Accounting for Sustainability

Briefing Paper 1

Circles of Sustainability: An Integrated Approach to Developing Sustainability Indicators

Melbourne Critical Reference Group

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How are we to understand and measure how sustainable are our cities, communities and organizations? And what should we be measuring? Indicators-based projects are currently central to many local, city-wide, corporate, national and global sustainability initiatives. However, developing an adequate indicator set is extraordinarily difficult. The one-dimensional quantitative basis of many such projects means that achieving sustainability is often reduced to a technical task—the task of gathering data and ticking performance boxes. The size, scope, and sheer number of indicators included within many sustainability projects means that indicator sets are often unwieldy and resist effective implementation. Moreover, the techno-scientific emphasis inherent in many indicator-based projects tends to mask the possibility of taking into account the structures of power and the cultural-political assumptions that always frame indicator sets. Fourthly, an emphasis on indicator sets that are completely externally derived too often means that a city, corporation or community loses focus on the locally available resources and conditions that might support alternative sustainable practices or challenge existing unsustainable practices that do not necessarily

[1] This project is conducted under the auspices of the United Nations Global Compact Cities Programme (UNGCCP) and the Global Cities Institute at RMIT University. The approach has been developed by Andy Scerri and Paul James, in close consultation with Martin Mulligan, Supriya Singh, Caroline Bayliss and Stephanie McCarthy. We are working in an emerging partnership with the Cities of Melbourne, Vancouver and San Francisco to trial this method.

figure as part of the chosen indicator set. Fifthly, the current tendency of reporting initiatives to emphasize one kind of reporting agency—usually corporations—means that attempts at integration tend to produce *ad hoc* assemblages of indicators with extra bits tacked on the end. Indicator sets become like the house that Jack built, trying to add rooms and corridors when what is needed is redesigning the whole abode. Triple bottom-line accounting is an instance of this with ecological and social sustainability being tacked on the back end of a continuing economic imperative of profitability. In the present context of global climate change, intensifying urbanization, increasing transnational insecurities and a heightening divide of rich and poor, there is a pressing need for new ways of finding a balance across the domains of economic, ecological, political and cultural sustainability.

The present 'Circles of Sustainability' approach to developing layered indicators of sustainability—and to use them as one way of monitoring sustainable development—involves policy-makers and citizens in reflecting upon and negotiating knowledges about how best to practice sustainability. The approach sets out a program for engaging citizens in the job of achieving long-term sustainability with the following dimensions: (1) as a task of reflexive practice; (2), as conducted across the broad domains of economy, ecology, politics and culture; (3), as translatable across different social formations and yet relevant to the local context of the city or community in contention; (4) as developed within a common global *qualitative* framework but allowing for local choice about relevant *quantitative* sub-indicators or metrics; and (5) as enhancing global learning and allowing some comparative bench-marking across different places, practices and institutions.

Introducing the Limits of Sustainability Indicators

Over recent decades, indicator-based projects have become central to a broad range of sociological, community-development, environmental and policy-oriented research aimed at engendering sustainability. Indeed, it has been argued that 'growth in the use of sustainability indicators is nothing short of phenomenal'.[2] A 'sustainability indicators explosion' is extending itself horizontally across the globe and vertically, on the back of processes of globalization, from neighbourhood to international policy-making. Indeed, even one of the most widely used and prestigious frameworks for developing indicators, the Global Reporting Initiative (GRI), sees 'reducing report proliferation' as a major issue.[3] There are corporate-sustainability indices, city-liveability indices, community-sustainability indices, waste-disposal indices, and so on, and so on. The challenge here is to develop a flexible framework that speaks to existing relevant measures of sustainability, including for example incorporating many of the GRI indicators, while translating between them and broadening the terms of reference, the domains of focus, and the nature of the social engagement.

Often primarily quantitative in approach, indicators-based projects offer valuable tools for measuring the standing of a city, a corporation, or community in relation to some or other given concept of 'sustainability' or 'sustainable development'. However, many projects seem to focus too narrowly on the rise and fall of the metrics and the immediate responses required to move up the various league tables. Such approaches fail to bring into question the nature of the inter-relationships and of the societal structures that go into creating and reproducing the conditions for a sustainable city, corporation or community. Metrics-centred projects present a relatively abstract view of things. Of course, all understandings of social life take the form of knowledge that is abstracted from lived conditions through observation and analytical

[2] C. Morel-Journel et al., "Devising Local Sustainable Development Indicators: From Technical Issues to Bureacratic Stakes. The Greater Lyons Experience.," *Local Environment* 8, no. 6 (2003): 581-2, Y. Rydin, N. Holman, and E. Wolff, "Local Sustainability Indicators," *Local Environment* 8, no. 6 (2003): 582.

[3] GRI, "The GRI - an Overview," *Global Reporting Initiative* www.globalreporting.org 21 October, no. Accessed 6 Nov 2003 (2003): 20.

reframing. Our concern is that the type of abstraction characterizing many quantitative indicators-based projects drives new forms of unsustainability. Research across a broad range of such projects in cities and rural areas, and across both the Global South and North, has found that developing sustainability indicators is often undertaken 'as a relatively technical task'.[4] The problem of achieving sustainable development is dealt with as an instrumental one with expert consultants enlisted to generate the 'right' indicators and then to tailor a technical solution in order to get the indicators 'back on track'. This might work in a limited way for command-economy corporations with their decision-making processes having direct and comprehensive reach, but it does not work in more complex political-cultural formations such as cities or communities. Indicators-based projects can thus in certain respects circumvent the problem of understanding cities and communities as places for human activities in the here and now. Achieving good results on the indicators themselves comes to be an end in itself. Technical questions submerge the need to engage reflexively in the long-term process of creating and reproducing a sustainable polity, community, or organization.

The intense problems associated with developing good indicator sets and the sub-issue of indicators proliferation are intimately related. Every new set tends to be developed *de novo* and for a new purpose. Our claim is not that existing quantitative data is unimportant or unnecessary, or that a new and more perfect set of indicators will be developed that will make all others redundant. Understanding and using quantitative data is part and parcel of engaging to achieve sustainability within complex and 'globalizing' world. All manner of conditions, from population demographics to climate change data, resource-use figures, and even 'league tables' or 'rankings' of one sort or another, provide useable information about the world. However, the approach advocated here views this *information* as one contribution or 'input' into the creation of *knowledge* that can support practices aimed at achieving sustainability. On the other side of raw *information* are the fields of power and values that give shape and form to *knowledge,* and qualify its uses. Seeing things in this way involves a rethinking of what indicators actually are. In effect, we are suggesting that many of the things that are understood as 'indicators' in quantitative terms need to be taken as sub-indicators or metrics embedded within a more comprehensive qualitative framework. In other words, *quantitative* metrics need to be understood in terms of *qualitative* indicators. As such, the 'Circles of Sustainability' approach suggests that—amidst major societal and ecological challenges—activities need to be woven, unwoven, and rewoven in the light of new knowledges about them.

Here we will concentrate on cities and communities because of the relative complexity of these formations. However, even when indicators-based projects attempt to deal with such variable formations, particularly when they add in cultural and political dimensions—for example, measuring and assessing 'well-being', 'inclusion' or 'cohesion', they still tend firstly to reduce these social questions to step-by-step technical questions. Step one: assume a social good (for example, people meeting together socially is a cultural good); step two: draw a one-to-one connection between a social good and its indicators (social indicators should include how many cafés are in given area or how many bowling clubs operate to allow people to meet); step three: draw a one-to-one connection between the indicators and social policy (encourage the opening of more cafés or bowling clubs). In that process such projects tend to assume generative values of what is good and what is bad—inclusion is good, exclusion is bad; participation is good, authority is bad. Despite best intentions, such projects tend to displace understandings of living in cities and communities as a lived and contested condition differently conceived across different cultural settings, and they tend to use thin evidentiary claims about what constitutes a sustainable or unsustainable practice. In effect, good and bad practice is assumed, the indicator set is built, and policy is based on changing the indicators. Our argument is that indicators can make a greater contribution to understanding and

[4] Rydin, Holman, and Wolff, "Local Sustainability Indicators," 582.

practicing sustainability, but only when seen as part of a broader approach to how persons engage with each other and on what terms.

Our intention is to include but going beyond the important abstracting task of measuring and assessing. We want to take the approach out into the field, so to speak. We want to make it work as an engaged set of practices designed with an image of human activity as situated within and reflexively responding to the social and natural environment.[5] In this approach, systems theories and 'hard' or 'positive' scientific knowledges become discrete elements of the research and practice rather than dominant framing rationales. 'Circles of Sustainability' as a quantitative-quantitative engaged approach to developing indicators does treat indicators as merely representing reality. Rather, they are seen as having 'the potential to change the relationships between people and between humans and nature, thereby changing people and changing nature'.[6] What is suggested here is that problems of 'technique' need to take a back seat to the task of negotiating the form and content of the economic, ecological, cultural and political relations in and through which people create and reproduce the cities and communities that constitute a globalizing and localizing world.

Seen in the light of these issues, the approach elaborated here sets about the task of developing 'indicators' of sustainability from within a different perspective upon human social existence. Of concern are two overarching questions:

1. What is it that makes a city or community sustainable?
2. What is it that, when present or missing, makes a city or community unsustainable?

Without getting into too much more scene-setting, achieving sustainability begins as the task of reflecting upon the nature of human activity. The aim is to develop and subsequently to implement practices that can ensure that cities and communities are being re-created to 'meet the needs of the present without compromising the ability of future generations to meet their own needs'.[7] Here there is a lot more that can be said about the meaning of the concept of 'needs'. Nevertheless, within such a definition, sustainability indicators are in the first instance simply a means for assessing the 'distance' between a current state of affairs and the ongoing task of achieving a sustainable way of life in the context of a given city, institutional or community setting. In the second instance, they can also be much more—a means of instituting dialogue over the very conditions of sustainability. To achieve this, the 'Circles of Sustainability' approach is conducted across two levels. After working through the scope and social definition of the body in question—the city, community, or institution, including from corporations to non-government organizations—the first level of analysis centres on redefining the core domains of social practice. It moves away the usual approaches, such as a triple bottom-line accounting that continues to put economics at the centre, to one that gives equal weight to economics, ecology, culture and politics. The second level involves rethinking the question of how we engage both with others and with nature by situating social practice within a series of social themes that held together in dialectical tension (Figure 1).

[5] M. Mulligan and Y. Nadarajah, "Working on the Sustainability of Local Communities with a 'Community-Engaged' Research Methodology," *Local Environment* 13, no. 2 (2008): 81.

[6] A. Gare, 30 Mar 2008.

[7] World Commission on Environment and Development, *World Commission on Environment and Development: Our Common Future* 43.

Figure 1. Circles of Sustainability

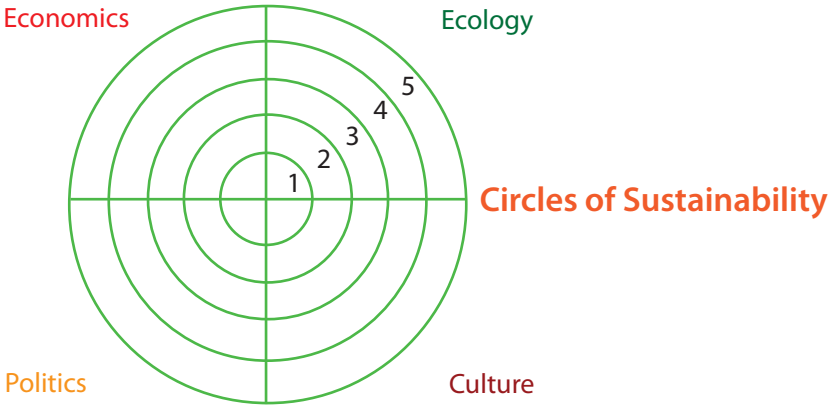
Circles of Sustainability

The Circles of Sustainability is an indicators set which offers an interpretation of a city's or a community's sustainability. The indicators in each segment of the large circle establish the breadth and scope of sustainability, while the small circles offer more depth, and focus attention on key social themes. The Circles of Sustainability have been developed by the Global Cities Institute and the United Nations Global Compact Cities Programme.

Background considerations

1. What kinds of things indicate that a city is sustainable?
2. What kinds of things (when missing or present) indicate that a city is unsustainable?
3. Who benefits and who loses in the current situation and how might this be changed?
4. What does it mean, in relation to current norms, to negotiate these matters?

Level One



1 - unsatisfactory 2 - minimal 3 - satisfactory 4 - good 5 - excellent

Questions

What is the depth of awareness of the issue in relation to each domain?

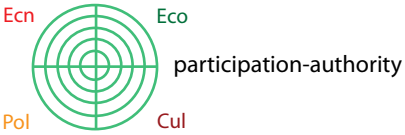
How adequate have been the practical responses to this issue in relation to each domain?

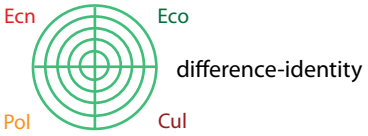
How appropriate have been the resources brought to bear on this issue in relation to each domain?

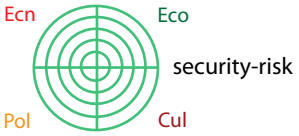
How well have responses to this issue been monitored across each domain?

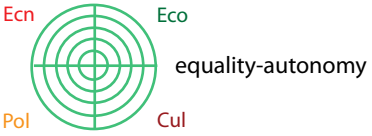
Level Two

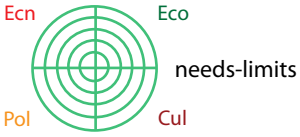
Social Themes

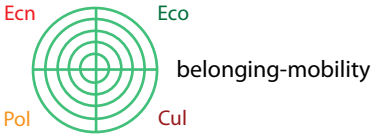


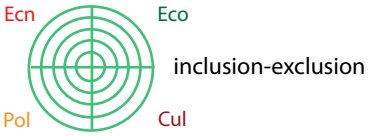












1 - critical 2 - compromised 3 - liveable 4 - resilient 5 - optimal

Questions

What is the depth of awareness of the relationship between this theme and the issue in relation to each domain?

How adequate have been the practical responses to negotiating the terms of this theme across each domain?

How appropriate have been the resources brought to bear upon these negotiations?

How well have the negotiations been monitored?

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Circles of Sustainability

The Circles of Sustainability are an indicators set which offers an interpretation of a city's or a community's sustainability. The indicators in each segment of the large circle establish the breadth and scope of sustainability, while the small circles offer more depth, and focus attention on key social themes. The Circles of Sustainability have been developed by the Global Cities Institute and the United Nations Global Compact Cities Programme.

Level One

1 unsatisfactory

A city is unable to demonstrate existence of sustainable practices in relation to the specified issue.

2 minimal

A city is aware of the need to develop sustainable practices to improve the existing situation in relation to the specified issue.

3 satisfactory

A city is able to demonstrate commitment / investment of appropriate resources that foster sustainable practises toward the improvement of the specified issue.

4 good

A city is able to demonstrate investment of appropriate resources that foster sustainable practices. Resources may include financial, human or material contributions that aim to achieve sustainability in relation to a specific issue.

5 excellent

A city is able to demonstrate their investment of appropriate resources (human, financial or material) that have influenced sustainable practices in relation to the specified issue.

Level Two

1 critical

The 'issue' is not understood / considered from the perspectives of any social theme and commands immediate attention by the city.

2 compromised

The 'issue' is compromising the desired level of sustainability. It requires immediate attention to develop and implement a planned response.

3 liveable

The 'issue' is enabling a minimal standard of living.

4 resilient

The 'issue' represents sustainability. It functions in a way that promotes reflection, negotiation and action.

5 optimal

The 'issue' represents sustainability. It functions in a way that promotes reflection, negotiation and action, and recognises what constitutes sustainability, when missing or present.

Global Cities

UNGCcities programme

The Approach in Practice: Level One

Many indicators projects work from what we've been referring to as a 'triple bottom-line' model. They characteristically aim to measure the impact upon the economic, social, and environmental 'bottom lines' of a discrete functional unit. The key implication of seeing things in this way is not just that it tends to centre on the economic but also that it assumes a strong commensurability of values between the different domains. Even when moving beyond plain monetary value and return on investment, triple bottom-line approaches tend to presume that social, environmental and economic sustainability are either commensurable *a priori* of other considerations or that the economic domain provides the basis for translating between them. For example, instead of treating the ecological domain has having its own imperatives, the environment becomes 'an economic externality', another cost to be considered when engaging in economic activity. The approach developed here rather, recognizes the tension between (generative) values across different domains (for example, between 'needs' and 'limits' across the domains of economics and ecology) while remaining cognizant of the need for comparability across (particular) values—that is, across the way in which such tensions are negotiated.

Defining the Domains of Sustainability
Instead of treating the domains of social life such as the economy separately from the social, the approach discussed here starts with 'the social' and conceptually divides it into four *domains* of practice—the economic, the ecological, the political and the cultural. This is not to relegate the social to a background feature of human practice, but rather a deliberate decision to put *sociality* at the centre of all questions about sustainability. It means that the economy is treated as one of the *social* domains rather than something separate from the social with its own intrinsic rules and norms. It is towards the job of re-creating social relations that efforts to constitute sustainability must be directed.

This not to suggest that the four domains are in practice completely divided spheres of activity. All that is being said here is that it is useful for analytical purposes and for assigning metrics to treat them as separable realms. It does not mean that we cannot talk of 'the culture of economics' or the economics of ecology'. Neither does it mean that we are simply taking for granted the contemporary sense of a separate domain of the economy, distinct for example from the political which is not supposed to interfere with the mechanisms of the market. That is a peculiarly modern understanding of the relationship between the economy and the political which arose historically with the dominance of the capitalism as a dominant mode of production and exchange. It is relevant that the concept of 'ecology' was coined at the turn of the nineteenth into the twentieth century and derived from the same Greek word *oikos* meaning 'house, dwelling place, habitation' as the concept of 'economy'. Part of the more recent confusion is that with the dominance of capitalism there has arisen an understanding of the economic that takes it both ways. On the one hand, economic considerations are treated as having spread into all aspects of life, and, on the other, the economic is projected as a *necessarily* separate domain based on the imperative of market freedom.

Within each of these domains, the difficult task of negotiating a set of indices remains. The following discussion sets out both to define the domains and begin to consider how they relate to various metrics. In the final version of such an indicator set, like the Global Reporting Initiative framework, we would seek to have some core metrics (to allow for some comparability) and a large number of additional interrelated metrics which a body considering sustainability might choose from or add to (to allow for contextual relevance).

The Economic Domain
The economic is defined in terms of activities associated with the use, exchange and management of resources, where the concept of 'resources' is used in the broadest sense of that word. The domain of economics bears upon questions of production, exchange,

consumption, organization, and distribution of goods and services, as well as the criteria for value that coincide with such relations. While the social scientific sub-discipline of economics deals with important aspects of the economic domain as it is being conceptualized here, economics most often focuses exclusively upon quantitatively appraising the value and costs of production and distributive activities, and the market opportunities for active consumption. Such an approach is unsuited to the present aims, because in failing to account for where it is that (economic) value comes from, economics as a discipline tends to take as given the ends of economic activity. As such, the concept of an economic domain that is used here 'takes a step back' and aims to look more closely at how value is constituted as a meaningful thing in and through the relations of exchange and production. That is, rather than privileging the technique currently predominant in the economic domain—that is, capitalistic markets mediated via abstract value (money) as the medium for exchange—the approach takes as given only that people draw upon resources to produce and exchange things, knowledges, and services in order to in order to maintain and enhance their lives.

In this sense, key indicators of economic sustainability currently in use may be too narrowly conceived.[8] For example, the unemployment rate, the percentage of persons participating in paid work in the formal economy, often determined quantitatively as a measure of workforce participation, is a useful indicator only when is put in social context. It depends firstly on how the unemployment rate is determined: for example in Australia an 'employed person' is defined as working more than sixteen hours in a fortnight. Insofar as it is not possible to sustain one's self or dependents on two days of paid work per fortnight at average wage rates in any Australian city, this clearly a problematic definition of unemployment. Secondly, it depends upon the relationship between formal employment, wage levels and the cost of living. Even if the unemployment rate is set at a higher number of hours, such an indicator fails to draw attention to the average wage rate. People living in a city with low rates of unemployment might also be mired in working poverty because wage rates are too low. Alternately, such an indicator fails to draw attention to the number of hours that employed people work. People with jobs in a city with a high unemployment rate, and which may even have a 'good' social security system, might be working unsustainably long hours even though they are paid relatively well. Thirdly, in many places—and arguably across much of the Global South—unemployment measured on such terms is deeply problematic for reasons that turn on the relationship between the formal, the informal economy and the nature of social reproduction. The 'monetary' aspects of the economic domain in cities and communities across the Global South often take a subordinate place to non-monetary forms of economic activity. In terms of the overall goal of achieving sustainable development, enhancing the informal economic means of reproducing one's life might be more sustainable than advocating increased involvement in monetarized economic relations.

The sub-indicators or metrics of sustainability in the Economic Domain might include some of the Global Reporting Initiative indicators, but they would need to be rewritten in significant ways to make them relevant to other bodies than just corporations.

Table 1. GRI Economic Indicators

Economic Performace	
EC1	Economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.(Core)
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change. (Core)
EC3	Coverage of the organization's defined benefit plan obligations. (Core)
EC4	Significant financial assistance received from government. (Core)
Market Presence	

[8] As has been described by B. Ehrenreich, *Bait and Switch: The Futile Pursuit of the Corporate Dream* (London: Granta, 2006), J.B. Schor, *The Overworked American: The Unexpected Decline of Leisure* (New York: BasicBooks/HarperCollins Publishing, 1991), R. Sennett, *The Culture of the New Capitalism* (London: Yale University Press, 2005), amongst others.

EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation. (Additional)
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation. (Core)
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation. (Core)

Indirect Economic Impacts

EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement. (Core)
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts. (Additional)

To these we would consider adding other metrics such as the following:

- The local minimum cost of living (that is, the socially defined poverty level taking into account the nature of economic reproduction)
- The proportion of population involved in sustainable subsistence agriculture (the 'first' 2,500 Kilojoules per day from produce grown)
- The proportion of population involved in in-kind trading networks (the 'first' 2,500 Kilojoules per day from produce grown)
- The proportion of population receiving non-monetary charity (for example, food parcels)
- The proportion of population receiving social welfare payments (incl. food stamps, work-for-the-dole)

The Ecological Domain

The ecological is defined as the intersection between the social and the natural, focussing on the important dimension of human engagement with and within nature. This is to emphasize that—despite the fact that the natural environment is a material reality that extends beyond the human experience of it, and despite the increasing capacity of technoscience to reconstitute elements of nature—the ecological domain in the broadest sense is both social and natural. This is not quite the same as the point most crudely made in arguments which suggest that nature is always socially constructed or we are seeing the end of nature. Certainly, more and more of nature is being physically reconstructed, but it is important not to lose sight of the fact that nature continues as a realm beyond the human even as it includes us as biological beings. Nature beyond the human always bears back upon the human condition, and this has consequences for dealing, for example, with natural disasters and what used to be called 'Acts of God'.

Some examples of sub-indicators or metrics from the GRI include:

Materials

EN1	Materials used by weight or volume. (Core)
EN2	Percentage of materials used that are recycled input materials. (Core)

Energy

EN3	Direct energy consumption by primary energy source. (Core)
EN4	Indirect energy consumption by primary source. (Core)
EN5	Energy saved due to conservation and efficiency improvements. (Additional)

Water

EN8	Total water withdrawal by source. (Core)
EN9	Water sources significantly affected by withdrawal of water. (Additional)
EN10	Percentage and total volume of water recycled and reused. (Additional)

Biodiversity

EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. (Core)
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas. (Core)
EN13	Habitats protected or restored. (Additional)

Emissions, Effluents, and Waste

EN16	Total direct and indirect greenhouse gas emissions by weight. (Core)
EN17	Other relevant indirect greenhouse gas emissions by weight. (Core)

EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved. (Additional)
EN19	Emissions of ozone-depleting substances by weight. (Core)
EN20	NOx, SOx, and other significant air emissions by type and weight. (Core)
EN22	Total weight of waste by type and disposal method. (Core)
EN23	Total number and volume of significant spills. (Core)
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally. (Additional)

Some examples of sub-indicators or metrics in the Ecological Domain, which extend the GRI sets, may include indicator sets widely used in ecological economics;

- HANPP (human appropriation of net primary production)
- EROI (energy return on (energy) input)
- Ecological Footprint
- MIPS (material input per unit service)

Other ecological sub-indicators or metrics used might include;

- Biodiversity across locality
- Preservation of X species across locality
- Carbon kilograms per head of population per year (carbon footprint mean)
- Carbon kilograms per head of population per year (carbon footprint mode)
- Carbon kilograms per head of population per year, by income
- Carbon kilograms per head of population per year, by subsistence determinant (See above)

The Political Domain
The political is defined in terms of the practices of authorization and legitimation, where the concepts of 'authority' and 'legitimation' are extended beyond the conventional sense of pertaining to state power. In this sense, politics is not just a practice restricted to governments. It is carried on in space and over time, anchored in bodies, and is extended or amplified, withheld or diminished through technologies and the techniques and knowledges associated with their uses. The political is derived etymologically from the Greek concept of the *polis* or city, hence the concept of *polity* as a organized governance system, but we extend it here to include all processes of authority formation including those that occur in corporations, non-government organizations, and even non-formal institutions such as the family to the extent that relations of authority pertain in a relatively generalized and enduring way.

Here the GRI framework does not help us very much though it does have suggested indicators around the question of corruption. Indicators of sustainability in the political domain might include the following, but note that this first take on the political domain has begun with conventional indicators that focus on the state and citizenry:

- Citizens' participation in electoral processes
- Citizens' standing for election
- Presence of independent political parties
- Availability of representatives to electorate for consultation
- Accountability of government body to citizenry
- Number and intensity of armed conflicts per decade

The Cultural Domain
The cultural is defined in terms of practices, discourses, and material expressions, which express commonalities and differentiations, continuities and discontinuities of meaning, over time. Like all the other domains, this apparently simple domain of human life is

extraordinarily difficult to define simply.[9] It has its etymological history in the concept of 'cultivation' or 'tending' including the cultivation of nature such as in agriculture, and then later the cultivation of character and aesthetics. While the dominant contemporary use of the concept of 'the cultural' is in relation to the arts or popular culture, we have defined it here more broadly to emphasize patterned expressions of social meaning that include but extend beyond either the 'culture industries' or the realm of the aesthetic.

In working towards a set of relevant indicators, here again the GRI framework does not provide us with much help. Examples of indicators of sustainability in the cultural domain might include the following:

- Number of places of worship in a given area and the level of their active use
- Number of sacred places in a given area and the way in which they are recognized or maintained
- Number of community celebrations or festivals in given area per year and the level of public involvement
- Percentage of individuals who feel that they have adequate access, freedom and time for artistic activity (from *Counting on Vancouver: Inaugural Report of the Vancouver Urban Observatory*, 2006)

The Sustainable Seattle project has developed some interesting indicators of cultural sustainability in consultation with community members. These include;

- Proportion of adults/minors who participate directly in artistic/cultural/literary activities in last month
- Proportion of adults who attended performing arts or lectures in last month
- Arts/culture establishments per 1,000 total establishments in given area

Qualitative Engagement: Moving Beyond 'Traditional' Indicators

Developing an indicator set on these terms involves long-term social commitment of the participants. Alongside and integral to the task of deciding on the metrics that will inform our understanding of the four domains, Level One begins with something of a sustainability 'self-definition' task. This task is designed to get the process moving, and forms a discrete but complimentary aspect of the wider research effort of 'social mapping'.[10] One of the first tasks of the project is to ask how the body in question defines itself as such. This encourages participants to set out some 'objective' criteria that establish where their community, city, or institution is located in space, in time, and within wider societal contexts.

This task takes place in conjunction with a questionnaire and series of 'strategic interviews' and 'conversations' that are designed to establish some of the 'subjective' understandings of the body in question. While this might include things like exploring historical relationships with other communities, cities, and/or institutions for example, such matters are not at this stage central concerns of the mapping task. Included in the approach at this level is the need for development of a social profile. This is intended 'to provide a high-

[9] See Raymond Williams, *Keywords: A Vocabulary of Culture and Society*, Fontana, Glasgow, 1976.

[10] Social mapping is a research method which involves asking people to plot out where they see the boundaries of their 'space'. This is used to develop and refine our understanding of community, polity, and place. This involves walking with and talking to people as they move through defined spaces, and seeing how their understandings and shaping of their community or polity is informed via their interactions and movements. Social mapping in the first instance will be geared towards the central themes of the project, and mapped against the social themes of the project. These are then interpreted in terms of a series of layers of social analysis that form the theoretical level of our methodology. Our intention is to move from the empirical to the abstract and back again in a constant journey of return, testing each level against the others.

level, strategic view' of the community, city or institution.[11] This part of the project is strategic, and will serve as a guide and overview of the body's aims and objectives, as well as a timeline for the project and identification of key participants and those affected by its implementation. In summary, this initial stage will build up a profile of the social body and its place in the world. The objective is for participants, and members of the collaborating research team to come to some understanding of what the social body is, and how it is situated within the world. To this end we suggest that a series of four questions are useful to framing the first level of self-assessment:

A. What is the depth of awareness of (a. questions of cultural sustainability; b. questions of economic sustainability; c. questions of ecological sustainability; d. questions of political sustainability)?
B. How adequate have been the practical responses to (a, b. c. d)?
C. How appropriate have been the resources brought to bear on (a, b. c. d)?
D. How well have responses to (a, b. c. d) been monitored?

	a Cultural Sustainability	b Economic Sustainability	c Ecological Sustainability	d Political Sustainability	**Means/Sources of Verification**
A	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	Policy documents, Reports, Legislation.
B	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	Quantitative Data
C	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	Government Reports, Institutional Reports, Qualitative Evaluation
D	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	Quantitative Data Government Reports, Institutional Reports, Qualitative Evaluation

The Approach in Practice: Level Two

The examples of indicators across the domains presented as part of Level One are helpful. However, these offer little room for actual negotiations over what it is people can put into making a city or community sustainable. The aim of going beyond 'traditional' indicators is to *negotiate* over what constitutes knowledge about how best to practice city or community life, and to develop and implement *learning* and *practice* along these lines. Our suggestion is that it is only by engaging in the task of deliberating over the normative criteria that frame possibilities for implementing these indicators that these can become guides to sustainable development practice.

Hence, Level Two takes things a little further, and builds upon Level One by developing a deeper understanding of what goes into understanding how communities change over time *in relation to* broader societal contexts. It is aimed at understanding how best a city or community might develop the resources it has, and how it might better gain access to further resources, mindful of the need to account for sustainable development to citizens, in order to increase sustainability in 'globalizing' conditions. Hence, the overarching questions from Level One—What is it that makes a city or community sustainable? What is it that, when present or missing, makes a city or community unsustainable?—are in Level two complemented by two further guiding questions:

1. Who benefits and who loses in the current situation and how might this change as different practices are negotiated?

[11] GRI, "The GRI - an Overview," 20.

2. What does it mean, for present and potential beneficiaries and losers, to negotiate these matters?

The key questions in Level Two are designed to elicit reflection upon how some of the most important over-arching issues that inform social life in space and over time might contribute to or detract from the goal of achieving sustainability. Below are the seven 'social themes' that constitute the basis for negotiating the boundaries within which indicators of community sustainability need to be established. Represented in the form of pairs of related concepts, each social theme draws attention to major sources of tension within communities. Participants are asked to reflect upon and substantiate the 'objective' position of their community in relation to each of the themes, within the social domains of economics, ecology, culture and politics.

1. participation—authority:
2. identity—difference:
3. security—risk
4. equality—autonomy
5. needs—limits
6. belonging—mobility
7. inclusion—exclusion

Each of these Janus-faced themes is embedded in existing debates that draw broadly from existing ethical traditions. The concepts contained within the pairs are in tension, but they are not opposites. Even within the various classical traditions ranging from socialism to liberalism, and from Confucianism to Christianity, there is no obvious answer to the question of what constitutes the good; therefore the key question is how are these tensions socially negotiated within different settings in order to enhance wellbeing. Because of constraints of space, we will limit ourselves to describing two or three of those social themes and showing how they might work as possible qualitative indicators of social sustainability. It bears repeating, that in each case the central issue is to work through in practices how the associate concepts with such social themes are being (and will be) negotiated.

Participation—Authority
Across the tensions inherent in this social theme, participants need to think about how it is that participation in sectors of social life is related to the authority structures of the body in question. The assumption here is not that participation is better than authority, or vice versa. Rather, what is being brought into question is the degree to which people participating in social life can do so in a meaningful way, and how they do so in relation to the forms of authority exercised within their community, city or organization.

Identity—Difference
Across this continuum, participants are called upon to think about how it is that notions of difference are related to social identity. The aim here is to elicit an understanding of how well a community, city or organization copes with difference, while being mindful of the fact that too much emphasis on difference can lead to fragmentation and dissolution of the strengths of a life in common. If a social identity is too strong, or too strongly enforced, this might give rise to an unsustainable and unjust xenophobia. On the other hand, if difference and diversity within a given body are given too much emphasis, then it may be weakened in political situations requiring a common voice, such as in negotiations over funding matters. For example, in terms of the political domain, this question is aimed at eliciting how power relations within the community might support a strong sense of identity that, as such, includes a capacity for coping with change. The key here is not how much diversity and how much commonality, but how the play of difference and identity is negotiated.

Inclusion—Exclusion

Typically in contemporary debates, 'social inclusion' is treated as a social good to be achieved and 'exclusion' is a bad thing to be avoided. [12] The issue that this very common conception of the problem elides is that in certain circumstance it is exclusion that leads to a social good. For example, in places where harassment is common or social difference is threatening, there may legitimately be a need to exclude 'outsiders' from certain activities or places—for example, excluding other than Moslem women from a public swimming pool on Thursday afternoons. Sometimes even the open and mobile presence of others in a zone of difference—for example a customary sacred site—renders that site cultural and politically dead. A second, and more abstract point, is that concentrating on overcoming questions of exclusion tends to leave issues of exploitation unaddressed. Unless, for example, we take seriously the forms of poverty specific to being marginalized under contemporary conditions of globalization, exclusion is seen to have no perpetrator. Seen in this way, exclusion or exploited inclusion 'is the form that poverty develops in conditions where the realization of profit occurs through organizing economic operations in [globalizing] networks'. It represents the 'exploitation of the immobile by the mobile' and therefore, suggests that a city, community, or organization act to tie-down the 'perpetrators' of such exclusion-inclusion exploitation.[13] The point is that only by coming to grips with how—on what terms and who—a city, community or organization includes *and* excludes some and not others that sustainable development in its most meaningful sense can be implemented.

Although for the present purposes the seven social themes listed are more than sufficient for highlighting the complexity of social sustainability the list could be extended for example to include the following:

8. past—present
9. wellbeing—adversity
10. local knowledges—expert systems
11. mediation—disconnectedness
12. freedom—obligation

In practice, a particular city, community or organization could chose to investigate less than the seven social themes in the primary list. As with the four domains we would give guidance on the appropriate set of metrics that would be appropriate to throwing light on the different social themes. (This is still a task to be done.) At this level we also can repeat the same questions asked in Level 1, except that this time the questions are asked in relation to the social themes:

E. What is the depth of awareness of (a, b. c. d) in relation to the social theme of …?
F. How adequately have been the practical responses to (a, b. c. d) in relation to the social theme of …?
G. How appropriate have been the resources brought to bear on (a, b. c. d) in relation to the social theme of …?
H. How well have responses to (a, b. c. d) been monitored in relation to the social theme of …?

Question E	a Culture	b Economics	c Ecology	d Politics	**Means/Source of Verification**
1. participation—authority	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	
2. difference—identity	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	
3. security—risk	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	

[12] M. Eames and M. Adebowale, eds., *Sustainable Development and Social Inclusion: Towards an Integrated Appraoch to Research* (London: Policy Studies Institute, 2002).

[13] L. Boltanski and E. Chiapello, *The New Spirit of Capitalism*, trans. G. Elliott (London: Verso Books, 2005 [1999]) 354-5.

4. equality—autonomy	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	
5. needs—limits	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	
6. belonging—mobility	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	
7. inclusion—exclusion	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5	

Grounding an Alternative Approach

While it seems complex on first presentation, the 'Circles of Sustainability' approach attempts to reverse the privileging of technique over reflexively engaging in the world. Indicators-based projects often seem to perpetuate a particular set of epistemological and ontological assumptions concerning our place in the world. At risk of caricaturing important and helpful efforts aimed at achieving sustainability, it does seem that some indicators-centred approaches embed uninterrogated ideas or beliefs about the social within the research task. Themes such as inclusion, participation, identity, and security are treated as if they can directly be translated into substantive empirical claims. Moreover, indicators projects tend to see the social world as a closed system or unit possessing system-like properties. Of course at one (very abstract) level, the entire globe *is* a closed system. However, we argue that such a perspective privileges the possibility that the world and its parts *are* objectively knowable as a closed systems, and that pulling the levers up or down will give relatively automatic and predictable outcomes.

This is a problem for several reasons. Research premised upon understanding the social in terms of 'system differentiation' tend to assume an apolitical metaphor of 'harmonious interchange' can characterize human activities.[14] We suggest that it is precisely in humans' capacity to critically evaluate and even disrupt the interchange of power and value that efforts to practice sustainability need to be understood as dissolving or breaching 'systemic' boundaries. Humans are able to imagine themselves *and* to act as if they are not part of a closed system environment. Indeed, it might be argued that it is precisely the untrammelled proliferation of human activities that is a key source of unsustainability. With this view in mind however, the question emerges as to what kinds of forces would need to be deployed in order to create a world where conformity with system requirements is enforced? As writers such as Val Plumwood have suggested these would more than likely need to be both deeply unjust, and as such would ultimately prove unsustainable.[15]

A number of relatively recent indicators-based projects, themselves based in systems-theorizing, do recognize and attend to this problem. For example, Joanna Becker argues that there are sufficient similarities between 'Living' and 'Social' systems, such that the latter may be understood on the same terms as the former. In this view, 'healthy social systems … consist of a diversity of inter-dependent but self-sufficient entities appropriate in scale and low in entropy so as to provide stability and durability while a the same time being responsive to the uncertainty and fragility of evolutionary succession'.[16] Arguably, *a priori* meta-theoretical claims—about the positive benefits of diversity, the self-sufficient inter-dependency of atomistic units, and the applicability of evolutionary succession to social life—hang over such approaches. Although recognizing the need in indicators projects for what Simon Bell and Stephen Morse call a 'circular "soft" approach of beneficiary learning by stakeholders',[17] However, Becker's systems-theory tends to be uni-directional. It privileges an understanding of systems that can be known in their entirety. In this case, obscured behind the meta-assumptions of systems-theorizing is the need for cities or communities to deal adequately with disputes over pressing human issues that often run contradictory to predicted system expectations. Some examples include the possibility that members of a city or community might legitimately call for homogeneity, as against diversity, or demand measures to institute strong other-reliance, by contrast with self-sufficient interdependency.

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[14] J.C. Alexander, *The Civil Sphere* (Oxford: Oxford University Press, 2006) 33.

[15] V. Plumwood, "Inequality, Ecojustice and Ecological Rationality," *Ecotheology: Journal for the Study of Religion, Nature and Culture* 5/6 (1999).

[16] J. Becker, "Measuring Progress Towards Sustainable Development: An Ecological Framework for Selecting Indicators," *Local Environment* 10, no. 1 (2005): p. 99.

[17] Ibid.

A similar example is found in work by John Peet and Hartmut Bossel. Peet and Bossel aim to develop an 'ethics-based systems approach to indicators of sustainable development'. Moreover, as does Becker, the co-authors emphasize how 'a participatory process is essential, to ensure that both knowledge and value are appropriately incorporated into the process' of developing indicators of sustainability. However, their set of 'basic orientors', which draw on systems-theory—existence, psychological needs, effectiveness, freedom, security, adaptability and coexistence—frame the participatory choice of indicators by a city or community.[18] Once more in this example, it is suggested that certain meta-theoretical assumptions pervade such an approach, which may in practice remove from a city or community the capacity to debate and 'learn' from sustainability projects. Interestingly, Peet and Bossel elevate the ecological challenge to the position of a working deontological principle.[19] While recognizing that the 'sustainability moral postulate' is 'entirely sensible and reasonable for most people', positing some or other deontological ethical principle of sustainability from it obscures the actual problem. That is, positing a deontological principle of sustainability returns us to the abstraction that allows the social to be observed as a system. By contrast, the approach developed here recognizes that the problem of establishing sustainability arises precisely at the point where debating and negotiating over the ethical principles to be applied breaks down.

Towards Treating Indicator Projects as 'Learning Conditions'

Gerard Delanty has argued that, 'Science is increasingly becoming a communicative system that interacts reflexively with society'.[20] This understanding of scientific knowledge is important. As the threats posed by climate change to the *sustainability* of human society become increasingly urgent, the nature of scientific knowledge about the environment becomes increasingly relevant to concerns with sustainability. Indeed, scientific knowledge is increasingly being produced and acted upon in ways that respond to and represent concerns hitherto seen as part of the ambit of the social sciences or humanities. Indeed, scientific knowledge is increasingly being politicized and as such, subjected to 'external' and 'non-scientific' evaluation and critique. Conversely, Delanty's point can be understood to mean that contemporary citizenship needs to be partially re-conceived on process of engagement; as a 'learning' condition. This is an argument that Delanty himself has taken up in relation to a concept of 'cultural citizenship' that is developed through engagement in social practices aimed at fostering 'communicative competencies'.[21]

Meanwhile, at least since the Rio Summit and Brundtland reports, the knowledge created by the social sciences is increasingly called upon by policy-makers as a means for preparing societies for climate change, and for developing sustainable ways of living. In this sense, the social sciences have come to occupy an 'interpretive space' in society. Social scientific knowledges, especially when combined in research with knowledge from the 'natural' sciences, constitute part of what Peter Wagner sees as 'part of the discursive self-understanding of social life'. What is important about these understandings is that they not only help to demystify scientific knowledge and represent it as a part of social life, but they

[18] J. Peet and H. Bossel, "An Ethics-Based Systems Approach to Indicators of Sustainable Development," *International Journal of Sustainable Development* 3, no. 3 (2000): 224-5, 33.

[19] Peet and Bossell, 'An Ethics-Based Systems Approach', p. 224.

[20] G. Delanty, "Knowledge as Communication: A Review of Recent Literature on Method and Theory in Social Science," *International Journal of Social Research Methdology* 5, no. 1 (2002): 83.

[21] G. Delanty, "Citizenship as a Learning Process: Disciplinary Citizenship Versus Cultural Citizenship," *International Journal of Lifelong Education* 22, no. 6 (2003): 558.

help to break down a legitimacy deficit between 'hard' and 'social' science forms of knowledge.[22]

Seeing things in this way, however, raises a pressing issue that is directly related to the use of indicators in sustainability research. Bent Flyvbjerg has argued that the social sciences are fundamentally different from the natural sciences. Most importantly, the natural sciences deal with explanation and predictability, which the social sciences have been exceedingly bad at. The social sciences moreover deal 'reflexively' with power and values, and the interests and institutions that sustain them in the social world. For Flyvbjerg, social scientific knowledge 'is important because it is that activity by which instrumental-rationality is balanced by value-rationality, and because such balancing is crucial to the sustained happiness of the citizens in any society'. In calling for social research to be understood as the activity of constituting, sustaining and elaborating value-rationality, Flyvbjerg calls for 'contextualism' and a 'situational ethics' over 'relativism' or 'foundationalism'.[23] Thus, he argues that the goal of social understanding 'is one of contributing to society's capacity for value-rational deliberation and action'.[24] Recognising that 'modernity is characterized by *problématiques* that remain open, not by specific solutions to given problems'[25] raises possibilities for developing qualitative indicators of sustainability that can demystify 'natural' scientific knowledge, while facilitating reflection upon how prevailing forms of authority and criteria for value can and do impact upon a city's or community's capacity to practice sustainable development.

In this argument, 'information' refers to data-type material, whether derived or developed using quantitative or qualitative means. Alternately, 'knowledge' refers to (necessarily) value-laden claims about information and its uses within the social universe. Hence, we recognize the value of quantitative approaches, but adopt a fundamentally different approach to indicators. Thus, our point is not to suggest that 'hard' scientific understandings of the physical universe are unimportant, even if the embrace of 'indicators' as both means and ends might be criticized as representing a form of resurgent positivism. Such 'hard' scientific knowledges, of processes within ecosystems for example, are essential to recognizing sources of unsustainability. Rather, our suggestion is that scientific-technical characterizations of knowledge can only be, indeed need to be, defended in the context of conditions loaded with the unpredictable ecological, economic, cultural and political possibilities that human activities create. In these respects, we recognise the important contributions of 'ecological economics' and other quantifying techniques for developing indicators of sustainability.

Conclusion: Indicators of Sustainability

Overall, it is argued that this approach will go some way towards responding to the key contemporary issue in the literature on indicators projects—the difficultly of discerning 'clear links between the development of an indicator programme and actual changes in decision-making and policy outcomes'.[26] It is often recognized that many indicators projects continue to 'show few signs of true engagement and dialogue with citizens over time', and that 'the endeavour to put sustainable development into practice by developing indicators is a difficult

[22] P. Wagner, *Theorizing Modernity* (London: Sage Publications, 2001) 36.

[23] B. Flyvbjerg, *Making Social Science Matter: Why Social Inquiry Fails and How It Can Succeed Again*, trans. S. Sampson (Cambridge: Cambridge University Press, 2001) 3, 4, 130.

[24] Flyvbjerg. p. 167.

[25] Wagner, *Theorizing Modernity* p. 8.

[26] R. Gahin, V. Veleva, and M. Hart, "Do Indicators Help Create Sustainable Communities?," *Local Environment* 8, no. 6 (2003), Rydin, Holman, and Wolff, "Local Sustainability Indicators.", F. Sommers, "Monitoring and Evaluating Outcomes of Community Involvement-the Litmus Experience," *Local Environment* 5, no. 4 (2000).

task in terms of citizen participation'.[27] One very good example of an indicators project that is responding to such understandings is that of the Sustainable Seattle project. This approach incorporates a 'grassroots approach … tied to participants values', in which 'citizen values and needs drive the process but scientific data and methods provide the foundation for indicators so that the selected metrics are understandable and valid'.[28] As one commentary on the Sustainable Seattle and other sustainability indicators projects in the United States points out, 'indicators can empower both citizens and decision makers, but more work is needed on evaluating the effectiveness and outcomes of such efforts'.[29]

Guiding the present set of suggestions for rethinking indicators-based projects is the claim that they tend to blur the possibilities for bringing into question the structures of social power and criteria for values that can support sustainable practices or challenge unsustainable practices. Indicators-based research can tend to conflate structural conditions, institutional processes and desired outcomes under pre-ordained understandings of societal conditions, as if these were *objectively knowable*. Approaching human activities as if potentially knowable in their entirety—as if human activities 'obeyed the laws of physics' *and* could be observed as such—relieves inquiry of responsibility for considering and evaluating reasons as to why things are being done (by people) in particular ways, and why this should change or stay the same. Heavy emphasis upon quantitative data sets and metrics as generically constituting 'indicators' can work to mask or occlude possibilities for appraising situations in terms of the quality of human practices for those participating in them. Indeed, it has been suggested that 'educating stakeholders about the process of achieving sustainable development may be the most important result of the indicator selection process, even if implementation remains uncertain'.[30] While projects such as Sustainable Seattle and the Regional Vancouver Urban Observatory hold a deep commitment to expressions of citizens' values, 'based on the vision of what residents want for themselves, their families and their communities',[31] we want to take things further. That is, to engage people in the job of *achieving sustainability as a task of itself*, undertaken on terms acceptable to citizens in the context of their communities and the societies in which they live.

Development is not necessarily sustainable, unless it includes a degree of reflection and action, carried on with the aim of making it 'sustainable'. Hence, we have treated 'development' as social change over time, with all its intended or unintended outcomes, that brings about a significant and patterned shift in the technologies, techniques, infrastructure, and/or associated life-forms of a place or people. That is, development is what humans 'do'. The job of reflecting and acting upon 'development' involves people, sometimes privileging 'technique', but most often modifying technique in the light of knowledge about the conditions in which technique is deployed.

The problem confronting research into sustainability that is aimed at developing 'indicators' therefore appears as one of understanding on what terms a city, community, or organization creates and reproduces itself: in local-global space and over time. Recognizing this as a problem creates demands that the research engage with the social body that is being 'studied' as well as examine how *relations of power and its legitimation* and *criteria for socially determining values* affects the task of achieving sustainable practices. Our argument

[27] K. Eckerberg and E. Mineur, "The Use of Local Sustainability Indicators: Case Studies in Two Swedish Municipalities," *Local Environment* 8, no. 6 (2003): 612.

[28] Sustainable Seattle, *Indicators Principles* (Sustainable Seattle,, 2007 [cited 31 march 2008]), Sustainable Seattle, "Sustainable Seattle and Indicators," (Seattle: King County, 2005).

[29] Gahin, Veleva, and Hart, "Do Indicators Help Create Sustainable Communities?," 661, 65.

[30] Becker, "Measuring Progress Towards Sustainable Development: An Ecological Framework for Selecting Indicators," 88, S. Bell and S. Morse, *Measuring Sustainability: Learning by Doing* (London: Earthscan, 2003).

[31] SustainableSeattle, "Sustainable Seattle and Indicators," 6, 34, 62, 94, 104, 18.

is that achieving sustainable development is the task of reflecting upon the nature of 'development', and creating and implementing societal practices, such that people in place themselves create and reproduce their own ways of life, which 'meet the needs of the present without compromising the ability of future generations to meet their own needs'.[32]

Seen in this way, sustainable living—including sustainable producing, exchanging, communicating, organizing and enquiring—requires both local and expert knowledges. One side of the process of developing indicators of sustainability and implementing sustainable development involves *learning about* and *negotiating over* what constitutes knowledge about how best to practice sustainable, city or community life. Learning in this sense requires on the one hand that the epistemological status of expert abstracted knowledges is contextualized and qualified in the process of dialogue with citizens. On the other hand, it also means that citizens and planners have a responsibility that goes beyond minimally conceived 'rights and duties' or stakeholder 'capacities and responsibilities'. In this case it means citizens and planners trying to understand the implications of indicator systems beyond getting excited or depressed by the placement of one's city or community—high or low—on taken-for-grant league tables. The emergence of this basic social competence in thinking about sustainable development and indicator sets does not demand extended intellectual training or becoming an expert. It requires an open sceptical questioning of both local visions and the taken-for-granted meaning of various presentations of 'indicators' of sustainability in achieving those visions. It entails relating indicators to a broad commonsense of liveability in relation the possible economic, ecological, political and cultural consequences of different pathways of development. The scientific knowledges essential to developing and implementing indicators for sustainable development in this approach can thus be said to represent examples of what Joan Martinez-Alier calls 'participatory science'.[33]

In this light, any project engaging with people in a city or community to develop appropriate indicators of sustainability is an ethico-political project. In effect, we are proposing a *neo-deliberative* approach to the in-common and ongoing task of delineating and enacting sustainability as a normative goal. Rather than accepting the Habermasian premise that deliberation is or can be freed of value-considerations and so offer normative criteria in itself, the approach developed here recognizes that a relative consensus on the norms or principles that will orient a city, community or organization to sustainable practice needs to be established as a point of departure—even if that relative consensus changes over time. In the words of the Regional Vancouver Urban Observatory, 'Urban indicator projects attempt to create consensus around shared values and key trends'[34] The task then of dialogically working together through the problems that a city, community or organization faces can expose unsustainable practices, unhelpful relations of power and inappropriate ways of valuing things.

The requirement of negotiating over the effects of implementing sustainable development practices—who benefits or loses out, which institutions or groups are empowered or disempowered, what kinds of overall benefits accrue to a city, community or organization, or what kinds of losses will be taken on by a city, community or organization—is central to their success. To a large extent, sustainable development as a societal practice requires the approval and acceptance of those it involves. This claim holds in relation to macro-issues, such as urban-planning regulations, as well as micro-issues, such as kerbside recycling programs. Without the involvement and support of citizens, members and/or workers, sustainable development as a societal practice will fall short of its aims. To make this point is

[32] World Commission on Environment and Development, *World Commission on Environment and Development: Our Common Future* (Oxford: Oxford University Press, 1987) 43.

[33] J. Martinez-Alier, *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation* (Cheltenham: Edward Elgar, 2002) 12.

[34] 'Regional Vancouver Urban Observatory', accessed at www.rvu.ca 16 June 2008.

not to ignore or diminish the need for regulations or even punitive measures such as restrictions on resource exploitation or fines for non-compliance or participation. It is to suggest that these regulations need to be developed, negotiated and understood in the broader context of national-state and globalizing conditions: as part of a commitment to sustainability.

Indeed, it is the commonalities and continuities of the social world—in all their complexities and abstractions as global relations, states, cities, communities, and administrative, legislative, economic and civil institutions—that make negotiating the actual dimensions of sustainability possible. To these ends, the approach suggested here centres upon developing indicators that can assist a city, community or organization to establish sustainable development as a societal practice by supporting negotiation over key *social themes*. The social themes are designed to help focus the task of achieving sustainability in the light of a particular project or projects. To reiterate, we are suggesting that the commonalities and continuities of the social world make negotiating over key social themes possible and practically necessary to achieving sustainability. These social themes can be seen as normatively fractured, or as sets of norms granted different value emphases by different social milieux. They express different or even diverging interests. That is, the social themes are a means for giving expression to normative, ethical and even moral tensions by re-presenting them in terms of a dialectic continuum, rather than as polar opposites or as polemical claims. We are suggesting that the task of achieving sustainability is ongoing and dialogical, and that developing qualitative indicators of sustainability is central to it.

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