Social sustainability: a review and critique of traditional versus emerging themes and assessment methods

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In recent years the social dimension (or 'social sustainability') has gained increased recognition as a fundamental component of sustainable development. Previous research on sustainability has been mostly limited to environmental and economic concerns. However, social sustainability has begun to attract interest in the Academia, receiving also political and institutional endorsement as part of the sustainable communities agenda and the urban sustainability discourse. Thus, the paper explores the notion of social sustainability and its main assessment methods, together with the pioneering social sustainability framework devised by the City of Vancouver, Canada. The paper illustrates how there is no consensus on the definition of social sustainability because this concept is currently being approached from diverging study perspectives and discipline-specific criteria, which make a generalised definition difficult to achieve. In addition, traditional 'hard' social sustainability themes such as employment and poverty alleviation are increasingly been complemented or replaced by 'soft' and less measurable concepts such as happiness, social mixing and sense of place in the social sustainability debate. This is adding complexity to the analysis of social sustainability, especially from an assessment point of view. Within this context, the paper builds upon the recent 'reductionist' versus 'integrated' sustainability assessment debate and contends that there is paucity of social sustainability assessment methodologies as such. Indeed, at practical level, social sustainability assessment is often conducted (i) through social impact assessment (SIA), which is extended to incorporate biophysical and economical variables or (ii) by broadening the definition of 'environment' and hence the thematic coverage of theme-specific assessment such as SIA. In terms of indicators, the analysis suggests that the development of new sustainability indicators is increasingly focused on measuring emerging themes rather than on improving the assessment of more traditional concepts such as equity and fairness. Indeed, the latter continue to be measured mainly in terms of income distribution and other monetary variables, hampering a meaningful progress in the assessment of social sustainability. Within this context, the paper also pinpoints the main differences between 'traditional' and 'sustainability' indicators, suggesting a set of characteristics for the latter. Despite these hindrances, the paper looks at how Vancouver's local authorities have approached urban social sustainability and discusses the importance of the selection of sustainability principles, objectives, themes, assessment techniques and indicators from a social perspective. Lastly, the paper concludes suggesting possible future directions within the social sustainability debate and the challenges that will have to be overcome to assess the progress toward sustainability. These include for example the examination of more elusive and 'soft' social concepts as larger sectors of communities and societies become more affluent and less worried about the satisfaction of basic needs, but also the increase of uncertainty concerning how different typologies of impact and assessment techniques should be integrated together.

Keywords: assessment, assessment methods, emergence, impact assessment, place, policy, reductionism, social capital, social inclusion, sustainability assessment, sustainability indicators, sustainability metrics and indicators, sustainable community index, sustainable development, urban regeneration, urban sustainability

1. Introduction

In recent years the social dimension (or 'social sustainability') has gained increased recognition as a fundamental component of sustainable development, becoming increasingly entwined with the delivery of sustainable communities discourse and the urban sustainability discourse. Environmental and economic issues dominated the sustainable development debate at its beginning whilst it is only in the late 1990s that social issues were taken into account within the sustainability agenda. Although its growing recognition has spurred an emerging body of literature on social sustainability, our understanding of this concept is still fuzzy and limited by theoretical and methodological constraints stemming from its context and disciplinary-dependent definitions and measurements. As Sachs (1999) puts it, at a fundamental level, it is still unclear whether the concept of social sustainability means the social preconditions for sustainable development or the need to sustain specific structures and customs in communities and societies.

Thus, the aim of this paper is twofold. Firstly, it endeavours to deconstruct the concept of social sustainability and to explore its evolutionary meaning, highlighting the shift from the analysis of traditional 'hard' social policy areas towards emerging 'softer' research and policy-making themes. It is important to clarify that this paper does not seek to provide operational definitions of, or normative prescriptions for, social sustainability. Rather, it debates alternative readings of social sustainability in the light of past, present and possible future interpretations of this concept. The second main objective is to examine the theoretical and methodological approaches to (social) sustainability assessment within the context of the ongoing debate regarding the level of integration of assessment techniques, themes and metrics.

The paper is divided in four main parts. It begins with an overview of the main interpretations of social sustainability that illustrates how different worldviews amongst social scientists have thus far prevented an unequivocal and widespread acceptance of the themes at the heart of this notion. The second part illustrates how impact assessment is evolving into sustainability assessment (SA), and new appraisal methods and metrics are emerging in the sustainability literature. In this context, the analysis highlights the main differences between 'traditional' and 'sustainability' indicators, suggesting a set of characteristics for the latter. The third part provides an overview of the social sustainability framework devised by Vancouver's municipal authorities, which shows how social sustainability can be addressed at the practical level. The paper concludes with an examination of possible future directions within the social sustainability debate and the challenges that will have to be overcome to assess the progress toward sustainability.

2. Social Sustainability

There is general agreement that the different dimensions of sustainable development (e.g. social, economic, environmental and institutional) have not been equally prioritised by policy makers within the sustainability discourse [Drakakis Smith, 1995]. This is mainly because sustainable development was born out of the synergy between the emerging environmental movement of the 1960s and the 'basic need' advocates of the 1970s, but also because assessing the intangible nature of social aspects of development presents measurement quandaries, which will be discussed later. As a result, there is limited literature that focuses on social sustainability to the extent that a comprehensive study of this concept is still missing. Indeed, Littig and Grießler (2005) argue that approaches to the social sustainability concept have not been grounded on theory but rather on a practical understanding of plausibility and current political agendas. In addition, a

recent study by the OECD (2001) points out that social sustainability is currently dealt with in connection with the social implications of environmental politics rather than as an equally constitutive component of sustainable development.

These fragmented approaches to social sustainability are also criticised by Metzner (2000) who contends that social sciences and social policy research have developed a plethora of social objective strategies and measurement instruments, but with little regard for the sustainability perspective. Thus, while there exists abundant social research studies and policy documents, these have rarely been integrated into the sustainability framework. Even when cross-discipline approaches have been attempted, covering for example the environmental and the social dimensions of sustainable development within the 'ecological footprint' concept (Reed and Wackernagel, 1996), it can be argued that such endeavours have only been partially framed within an integrated approach to sustainability.

As a result, the concept of social sustainability has been under-theorised or often oversimplified in existing theoretical constructs and there have been very few attempts to define social sustainability as an independent dimension of sustainable development. For these reasons, it can be argued that the relationships between the different dimensions of sustainable development or indeed between 'sustainabilities' are still very much unclear. For example, Assefa and Frostell, 2007 contend that social sustainability is the finality of development whilst economic and environmental sustainabilities are both the goals of sustainable development and instruments to its achievement. Similarly, Hardoy et al (1992) dispute interpretations according to which social sustainability is defined purely as the social conditions necessary to support environmental sustainability. Furthermore, no consensus seems to exist on what criteria and perspectives should be adopted in defining social sustainability. Each author or policy maker derives their own definition according to discipline-specific criteria or study perspective, making a generalised definition difficult to achieve. Nonetheless, several definitions are reported in Table 1, which provides an overview of the plethora of social sustainability interpretations.

In Table 1, it can be seen how in Sachs' views (1999) socio-economic development is an open ended historical process, which partially depends on human imagination, projects and decisions subject to the constraints of the natural environment and the burden of the living past. Thus, social sustainability can be interpreted as a socio-historical process rather than a state. In this perspective, the understanding of social sustainability cannot be reduced to a static zero-one situation where zero suggests an unsustainable situation and one indicates presence of sustainability.

From a strictly sociological standpoint Littig and Grießler (2005: 72) emphasise the importance of both 'work', which is a traditional anchor concept in the German sustainability discourse, and 'needs' as defined by the Bruntland Commission (1987). Similarly, Biart (2002: 6) highlights the importance of social requirements for the sustainable development of societies. Despite the confusion over the meaning of social capital, his approach emphasises the importance of 'time – frames' and 'social conditions' for the long term functioning of societal systems. However, in his analysis there is no reference to the physical environment, allowing for the traditional criticism that sociology has often suffered from a neglect of the physical and non-social realm (Omann and Spangenberg, 2002).

A more comprehensive definition of social sustainability with a special focus on urban environments is provided by Polese and Stren (2000: 15-16). They emphasise the economic (development) and social (civil society, cultural diversity and social integration) dimensions of sustainability, highlighting the tensions and trade-offs

Table 1: Examples of definitions of Social Sustainability

A strong definition of social sustainability must rest on the basic values of equity and democracy, the latter meant as the effective appropriation of all human rights – political, civil, economic, social and cultural – by all people	Sachs (1999: 27)
…a quality of societies. It signifies the nature-society relationships, mediated by work, as well as relationships within the society. Social sustainability is given, if work within a society and the related institutional arrangements satisfy an extended set of human needs [and] are shaped in a way that nature and its reproductive capabilities are preserved over a long period of time and the normative claims of social justice, human dignity and participation are fulfilled.	Littig and Grießler (2005: 72)
[Sustainability] aims to determine the minimal social requirements for long-term development (sometimes called critical social capital) and to identify the challenges to the very functioning of society in the long run	Biart (2002:6)
Development (and/or growth) that is compatible with harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population	Polese and Stren (2000: 15-16)

between development and social disintegration intrinsic to the concept of sustainable development. However, they also acknowledge the importance of the physical environment (e.g. housing, urban design and public spaces) within the urban sustainability debate. Within the context of urban areas, other authors also maintain that social sustainability interpretations emphasising social equity and justice may assist cities in evolving to become 'good' places by facilitating a fairer distribution of resources and a long term vision (Ancell and Thomposon-Fawcett, 2008).

Similarly, from a housing and built environment perspective, Chiu (2003) identifies three main approaches to the interpretation of social sustainability. The first interpretation equates social sustainability to environmental sustainability. As a result, the social sustainability of an activity depends upon specific social relations, customs, structure and value, representing the social limits and constraints of development. The second interpretation, which she labels 'environment-oriented', refers to the social preconditions required to achieve environmental sustainability. According to this interpretation, social structure, values and norms can be changed in order to carry out human activities within the physical limits of the planet. Lastly, the third 'people-oriented', interpretation refers to improving the well-being of people and the equitable distribution of resources whilst reducing social exclusions and destructive conflict. In her study of the social sustainability of housing, Chiu (2003) adopts the second and third approach to demonstrate how social preconditions, social relations, housing quality and equitable distribution of housing resources and assets are key components of sustainable housing development.

Other authors do not provide a general definition of social sustainability but suggest the main key themes at the basis of the operationalisation of this notion. A number of these key themes are listed in Table 2, which shows how basic needs and equity are consistently being held as fundamental pillars of social sustainability. These concepts are deemed necessary for the physiological and social survival of human beings and communities as a whole. This is because, at a basic level there can be little doubt that shelter, food, clean water and employment are essential requirements for the sustainability of individuals and communities. Similarly, equity is considered a crucial component of social sustainability because of the increasing evidence that societies with lower levels of disparity have longer life expectancies, less homicides and crime, stronger patterns of civic engagement and more robust economic vitality (GVRD, 2004).

The chronological analysis of social sustainability themes also shows how traditional themes, such as equity, poverty reduction and livelihood, are increasingly been complemented or replaced by more intangible and less measurable concepts such as identity, sense of place and the benefits of 'social networks'. Table 3 illustrates this shift from 'hard' themes towards 'softer' concepts within the sustainability discourse, which in recent years has spurred a wider debate on the role that governments and policy-makers should play in delivering 'soft' objectives. For example, with regard to happiness, Ormerod and Johns (2007) question the ability of governments to embark upon happiness-oriented policies whilst they are still struggling to deliver on existing commitments. By contrast, Layard (2007) notes that governments have been interested in happiness at least since the Enlightenment, but only recently they have begun to measure the concept and explain it systematically. Thus, understanding the conditions conducive to human happiness in all their complexity should be the central concern of social science.

Table 2: Key themes for the operationalisation of social sustainability

Feature	Author
• Livelihood • Equity • Capability to withstand external pressures • Safety nets	Chambers and Conway (1992)
• Inclusion • Equity • Poverty • Livelihood	DFID (1999)
• Equity • Democracy • Human rights • Social homogeneity • Equitable income distribution • Employment • Equitable access to resources and social services	Sach (1999)
• paid and voluntary work • basic needs • social security • equal opportunities to participate in a democratic society • enabling of social innovation	Hans-Böckler-Stiftung (2001)
• social justice • solidarity • participation • security	Thin et al (2002) DIFD
• education • skills • experience • consumption • income • employment • participation	Omann and Spangenberg (2002)
• basic needs • personal disability • needs of future generations • social capital • equity • cultural and community diversity • empowerment and participation	Baines and Morgan (2004) and (Sinner et al, 2004)
• interactions in the community/social networks • community participation • pride and sense of place • community stability • security (crime)	Bramley et al (2006)

Table 3: Traditional and Emerging Social Sustainability Key Themes

Traditional	**Emerging**
Basic needs, including housing and environmental health	Demographic change (aging, migration and mobility)
Education and skills	Social mixing and cohesion
Employment	Identity, sense of place and culture
Equity	Empowerment, participation and access
Human rights and gender	Health and Safety
Poverty	Social capital
Social justice	Well being, Happiness and Quality of Life

Despite these disagreements, for the purpose of this paper, it can be argued that social sustainability concerns how individuals, communities and societies live with each other and set out to achieve the objectives of development models, which they have chosen for themselves taking also into account the physical boundaries of their places and planet earth as a whole. At a more operational level, social sustainability stems from actions in key thematic areas encompassing the social realm of individuals and societies, ranging from capacity building and skills development to environmental and spatial inequalities (see Colantonio, 2007 for a complete list). In this sense, social sustainability blends traditional social policy areas and principles such as equity and health, with issues concerning participation, needs, social capital, the economy, the environment, and more recently, with the notions of happiness, well being and quality of life. The different role played by principles, objectives, targets and themes in the purse of social sustainability will be reviewed in the remainder of this paper.

3. Sustainability Assessment

3.1 Key features

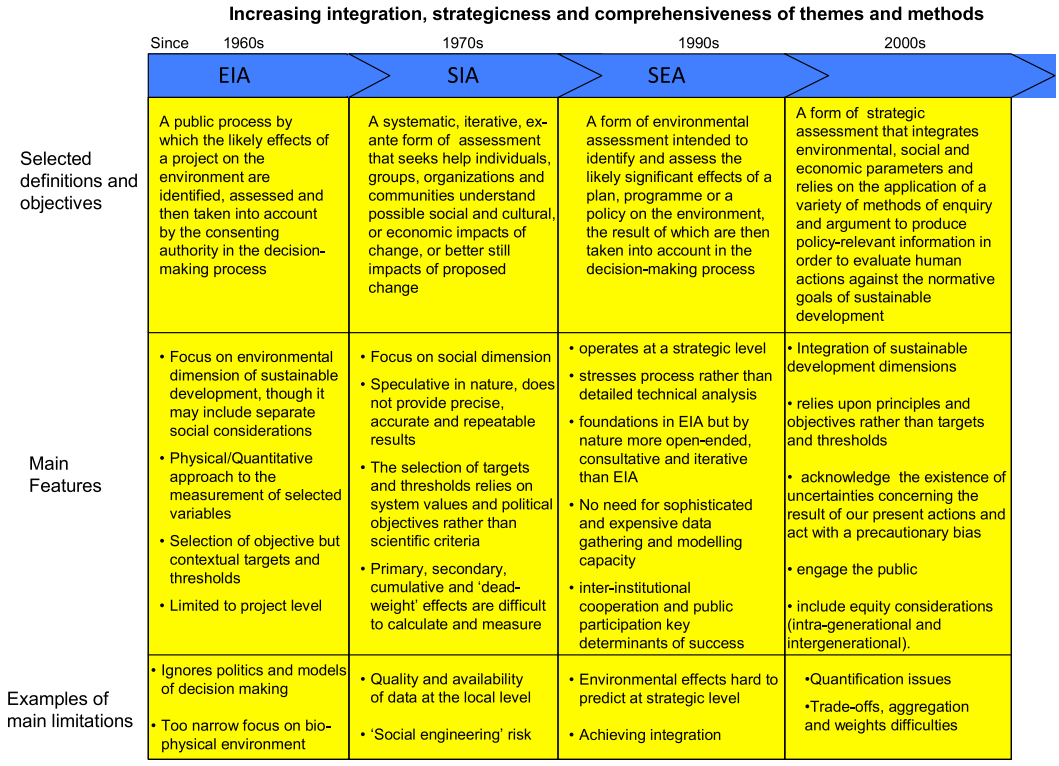
Over the last few decades, a plethora of approaches and methods for the assessment of sustainability have been devised by an increasing body of literature. For example Dalal-Clayton and Sadler (2005) and LUDA (2006) identified at least 27 sustainability assessment (or sustainability appraisal) techniques that have recently emerged in the literature and are distinguished by different theoretical underpinnings and practical applications. This increasing number of assessment methods mirrors the rise in importance of sustainable development on the political agenda of several western governments and the calls for the appraisal of policies, programmes, plans and projects against sustainability criteria.

Broadly speaking, sustainability appraisal is a form of assessment that aims to inform and improve strategic decision making (Sheate et al, 2008). The assessment relies on the application of a variety of methods of enquiry and argument to produce policy-relevant information that is then utilised to evaluate the consequences of human actions against the normative goal of sustainable development (Stagl, 2007 : 9). Indeed, as Gasparatos et al (2008) suggest, sustainability assessments ought to:

- integrate economic, environmental, social and increasingly institutional issues as well as to consider their interdependencies;
- consider the consequences of present actions well into the future;
- acknowledge the existence of uncertainties concerning the result of our present actions and act with a precautionary bias;
- engage the public;
- include equity considerations (intragenerational and intergenerational).

Sustainability assessment builds on Environmental Impact Assessment (EIA), Social Impact Assessment (SIA), and Strategic Environmental Assessment (SEA). Figure 1 provides a succinct overview of EIA, SIA, SEA and SA, clarifying some of the differences and similarities between these main assessment methods families. The diagram offers snapshots of selected definitions, main characteristics and limitations of these forms of assessment. These are meant to summarise rather than replace the very extensive and comprehensive coverage of assessment related issues that can be found in the abundant literature in this field. Despite being a less mature assessment framework than its predecessors there is general agreement that sustainability assessment is characterised by four main features. These include (i) the importance of objectives and principles-setting, (ii) an emphasis on integration of techniques and themes, (iii) the call for multi-criteria approaches, and (iv) stakeholders'

Figure 1: Overview of main methods to assess sustainable development and its dimensions



EIA= Environmental Impact Assessment; SIA=Social Impact Assessment; SEA: Strategic Environmental Assessment; SA= Sustainability Assessment

Source: Author, Glasson et al (2005), Glasson (2001), Barrow (2000), EU (2003), Imperial College Consultants (2005), Saunders and Therivel (2006), Stagl, (2007), Sheate et al, (2008), Gasparatos et al (2008), LUC and RTPI (2008), Schmidt et al (2008)

participation in the assessment itself The in-depth analysis on these aspects is outside the scope of this paper. Here, it is worth briefly reviewing the first two only.

(i) Importance of objectives and principles-setting

Sustainability appraisal is a form of strategic assessment linked to guiding principles and the achievement of policy objectives. Within this context, Pope et al (2004) distinguish an objective-led appraisal and a principle-based assessment approach to sustainability. The former is similar in nature to SEA, in which the assessment is carried out to achieve specific policy goals within an explicit framework encompassing environmental, social and economic objectives. The latter is led by objectives derived from broader sustainability principles. In their views, the objective-led appraisal focuses on the appraisal of the 'direction to target', which is usually indicated with '+' '0' or '-' for a positive, neutral and negative move toward the sustainability target. Conversely, the principle-based assessment goes beyond the mere establishment of a 'direction to target' and endeavours to establish the 'distance from target', that is, the extent of progress toward sustainability.

(ii) Integration of techniques and themes

The emphasis in sustainability appraisal is on integration because many approaches to sustainability assessment can be said to be example of 'integrated assessment' derived from EIA and SEA, which have been extended to incorporate social and economic considerations as well as environmental ones (Pope et al, 2004; Dalal-Clayton and Sadler, 2005). For example, Pope (2007) argues that sustainability assessment can be seen as the 'third generation' of impact assessment processes, following project EIA and the SEA of policies, plans and programmes. From this perspective, EIA-based integrated assessment has been adopted as a sustainability appraisal method by simply replicating the one-dimensional form of assessment in the three-pillar model of sustainable development. This allows for the discrete assessment of the potential environmental, social and economic changes of a proposal and reflects a systemic 'triple bottom line' approach to sustainability (Elkington, 1994).

3.2 Conceptual Scope and Range of Social Sustainability Assessment

From a social sustainability perspective, there is paucity of specific sustainability assessment methodologies as such. The assessment is often conducted through social impact assessment (SIA), which is extended to include other sustainability pillars. For example Hacking and Guthrie (2007) maintain that the extended coverage of sustainability appraisal is being accommodated by 'stretching' EIA or SEA and broadening the definition of 'environment' and hence the thematic coverage of theme-specific assessment such as SIA. However, they question the real level of integration of these techniques because in their views SIA may be undertaken on its own, as a component of EIA, in parallel with EIA, or as part of an 'integrated' S&EIA. It is also worth pointing out that these diverse impact assessment techniques were not designed for sustainability appraisal per se. As a result, their semantic or substantive integration may not be able to capture, address and suggest solutions for a diverse set of issues that affect stakeholders with different values and span over different spatial and temporal scales (Gasparatos et al, 2007).

Within this context, in a recent study of 20 Environmental Statements (ESs) concerning randomly selected urban regeneration projects implemented in the UK between 1998 and 2007, Glasson and Wood (2008) point out that SIA is covered in 80 percent of the cases, often in a separate chapter. According to their analysis, the scope of SIA content has widened from the 1990s experience to cover population profile and occupational groups; economic and business context; learning and employment; general well being, health, crime and deprivation; community facilities and services; recreation and public open space; and social inclusion and community integration. Further, they argue that there is increasing evidence of best practices in project-SIA after 2004, partly because of the publication of the Planning and Compulsory Purchase Act (UK Government, 2004) and

the Sustainability Appraisal of Regional Spatial Strategies and Local Development Document (ODPM, 2005).

However, they also note that there is limited evidence of a sustainability approach that set the SIA and ESs within a wider sustainability context. This is for example because (i) only 50% of ESs contain methodological information that goes beyond a bland descriptive review of population and employment baseline (ii) there is insufficient analysis of the links between socio-economic components (e.g. between demographic profile and jobs created), (iii) quantification is limited and mainly focused on demographics, employment, services and facilities provision, and (iv) the assessment methods showed limited community engagement and reduced involvement of a wide range of stakeholders.

Lastly, at a more conceptual level it can also be argued that another fundamental problem for the deployment of SIA within a sustainability perspective concerns the target and threshold-setting exercise inherent to the impact assessment itself, which presents problems when applied to social settings. Indeed, the bad experience of the 1960s makes social scientists hesitant to formulate normative targets and thresholds, and there can be little doubt that social engineering policies of the 1960s have been criticised for promoting ill-conceived social formulations (Omann and Spangenberg, 2002). In addition, social objectives against which to assess social sustainability need to be contextualised within different development models and system values. These range from neoliberalism policies to the European social security model and to more eclectic approaches to development adopted by transitional economies and continuing socialist countries.

4. Social Sustainability Metrics

Historically, long lists of indicators were established to describe the complexity of sustainable development, with special focus on its environmental dimension. A recent study by Therivel (2004) showed that two thirds of sustainability indicators addressed environmental concerns. More recently, these rather technical lists have been enlarged to include social indicators. Long lists have also been simplified and reduced to sets of core indicators (Hens and De Wit, 2003), which are 'bundled' into sustainability themes, objectives and guiding principles. These elements are interlinked together and constitute the backbone of most sustainable development policies.

In terms of social sustainability metrics, previous work from Colantonio (2007) pointed out how

- the evolution of indicators shows how older indexes prioritise the basic needs component whilst indicators developed more recently seem to emphasise the importance of governance, representation and other institutional factors (see Colantonio, 2007 for a review of this evolution).
- in older indexes the elements taken into account were technically weighted together with other dimensions of sustainable development in an attempt to deliver an integrated approach to sustainability. However, in later sustainability indicators the final decision about trade-offs is de facto left to 'sound judgement', as well as leadership and communication skills (Egan, 2004).
- the 'community' and the 'local level' have re-emerged as main spatial and operational space for the pursuit of sustainability.
- there has been a shift from purely statistics-based indicators toward hybrid sets of indicators that mix quantitative data and qualitative information.

Broadly speaking, the review of recent developments and trends in social sustainability assessment and measurement also suggests a broad distinction between 'traditional social indicators' and 'social sustainability indicators', which is summarised in Table 4. According to this categorisation, it can be argued that traditional social indicators are used for the analysis of discrete issues accessible to specific methodologies related to individual themes

Table 4: Characteristics of Traditional Social Indicators and Social Sustainability Indicators

Traditional Social Indicators	**[Emerging] Social Sustainability Indicators**
Static	Intergenerational and incorporating uncertainty
Predominantly quantitative	Hybrid
Product	Process
Descriptive	Strategic
Mono-dimensional	Multi-dimensional
Target oriented	Principles and objective driven
Top down selection	Deliberative and reiterative selection

that are linked to targets rather than objectives. They are also often selected by panels of experts in national and regional statistical offices. They focus on targets or outcomes and provide a static analysis of national and regional social phenomena.

By contrast, social sustainability indicators are concerned with the integration of multidimensional and intergenerational issues inherent to the notion of sustainability. Their selection is informed by sustainability principles and objectives, which stem from a deliberative and reiterative participation process involving a wide array of stakeholders and local agents. Moreover, sustainability indicators are process indicators in the sense that they analyse the processes through which sustainability principles and objectives are defined, themes agreed and solutions implemented. They allow the monitoring of the actual implementation of a project or a phenomenon and assess the progress towards specific objectives in a more interactive way than traditional social indicators.

To briefly clarify and exemplify these differences we can look, for example, at how poverty would be 'measured' from a 'traditional perspective' as opposed to a 'social sustainability perspective'. The traditional approach to measuring poverty involves establishing an income threshold and calculating how many individuals, families or households fall below it (Townsend and Kennedy, 2004). Poverty is measured in a discrete way and linked for instance to a poverty reduction target. By contrast, from a sustainability perspective, poverty would be measured together with its main manifestations – e.g. ill-health, inadequate housing, limited access to basic services etc- in a multi-dimensional index that integrates the processes and factors conducive of poverty. These include for example marginalisation, inability to access to education etc.

From an operational perspective, however, the aggregation of singles indexes and dimensions presents several difficulties. For example, current integrative frameworks still do not allow a meaningful aggregation of diverse metrics. Keirstead, (2007), for instance, comments that it is not clear how data of fuel poverty and quality of life can be combined into a single social sustainability metric. Even if data can be normalised and weighted, it proves difficult to aggregate social, environmental, economic and institutional metrics into a composite index that can be compared at both spatial and temporal levels.

At present, a well established and widely used methodology to aggregate incommensurable data into a composite index is to use a 'common currency' such as money and land or to use matrices and rose diagrams that pull out data as colours (Therivel, 2004). After a common currency is established, this is predominantly used for cost – benefit assessment or analysis. A good example of this methodology is monetary valuation or deliberative or contingent monetary valuation, in which market monetary values or willingness to pay for specific goods or services by stakeholders are used as comparable currency to assess the costs and benefits of proposals. These technique, however, have been considered ethically inadequate to take into account certain environmental and social issues. Gasparatos et al (2007) note that aggregation tools like cost benefit analysis, have the great advantage of a strong theoretical foundations in economic theory but they can be inadequate in certain situations as progress towards sustainability goes beyond economic efficiency to include equity considerations. Similarly, Cavanagh et al (2007) point out that monetisation predominantly relies on assumptions and discount techniques that focus on absolute figures disregarding the importance of subjectivity and perceptions.

The development and integration process of indicators is hindered further by the shift in the social sustainability discourse from the in-depth analysis of hard themes towards the inclusion of soft themes, as reviewed earlier. As a result, new sustainability indicators are increasingly focused on measuring these emerging themes rather than improving the measurement of more traditional concepts such as equity and fairness. For example, if on the one hand, a growing number of variables and factors are being proposed to deconstruct and measure happiness and well being of individuals and communities worldwide (Veenhoven, 2002; Veenhoven and Hagerty, 2006), on the other, the main

approach to equity still relies on the analysis of income and relative prosperity, as shown for example by recommendations contained in the UK Green Book (HM Treasury, 2005), a recent guideline document for the appraisal of governmental policies, plans and projects.

Recent sets of sustainable development indicators also illustrate the tendency of favouring the investigation of softer themes at the expenses of sophisticating the measurement of more established social sustainability pillars. For instance the latest set of sustainable development indicators released by the UK government in 2007 (ONS and DEFRA, 2007) contains a Sustainable Communities and a Fairer World cluster of indicators, addressing social sustainability concerns. This cluster suggests several indicators to assess different aspects of sustainable communities, including well-being, life satisfaction etc. However, it does not recommend any index to deal with the interlinked subjects of social justice, equity, fairness, and cohesion (ONS and DEFRA, 2007: 96). Similarly, a recent study commissioned by the EU Parliament (EP, 2007) to look at the implementation of the Sustainable Communities approach in the EU concluded that fairness cannot be adequately measured through existing indicators and further work is needed in this area.

5. Social Sustainability Practice: The City of Vancouver

Several theoretical frameworks have been suggested by scholars to assess social sustainability for example in the context of policy scenarios (Oman and Spangenberg 2006) and the analysis of the globalisation (Koning 2001), but these have never been mainstreamed or applied empirically. By contract, Vancouver municipal authorities enacted in 2005 a Social Development Plan (2005, simply called SDP for the remainder of this section) for the city and developed an ad hoc Social Sustainability Framework. The latter is the first of its kind to be applied in practice at city level, and thus, it has been selected for the purpose of this paper.

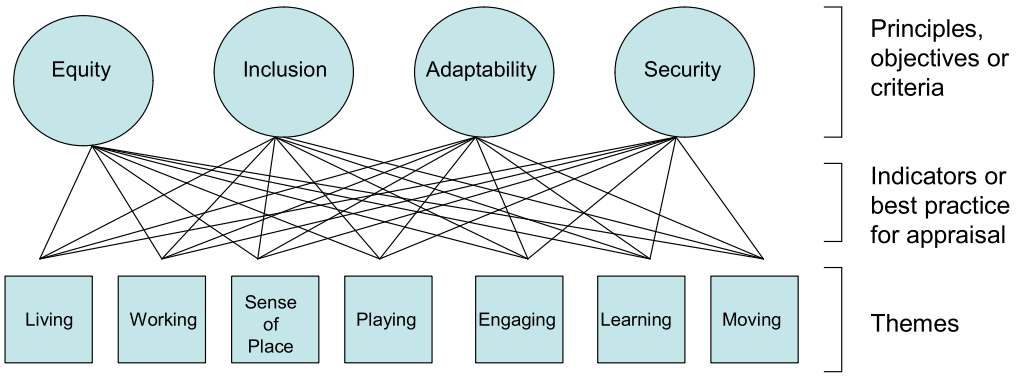
In Vancouver's SDP, social sustainability is defined as follows:

For a community to function and be sustainable, the basic needs of its residents must be met. A socially sustainable community must have the ability to maintain and build on its own resources and have the resiliency to prevent and/or address problems in the future (City of Vancouver, 2005 : 12).

According to the Plan, the main components of social sustainability are basic needs, individual capacity and social capacity. Individual capabilities are linked to education, skills, health, values and leadership whilst community capabilities stem from relationships, networks and norms facilitating collective action.

Figure 2 illustrates how the purse of these overarching milestones of social sustainability is guided by four principles and policy actions in seven areas or themes. The principles include equity, inclusion, adaptability and security. Most specifically equity is intended as access to sufficient resources to participate fully in community life and as sufficient opportunities for personal development and advancement; social inclusion and interaction means involvement in setting and working towards collective community goals, which is fostered by ensuring that individuals have both the right and the opportunity to participate in and enjoy all aspects of community life; security allows individuals and communities to have economic security and have confidence that they live in safe, supportive and healthy environments. The Plan argues that until people feel safe and secure, they are unable to contribute fully to their own well-being or to engage fully in community life. Lastly, adaptability is intended as the resiliency for both individuals and communities and the ability to respond appropriately and creatively to change (City of Vancouver, 2005).

Figure 2: Framework for social sustainability assessment in Vancouver



Source: Elaborated from GVRD (2004, 2004a) and City of Vancouver (2005)

Figure 2 shows how these four overarching principles provide guidelines to achieve sustainability in seven themes, ranging from 'living' to 'moving'. Indeed, a guide to the implementation of the framework (GVRD, 2004), identifies the characteristics required to 'live', 'work', 'play' etc. in an equitable, inclusive, safe and adaptable manner. The in-depth analysis of these requisites is, however, outside the scope of this paper. Here it suffices to pinpoint the fundamental guiding role played by principles and themes in social sustainability frameworks and the importance of the selection of social sustainability indicators.

Indeed, the interrelationships between principles and themes, underpinning the progress towards a socially sustainable Vancouver are monitored through a set of urban and regional sustainability indicators that draw upon expert-based and citizen-based recommendations, which are gathered also through the work of the Regional Vancouver Urban Observatory initiative (Holden, 2006). The selection of sustainability indicators, however, is still a work in progress but it is expected to build mainly on Quality of Life of Indicators developed by the Federation of Canadian Municipalities, which are summarised in the Appendix. In local authorities' views, quality of life indicators provide an overview of changes and trends in society and can therefore offer a unique insight into its sustainable development.

This approach to social sustainability by the city of Vancouver highlights the importance of establishing guiding principles, themes and indicators through which the social sustainability performance of cities can be assessed in partnerships with the city inhabitants themselves. In addition, it illustrates how a 'reductionist' approach to sustainability is currently being preferred by some local authorities for practical reasons. According to this approach, the dimensions of sustainable development or the components of social sustainability should be addressed and measured discretely rather than in an integrated fashion.

6. Conclusions

This paper has shown how new 'soft' themes, such as happiness, well-being and social capital, are becoming central to the social sustainability debate, together with more traditional 'hard' concepts of basic needs , equity, employment etc. If on the one hand this sophistication mirrors the changing social needs of individuals and communities, on the other it is adding complexity to the interpretation and measurement of social sustainability. Indeed, at present, there is disagreement concerning the main underlying themes and objectives of social sustainability as these changes according to diverging worldviews, study perspectives and discipline-specific criteria amongst social scientists.

The taxonomical division between traditional and emergent social sustainability themes and indicators proposed in this paper is instrumental to suggest that the shift toward the analysis of more elusive concepts in the social sustainability debate may continue for the foreseeable future as larger sectors of communities and societies become more affluent and less worried about the satisfaction of basic needs. It is important however that this new focus on emerging themes is not pursed at the expense of more in-depth analysis of traditional pillars of social sustainability, such as equity and poverty, which have received less attention in recent social sustainability works.

The paper has also illustrated how the progress toward sustainability is increasingly being appraised by extending and integrating 'Impact Assessment' and 'Strategic Impact Assessment' methods into 'sustainability assessment'. Techniques such as Environmental Impact Assessment, Strategic Environmental Assessment, Social Impact Assessment, Health Impact Assessment etc. are being amalgamated into a new independent form of assessment rooted in the philosophical and methodological framework provided by sustainability. However, these early forms of impact assessment were not designed to address the complexity inherent to the measurement of sustainability. As a result, there is

widespread uncertainty concerning for example how different typologies of impact and assessment techniques should be integrated together.

For these reasons, at present, various typologies of sustainability assessment (e.g. social, economic and environmental) can still be discerned as shown by the social sustainability framework designed by the City of Vancouver, which is the first ad-hoc framework to be implemented at policy level, as pointed out earlier. The analysis of this framework has shown the fundamental role played by principles, objectives and themes in assessing the social dimension of sustainable development. Further, it has highlighted the importance of the selection of indicators to monitor the framework. In this context, this paper has pointed out a few of the methodological and theoretical quandaries concerning sustainability indicators, including for example (i) the need to improve the neglected measurement of traditional social sustainability themes before addressing emerging concerns, and (ii) the choice of most suited metrics (e.g. single or composite indexes etc).

Future research will have to focus on unravelling the underlying inter- and intra-linkages between social sustainability themes (for example equity and happiness or well-being and identity etc.), principles and objectives. Further, it will have to investigate how these can be 'quantified' using simple and user friendly methods capable of deconstructing and monitoring these elements without losing the richness of information that is embedded within them.

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Appendix: Vancouver Quality of Life and Social Sustainability Indicators

Demographic Background Information	Affordable Appropriate Housing	Civic Engagement	Community and Social Infrastructure	Education	Employment	Local Economy	Natural Environment	Personal & Community Health	Personal Financial Security	Personal Safety
Population	30%+ Income on Shelter	Voter Turnout	Social Service Professionals	Education Levels	Unemployment / Employment Rates	Business Bankruptcies	Air Quality	Low Birth Weight Babies	Community Affordability	Young Offenders
Foreign Born	Vacancy Rates	Women in Municipal Government	Private Health Care Expenditures	Literacy Levels	Quality of Employment	Consumer Bankruptcies	Urban Transportation	Teen Births	Families Receiving EI/ Social Assistance	Violent Crimes
Visible Minorities	Core Housing Need	Newspaper Circulation	Subsidized Child Care Spaces	Adult Learning	Long Term Unemployment	Hourly Wages	Population Density	Premature Mortality	Lone Parent Families	Property Crimes
Language Spoken at Home	Substandard Units	Volunteering	Social Assistance Allowance	Education Expenditures	Labour Force Replacement	Change in Family Income	Water Consumption	Work Hours Lost	Incidence of Low Income Families	Injuries and poisonings
Population Mobility	Changing Face of Homelessness	Charitable Donations	Outdoor Recreation Areas	Classroom Size		Building Permits	Wastewater Treatment	Suicides	Children Living in Poverty	
New Immigrant Group	50%+ Income on Shelter		Public Transit Costs	Student / Teacher Ratio			Solid Waste	Infant Mortality	Government Transfer Income	
Aboriginal Population	Rental Housing Starts		Social Housing Waiting Lists	Post-Secondary Tuition			Ecological Footprint		Economic Dependency ratio	
Migration	Monthly Rent		Rent-Geared-to-Income Housing	Spending on Private Education			Recreational Water Quality		Government Income Supplements	
Household									Household Income	
Renters & Owners										

(City of Vancouver, 2005)