reconsideration of human wellbeing and its relationship to sustainable development. The concept of sustainable development and its articulation of needs and wellbeing, often remains vague. Despite some procedural advantages, ambiguity risks increasing trade-offs and losing potential win-win outcomes. To address this, a new branch of sustainability literature drawing on a variety of disciplines has been emerging in the last decade, and could be described as 'sustainable wellbeing'.

This paper has reviewed prominent approaches within the social sciences, in tandem with sustainability literature, to discern advances that may be relevant to a concept of sustainable wellbeing. The frameworks considered include development and economic frameworks and individual psychology and physical health frameworks. The literature suggests that while no one framework is applicable in all circumstances, wellbeing is multidimensional with many overlaps between constituents and determinants. At the individual level there are important contributions from hedonic and eudeaimonic wellbeing, which can be holistically dealt with by 'integrated wellbeing pathways' (Delle Fave et al., 2016). For sustainability, the individual frameworks require supplementation with frameworks that note the objective, subjective and relational dimensions of wellbeing (McGregor, 2008; Agarwala, 2014). This is akin to embarking on a 'systems thinking' perspective, which requires the relational concepts to be extended from the social to environmental connections as part of a comprehensive systemic approach (Diaz et al., 2015). The systemic frame also recognises that wellbeing and

sustainability are complex, transdisciplinary, and require more than quantitative empiricism, but also depend upon qualitative methods and recourse to ethics, values and politics. Four framing issues emerge as intrinsic to sustainable wellbeing, core ethical considerations that in practice are also pivotal determinants of human wellbeing and sustainability into the future: poverty and equity; freedom and autonomy; nature, ecosystems and 'Mother Earth'; and growth and expansion.

Also emerging from a systemic frame are potential 'wellbeing expansion,' synergies previously highlighted as the 'double dividend' by Jackson (2009), human flourishing that simultaneously addresses the pathology of over-consumption amongst the wealthy. This could also become a global development goal that encompasses the less affluent, permitting the leapfrog of the development pathways of advanced economies towards higher levels of wellbeing sustainability, albeit also necessitating a consistent priority on eradicating poverty and under-consumption. 'Sustainable wellbeing' could be useful for broad sustainability and wellbeing research and policy, for consideration of sustainable consumption and lifestyles and for future scenarios and transition pathways. While Raworth provides the useful frame of the environmental ceilings and social floors of development (Raworth, 2017), sustainable wellbeing seeks to unlock doors to alternative pathways to the 'good life'.

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