

Chapter 5

SUSTAINABILITY APPRAISAL: A SOCIAL PERSPECTIVE¹

James Baines and Bronwyn Morgan
Taylor Baines & Associates, New Zealand

5.1 Introduction

Like all other chapters, this one should also be treated as ‘work in progress’, reflecting only a preliminary treatment of the subject. It is based on desk research involving scanning a large volume of bibliographic materials and a review and critique of a limited number of documents. This has enabled the development of a framework for evaluating further documentary material.

The focus is on two key questions:

- *What is the social dimension of sustainability? Or what is social sustainability and how is it analysed in theory and practice?*²

This question addresses the framework of sustainability objectives and measures and, in particular, the perspectives, concepts and criteria of social sustainability. Specifically, how are the social dimensions of sustainability treated, eg as equity, rights, human capital issues?

- *How is environmental, social and economic information analysed, integrated and presented to decision-makers? - with particular interest in trade-off formats*³.

This question addresses analytical and integrative tools and procedures that have been developed (and reported in the literature).

¹ This chapter draws from work undertaken for a review of institutional arrangements for sustainability, undertaken for the Ecologic Foundation, New Zealand. New Zealand (Sinner *et al.*, 2004)

² Answers to these questions draws mainly from a section in Sinner *et al.* (2004) entitled ‘Social and cultural dimensions: equity and more’ which discusses the main conceptual components of social sustainability, based on a collective literature review process and iterative exchange of views.

³ Key literature sources used are listed Appendix 3. There is (potentially) a vast amount of literature on sustainability and sustainability assessment, much of which is rhetorical in nature - arguing the case for more integrative methods but not actually explaining what such integrative methods are. Thus the focus of our search was on the specifics of (i) sustainability objectives and measures, and (ii) analytical and integrative tools and procedures.

Scrase and Sheate (2002) provide a useful overview of the wide range of assessment contexts in which the language of ‘integration’ and ‘integrated assessment’ are expressed. Scrase and Sheate (p.278) suggest 14 distinct types of integration in environmental assessment and governance (see Table 6.1).

5.2 Principal findings

Four general themes are evident:

- ***Separate bodies of literature.*** The literature on the social dimensions of sustainability generally does not discuss approaches to integrate the different dimensions of sustainability in assessment procedures – they involve distinctly separate bodies of literature.
- ***The practice of integration - experimental with little documented evidence of conscious reflection.*** Practical approaches to integration appear to be at a very experimental, emergent stage. There seems to be very little documented/published experience of processes and practices in integrated assessment/appraisal, and certainly not in usable or replicable detail. This may mean that lessons from monitoring and evaluation of new approaches are yet to emerge. Or it may reflect a de facto absence amongst the policy or assessment communities of conscious, formalised, systematic effort to record and reflect the procedural and analytical processes that are being adopted in pursuit of substantive integration of the environmental, social and economic dimensions of sustainability.
- ***An emerging taxonomy of approaches for integrated assessment*** is described by Pope *et al.* (2004). This distinguishes three modes of integrated assessment reflecting, variously:
 - An EIA-based assessment, where the basic one-dimensional mode of assessment is replicated in the so-called 3-pillar form of parallel assessments of environmental, social and economic changes. The assessment is primarily qualitative or normative in character, aiming to establish whether or not the overall (net) outcomes are simultaneously in the right direction for each dimension. In such an assessment, a general ‘direction to target’ criterion is sufficient.
 - An objectives-led appraisal, similar in nature to SEA, in which the assessment is carried out within the explicit framework of established policy goals and principles, except that it is again replicated in the so-called 3-pillar form of parallel assessments. In such an assessment, a more specific ‘direction to target’ criterion is sufficient.
 - A principles-based assessment, led by objectives derived from broader sustainability principles. Assessment goes beyond merely establishing an appropriate ‘direction to target’ and attempts to establish the extent of ‘progress’ towards sustainability - in other words, ‘distance to target’.

There are several examples of this third grouping. A principles-based assessment approach is described by Pope *et al.* (2004). This attempts to transcend the parallelism of the 3-pillar approach. It adopts a set of principles which reflect various combinations of the environmental, social and economic aspects, but these are not, in themselves, three separate lists. In contrast, an ethics-based/systems-based approach to assessment is described by Peet and Bossel (2000). This appears to be a variation that use analytical approaches that still retains elements of the 3-pillar approach.

- ***Substantive integration - participatory and iterative.*** A dominant theme implicit in some of the literature is that substantive integration is not merely an intellectual exercise. Several papers describe approaches to substantive and policy integration by emphasising the development of a shared or ‘common framework’ by those involved in assessment (e.g. Jones and Lucas, 2000; Bosshard, 2000). These and several others (UNEP, 2004 ([need ref](#)); Peet and Bossel, 2000,

Endter-Wada *et al.*, 1998) also emphasise stakeholder participation and iterative/cumulative assessment procedures as being a fundamental ingredient of integrative processes - essential for incorporating diverse knowledge and for incorporating values with technical assessment. This attention to assessment as a social (participative) process as well as an intellectual, analytical/inductive process has been a well established characteristic in Social Impact Assessment practice for many years (see for example, Burdge, 2004, and Taylor *et al.*, 2004). It is entirely consistent with 'empowering people to participate on mutually agreeable terms in influencing choices for development and in decision making' - a key attribute of social sustainability (discussed below). It is no coincidence that sustainability appraisal itself embodies this important principle.

5.3 Social sustainability

While the concept of sustainability has environmental roots, it has a strong ethical (i.e. social) underpinning based on moral obligations to future generations. In the words of the Brundtland Commission, "Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation" (WCED, 1987, p.43). Hence, Principle 1 from the Rio Declaration of 1992 states:

"Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature".

5.3.1 Components of social sustainability

Despite an apparent lack of consensus on the scope and meaning of social sustainability, there seem to be some broadly accepted common ingredients:

- meeting basic needs;
- overcoming disadvantage attributable to personal disability;
- fostering personal responsibility, including social responsibility and regard for the needs of future generations;
- maintaining and developing the stock of social capital, in order to foster trusting, harmonious and co-operative behaviour needed to underpin civil society;
- attention to the equitable distribution of opportunities in development, in the present and in the future;
- acknowledging cultural and community diversity, and fostering tolerance; and
- empowering people to participate on mutually agreeable terms in influencing choices for development and in decision-making.

All these ingredients are inter-linked and, to some extent, they overlap. Meeting basic needs contributes to well-being and both depend on the state of personal responsibility, opportunity and social capital for their fullest expression. Meeting the basic needs of all groups in the community is one of the most fundamental aspects of equity. The ability to participate in influencing the priorities for social well-being and decisions on how basic needs are met is another important equity consideration. The range of social resources that foster co-operative behaviour in society and the economy should also reflect considerations of equity, including equitable distribution of opportunities as well as tolerance of cultural and community diversity.

There are also some tensions and conflicts between these ingredients. For example, re-distributing resources to meet equity objectives can undermine social capital and tolerance if it involves targeting beneficiaries on the basis of criteria that are not widely accepted (this is explored further in section 5.3.5).

5.3.2 *Basic needs and social well-being*

The term *basic needs* implies a hierarchy of needs in which some are more basic or essential than others. Furthermore, unless otherwise specified, basic needs and the hierarchy of needs are generally referenced to *individual needs*. The language of needs and well-being can appear to be interchangeable, but it is probably most helpful to view the satisfying of individual basic needs as contributing to human well-being, i.e. the status of human well-being at any point in time represents the extent to which basic and other needs are being satisfied. Following from this, social security measures can be thought of as a “safe minimum standard” for satisfying basic needs. Meeting these needs has been suggested by some as necessary to preserve essential capital resources and environmental functions (e.g. Toman, 1992). It is argued that people whose basic needs have not been met cannot be expected to give priority to protecting common property resources (i.e. the environment).

Maslow (1970) proposed a formal “hierarchy of needs” – a sequence from lower-order needs (i.e. more basic) to higher-order needs: physiological needs, safety needs, belonging needs, esteem needs and self-actualisation needs. Although the concept of basic needs could be interpreted as meaning only lower-order needs, academic discussion is tending toward the view that sustainable development implies a basic entitlement to the full range of individual needs for human development, not simply the lower-order physiological and safety needs. A closely related idea is the proposition that “development is freedom” (Sen, 1999) – development is freedom from deprivation and freedom to realise and express one’s human potential and individuality.

The lower-order needs can therefore be characterised as those that contribute to material well-being, while the higher order needs contribute to emotional well-being. Both are essential components of sustainable development from an individual perspective.

In addition to individual well-being, community well-being or social well-being is important. Analysis of this dimension needs to focus not only on the static conditions of community residents, but also on the dynamic capability of residents to create opportunities and respond to local needs. Community capacity is a form of social capital (see below). It is the collective ability of residents in the community to respond to stresses, to take advantage of opportunities, and to meet the diverse needs of residents. It represents the resilience of social systems.

Social well-being may be thought of as: (a) the aggregate of individual human well-being, e.g. within a community or society ⁴; and (b) as incorporating additional needs associated with individuals’ social context - their needs for supportive relationships, for being a part of a community, for “knowing where they have come from and where they fit in”. This raises the question of how to define a given community or society, i.e. based on geography, ethnicity, gender, race, etc., any one of which criteria may be appropriate in a given context.

In different cultures (and even different groups within a given culture) different factors will contribute

⁴ Care must be taken not to abstract from distribution concerns or to imply that social well-being could increase while there is an increase in the number of people whose basic needs are not being met.

to well-being. Research in New Zealand on urban Maori⁵ well-being suggests that Maori indicators include *wairua* (psychological/spiritual) factors (e.g. being close to family); coping skills (e.g. resilience to change); and maintaining relationships, cultural integrity and respect for life and people; as well as the “usual” measures of secure home ownership, good physical health etc (Benton *et al.*, 2002). For many people, aspects of basic needs and well-being are closely tied up with social relations.

5.3.3 *Social capital*

Social sustainability requires continual maintenance of “social capital” (the stock of relationships, organisations, shared values and shared knowledge, trust, etc.). Putnam (1993) suggested that social capital is made up of norms and networks, including the accepted socio-cultural norms (particularly trust and reciprocity) and the institutions and networks through which social relationships exist and are expressed. Robinson and Williams (2002) defined social capital as the relationships among actors that create the capacity to act for mutual benefit or a common purpose.

Putnam (2000) distinguished between bonding and bridging forms of social capital. *Bonding social capital* allows individuals to work effectively within the distinct groups that make up society (eg, families, ethnic groups, churches). *Bridging social capital* enables these different groups themselves, and the individuals within them, to work together effectively, for the wider good of society as a whole. While bonding social capital relies on shared values, bridging social capital enables cohesive relationships between those with different values. In increasingly heterogeneous modern societies, bridging social capital is a critical resource in maintaining trust, allowing society to function without high transaction and security costs. Fukuyama (1995) provides extensive evidence of its importance for the creation of prosperity.

All forms of social capital require active maintenance. This proposition is illustrated in the Maori context. As a cultural value, *whanaungatanga* (translate) sustains belonging regardless of residence location or neighbourhood, and supports an individual’s access to benefits from giving and sharing values and activities. It is a form of bonding social capital. This access is conditional on *whanau* (translate) ties being regularly renewed through participation and contact (*ahi ka*). The question of how to enhance bridging social capital is more problematic. For example, requirements to consult *iwi* (translate) on resource management decision-making have proved controversial in New Zealand. The situation illustrates the contention of DeFilippis (2001) that social capital cannot be analysed separately from issues of power in the creation of communities or nations.

Participation in decision-making can provide for individual needs and enhance bridging social capital, depending on how the participation is structured.

Social capital is therefore a fundamental component of many social institutions – the sets of rules, processes and norms that guide human behaviour. Institutions of particular importance are those by which a society collectively makes decisions – its governance structures, including both its organisations and legislation.

5.3.4 *Social and cultural dynamism*

⁵Maori are the indigenous people of New Zealand. In other countries, indigenous people may be referred to using other terms, such as ‘first nations’ people in the case of Canada.

Social sustainability does not require that communities, cultures or landscapes be fixed in time. Indeed, resilience theory suggests that they cannot be fixed in time. In a rural context, Barr (2003, p6) observes:

“I see a future of continuing change and restructuring of our rural landscapes. Not all of this is bad. Not all of it is good. But not much of it is easily avoidable. Each of us contributes in our small way to this change through the decisions we make in shopping, travelling, leisure and voting. I do not believe there is much to be achieved by using a definition of social sustainability in which the structure of our rural landscapes is fixed in time. Rural social landscapes of the Western World have been in constant change since the collapse of the feudal system. Society cannot be sustained without the capacity to adapt to change”.

This is consistent with a contemporary indigenous peoples’ perspective (Berkes, 1999, p.168):

“It is often assumed that indigenous peoples have only two options: to return to an ancient and “primitive” way of life, or to abandon traditional beliefs and practices and become assimilated into the dominant society. Increasingly, indigenous groups have been expressing preference for a third option: to retain culturally significant elements of a traditional way of life, combining the old and the new in ways that maintain and enhance their identity while allowing their society and economy to evolve. Traditional knowledge has become a symbol for indigenous groups in many parts of the world to regain control over their own cultural information, and reclaiming this knowledge has become a major strategy for revitalisation movements”.

5.3.5 Equity: basic needs plus what?

Incorporating equity into sustainable development implies enabling people to share in economic, environmental and social benefits; to share damages and costs (including those of structural adjustment/globalisation); and to participate in governance. However, addressing intra-generational justice requires clarifying the equity objective that is being sought. The objective may specify equality of opportunity, or it may go further to seek some degree of equality of outcome. The objective may focus on meeting basic needs, or on a more comprehensive redistribution of income. Two main intra-generational equity theories currently have a substantial intellectual following: the welfare state (Goodin, 1988) and the highest sustainable basic income for all (Van Parijs, 1995).

How society chooses to implement its concept of equity has significant sustainability implications. Equity may be achieved by a universal citizen entitlement, or by targeted delivery of benefits to identifiable groups. A targeting approach is typically used where need is first identified on the basis of criteria such as income, health status or educational levels. Then, where specific groups are over-represented in those identified as having certain needs, intervention programmes can be delivered by designing programmes targeted at the specific groups and their particular circumstances. By comparison, a universal entitlement might fail, for a variety of reasons, to reach many of the individuals with needs.

While governments have increasingly used a targeting approach, this has two major implications. First, targeted benefits interact in complex ways with incentives to work, and for some recipients this can lead to dependence and associated social problems. Second, where targeting is linked to social groupings, especially ethnicity, gender or religious affiliation, it can corrode bridging social capital. Even where welfare actually targets individuals suffering poverty and disability, the perception that money is being taken to benefit people of a different ethnicity can undermine majority social and political support for welfare, and hence the sustainability of the redistribution mechanism. The prevalence of this perception in the USA is estimated to account for around half of the substantial

difference that exists in the degree of redistribution of wealth between the USA and Europe (Alesina and Glaeser 2004).

Alesina and Glaeser (2004) also emphasize the role played by different political traditions over long periods of time in fostering such differences in social attitudes. In European societies and those influenced by them, it has been more common for a majority of citizens to acknowledge that an overall gain in social well-being is being achieved through welfare. In such cases, the confidence that social issues are being actively addressed can be a basis for increased social cohesion. While there remains a significant gap between theories of social equity and actual outcomes, a socially sustainable society could realise a number of practical benefits from equity mechanisms. Such a society could, for instance:

- gain from incorporating more peoples' knowledge in environmental management and other social decisions;
- avoid the economic inefficiencies, and the associated social welfare costs, of some people failing to reach their potential; and
- build a sense of belonging and trust, and hence social capital more generally, while reducing social conflict and "anti-social behaviour".

There appears to be a consensus that, at minimum, society should meet the basic needs of all its citizens. There is also a widespread view that it should do more than this. But there are formidable problems to be solved, both analytically and politically, in moving societies toward a more socially sustainable state.

5.4 Some specifics on substantive integration

5.4.1 (Social) Sustainability objectives:

Discussion of social sustainability objectives in the literature on integrated assessment (or sustainability appraisal) appears to focus on three main issues:

- the appropriate role or position of social objectives within the overall sustainable development paradigm;
- the systematic relationship between social factors and economic and environmental factors; and
 - particular objectives within the broader social sustainability goal which should be emphasised.

In a report by UNEP (2004) social sustainability objectives are seen as "a layer of normative values that provides direction to processes of change and, as such, also in the trade-off considerations". This implies that determining sustainability objectives is not the prerogative of technical experts, but occurs via social and political processes which experts nevertheless have input to. Articulating social objectives is one thing; mandating them is another. In line with this position, the UNEP report argues that (social) sustainability involves both bottom line standards (norms not to infringe) and goals (norms to strive for) in relation to the economic, social and environmental assets that stakeholders wish to maintain for future generations. This implies that social sustainability, while not totally prescriptive, cannot be without purpose or knowledge of risks and preferences; hence, the need to identify particular social sustainability objectives such as reducing the levels and extent of poverty, and promoting improved standards of public health.

Pope *et al.* (2004) promote the notion that direction on social sustainability objectives should derive from broader, internationally endorsed, sustainable development principles, whilst Peet and Bossel (2000) suggest that a combination of ethical principles and systems thinking is required. Pope *et al.* (p.611) point to the fundamental principles of sustainability as defined by the Rio Declaration and Agenda 21. They also draw attention to “alternative sets of sustainability principles such as the Natural Step System Conditions” and also to “principles developed by the Government of Western Australia in its State Sustainability Strategy” (Table 5.1). The latter is not merely a combined listing of environmental, social and economic objectives, as in 3-pillar formulations. Some principles have a predominantly social or environmental focus, but most link environmental, social and economic aspects together (e.g. the 1st, 4th, 6th, 7th and 8th statements).

Table 5.1: Western Australian sustainability principles and criteria

Source: Government of Western Australia (2003, p.40)

Principles	Criteria
(1) Long-term economic health. Sustainability recognises the needs of current and future generations for long-term economic health, innovation, diversity and productivity of the earth.	Provides both short and long-term economic gain.
(2) Equity and human rights. Sustainability recognises that an environment needs to be created where all people can express their full potential and lead productive lives and that significant gaps in sufficiency, safety and opportunity endanger the earth	Increases access, equity and human rights in the provision of material security and effective choices
(3) Biodiversity and ecological integrity. Sustainability recognises that all life has intrinsic value and is interconnected and that biodiversity and ecological integrity are part of the irreplaceable life support systems upon which the earth depends	Improves biodiversity and ecological integrity and builds life support systems
(4) Settlement efficiency and quality of life. Sustainability recognises that settlements need to reduce their ecological footprint (i.e. less material and energy demands and reduction in waste) while they simultaneously improve their quality of life (health, housing, employment, community. . .).	Reduces ecological footprint while improving quality of life
(5) Community, regions, ‘sense of place’ and heritage. Sustainability recognises the significance and diversity of community and regions for the management of the earth, and the critical importance of ‘sense of place’ and heritage (buildings, townscapes, landscapes and culture) in any plans for the future.	Builds up community and regions ‘sense of place’ and heritage protection
(6) Net benefit from development. Sustainability means that all development, and particularly development involving extraction of	Provides conservation benefits and net social-economic benefit

non-renewable resources, should strive to provide net environmental, social and economic benefit for future generations	
(7) Common good from planning. Sustainability recognises that planning for the common good requires equitable distribution of public resources (like air, water and open space) so that ecosystem functions are maintained and a shared resource is available to all.	Increases 'common good' resources
(8) Precaution. Sustainability requires caution, avoiding poorly understood risks of serious or irreversible damage to environmental, economic or social capital, designing for surprise and managing for adaptation	Ensures there are acceptable levels of risk with adaptation processes for the worst case scenarios
(9) Hope, vision, symbolic and iterative change. Sustainability recognises that applying these principles as part of a broad strategic vision for the earth can generate hope in the future, and thus it will involve symbolic change that is part of many successive steps over generations	Brings change and a sense of hope for the future as it is linked to a broader strategic vision.

Peet and Bossel (2000) take the view that substantive integration will be based on ethical principles and a systems view in which sub-systems are dynamically inter-dependent. They argue that the “process of performance measurement and the reporting and content of indicator sets are more than technical matters” (p.223). According to Pinter (1997),

“They are directly linked to the meaning and ethics of sustainable development for a community, the articulation of specific sustainability objectives for a variety of stakeholders, the design and implementation of policies and accounting for the successes and failures of policy implementation.”

Peet and Bossel have adopted a systems view in developing their approach to sustainability assessment, noting (p.231) that

“If we start with a systems view, we soon find that ethical criteria must be developed and applied, to protect the interests of the various component systems that contribute to the total system. If, on the other hand, we start with the ethical choice for sustainable development, and then try to develop practical criteria for decision-making, we find we cannot achieve it without fairly detailed information on the dynamics of development and the structure of the total system - in other words, a systems view”.

and:

“if the system is society as a whole, then the minimum number of subsystems necessary to consider in order to assess system viability is 3 - human & social subsystem, economic/infrastructure support subsystem, natural resources/environment subsystem.”

Peet and Bossel discuss a set of basic system objectives or ‘orientors’ (Appendix 4) which can be applied to each sub-system, including the human and social sub-system.

Other authors express the view that social sustainability objectives are but one set of objectives among several sets of objectives for simultaneous achievement (Jones and Lucas, 2000; Bosshard, 2000; Jenkins *et al.*, 2003). While this position does not necessarily imply a discrete 3-pillar approach to substantive integration in sustainability appraisal, it is often taken as such. Jones and Lucas emphasise the inter-connectedness of social, environmental and economic development. They consider that transport services and transport planning are good examples of activities that should address

environmental, social and economic objectives simultaneously and which are also constrained by other environmental, social and economic factors. Transport services, they argue, are essential services for achieving a range of economic (e.g. efficiency) and social (e.g. access) objectives, with important environmental consequences. Similarly, the organisation of economic and social activities (particularly in place and time) and environmental imperatives (e.g. managing noise and air quality issues) have consequences for transport planning and services. These observations no doubt hold true for all networked utilities (energy, water, wastes, communications, etc.). O'Hara (1995) puts it slightly differently, suggesting that we need to give economics a social context to make economic activity sustainable. He urges that three principles form the basis for an expanded definition of sustainability that considers both social and ecological functions in economic analysis:

- 'concreteness' (being real, being identified by experience not abstraction);
- 'connectedness' (social or ecological contributions do not occur in isolation but are the product of multiple connections and relationships); and
- a recognition of diversity.

The arguments presented by Jones and Lucas are not merely on the conceptual level; they appear to have procedural connotations as well. That is to say, if we recognise the degree of inter-connectedness and complexity in the real world, and in the policy responses required in this context, then the point of entry into assessment is not so vital. Rather it is more important to look for consequences in other domains as well as influences, objectives and constraints from other spheres. In other words, there may be no ideal starting point or natural hierarchy for integrated assessment. This is not a problem so long as analysts are determined to 'integrate' their perspectives and analyses with those of others in fields which are less familiar to them.

Some people have focused on specific social objectives in their work on social sustainability, eg poverty reduction and health promotion (UNEP, 2004), improving social organisation and increasing social capital (Cernea, 1993), promoting greater equity and individual capabilities to exercise choices (Lehtonen, 2004). Goodland (2002) proposed the dual objectives of maintaining human capital⁶ and maintaining social capital⁷ as part of the dimension of social sustainability.

5.4.2 Social Sustainability measures:

In discussing the potential application of sustainable development principles to sustainability assessment procedures, Pope *et al.* (2004, pp.611-612) comment that the criteria listed

"are generic and insufficiently defined to form the basis of an assessment for sustainability process. The next stage in the process of defining criteria for the purposes of assessment would be to operationalise the criteria ... specifically for the assessment at hand".

This 'substantial and complex task' requires further research.

⁶Goodland defines human capital as 'a private good of individuals, rather than shared between individuals or societies. The health, education, skills, knowledge, leadership and access to services constitute human capital. Investments in education, health and nutrition of individuals have become accepted as part of economic development.'

⁷Goodland defines social capital as 'investments and services that create the basic framework for society. It lowers the cost of working together and facilitates cooperation: trust lowers transaction costs. Only systematic community participation and strong civil society, including government can achieve this. Cohesion of community for mutual benefit, connectedness between groups of people, reciprocity, tolerance, compassion, patience, forbearance, fellowship, love, commonly accepted standards of honesty. Discipline and ethics. Commonly shared rules, laws, and information (libraries, film and diskettes) promote social sustainability.'

Peet and Bossel (2000, p.235) have produced a draft set of human and social indicators for New Zealand (Table 5.2), and also a very preliminary qualitative sustainability assessment (p.236) which is still largely at the conceptual stage. They acknowledge that the data to fully answer the assessment questions is often not available.

Table 5.2: Draft set of indicators for the human & social sub-system for New Zealand/Aotearoa

(Source: Peet & Bossel, 2000, p.235)

Basic orientor	Subsector indicator	Total system indicator
Existence	Children in poverty	Violent crime rate
Psychological needs	Alcohol, tobacco, drug cons	Youth suicide rate
Effectiveness	Voluntary social services involvement	Households living below poverty line
Freedom	Income and employment security	Average education level
Security	Ratio of dependents to producers	Government financial and political security
Adaptability	Extent of subsidiarity	Participation in voluntary activities
Coexistence	Community commitment to sustainability	Ratio top/bottom incomes

Taking a totally different and more procedurally-oriented tack, UNEP (2004) suggests a series of questions for auditing the extent of integration:

- does the vision reflect environmental, social and economic dimensions?
- do goals and objectives reflect environmental, social and economic dimensions?
- does actual participation reflect environmental, social and economic dimensions?
- are spatial and temporal trade-offs described explicitly? How many? Which ones?
- do interventions achieve multiple objectives (i.e. across e/s/e dimensions)? How many? Which ones?

5.4.3 Analytical and integrative tools and procedures aimed at substantive integration:

A number of approaches show potential as practical integrative tools and procedures:

Integration within a strategic planning process

UNEP is promoting integrated assessment and planning (IAP) as a tool for achieving sustainable development (Abaza, 2003). This approach suggests to move away from taking economic drivers as initial givens and then identifying social and environmental mitigation/compensation responses, to addressing social, environmental and economic objectives together, early on. The aim is to achieve an integrative approach to planning and assessment around an overall conception of the planning process that involves several elements/stages (details are provided in Appendix 5) -

- rationale for intervention or policy, and design of planning process;
- analysis;
- design of strategy/strategic planning;
- design of actions/operational planning;
 - implementation and monitoring.

The approach aims to achieve both substantive and procedural integration of assessment and planning where:

- ‘substantive integration’ refers to the integration of environmental, social and economic objectives (analyses and issues) of the proposed interventions or policy options, examined against an explicit framework of sustainability goals, principles, criteria, and where
- ‘procedural integration’ refers to integration of assessment procedures (scope and tools of analysis for each dimension) within the larger process of planning and decision making to achieve maximum synergy and avoid conflicts and delays.

Both aspects of integration seek to avoid negative trade offs and strengthen positive interactions between the three dimensions.

The UNEP approach suggests first a ‘preliminary review of all stages of the planning process’, using a list of ‘process-related’ and ‘substance-related’ questions “to facilitate proper treatment of environmental, social and economic sustainability issues and their relationship, as well as principles of governance like transparency and participation”. Appendix 6 provides an example (for Element 2 of the planning process) of how the framework was applied in an auditing mode.

Box 5.1 describes tools/steps and techniques suggest by UNEP that can be applied in the various stages of integrated assessment and planning.

Box 5.1: Tools for stages in integrated assessment and planning

Stage 1 - initiation:

Stakeholder analysis and mapping -determine which stakeholder groups are directly affected and which are interested parties; identify any marginalised groups amongst stakeholders that may need special attention (indicative list provided); indicate inter-relations between stakeholders (legal/contractual, market, information, interpersonal, power, ... - indicative matrix provided) and potential alignments or conflicts; define key stakeholders for targeted involvement - indicative matrix provided.

Involving key stakeholder groups - determine key moments of participation - ideally at each stage; determine level of influence to be allowed (indicative list provided); determine appropriate techniques for participation (indicative list provided); inform stakeholders and review proposed methods; determine resources, expertise and funds required.

Stage 2 - analysis:

Identification of key environmental, social and economic issues - brainstorm; prioritise.

Poverty perspective and root cause analysis - poverty in terms of finances, capabilities and skills, natural assets, health, physical resources, social support, livelihoods, security, ..; identify priorities; identify root causes (indicate matrix provided).

Trend mapping and analysis - guidelines listed in paper (sample matrix format provided) - per capita pressure indicators, demographic trends, consumption patterns, level of technology, ...; judgements/conclusions on 'direction' of change; timespan, location, scale, intensity/severity; any exceptions to 'average' trends

Identification of key sustainability issues - guidelines listed in paper (sample matrix format provided) - for each environmental, social and economic dimension and between them; trade offs; winners and losers from current situation

Identification of root causes and opportunities for sustainability problems - guidelines listed in paper - roots causes across environmental, social and economic dimensions, principal actors involved (sample matrix provided); opportunities for remedy (sample matrix provided).

Stage 3 - strategic planning:

Defining a vision - guidelines listed in paper - involve all relevant stakeholders; note common elements of each others visions; criteria suggested about characteristic of a useful vision statement.

Defining objectives and goals in line with the vision - guidelines listed in paper - objectives related to each key sustainability issue (sample matrix provided); goals or targets aligning with the vision (sample matrix provided); bottom-line standards, based on unacceptable risks and limits to change; consistency of goals and vision across all dimensions

This process can be used to audit an existing planning process or design a new planning process. The audit exercise focuses on identifying strengths, weaknesses and gaps in the planning process, when judged against the integration imperative.

The framework can be used for self-assessment, or for assessment by a team involving outside stakeholders as well; an external facilitator and other 'experts' in an advisory role may be useful.

Applying the framework anticipates having a review of how successful it has been in embedding better integration and better sustainability outcomes. UNEP suggest indicators and questions which may be useful for evaluating the effectiveness of procedural and substantive integration efforts. Indicators refer to participation, institutional capacity building, inter-sectoral collaboration, use of IA tools. Questions refer to the influence of IA on the planning process, the quality of information provided by IA, and co-operation and stakeholder participation.

Source: UNEP (2004)

Cross-departmental public policy development - an example from transport planning

Jones and Lucas (2000) examine the integration of transport into policy appraisal in the UK. They note that all UK government departments are now faced with the common requirement to assess policy options in terms of certain population groupings (based on gender, ethnicity, disability, employment status, etc.) and to identify the main stakeholder groups. Five essentially procedural principles are suggested, and have generic relevance (Box 5.2). These relate to the sharing by policy departments of information on policy objectives, assessment criteria and indicators for the purposes of developing 'joined up' policy appraisal frameworks. The authors put forward the notion of "a set of core policy delivery indicators" that:

- can be applied at both national and local level; and
- cover all key policy sectors (e.g. health, environment, education, employment, housing, crime, etc.) to be "evaluated according to their contribution to overarching policy concerns such as social exclusion, economic vitality, sustainable development, etc.

Box 5.2: Principles for integrated policy appraisal

Principle 1: each policy department should provide all other policy departments with a basic set of measures and indicators that the former department uses to make its appraisals so that the others can include consideration of the same in their proposals. This is intended to encourage reciprocity, mutual validation and evolution of a common analytical framework (see Appendix 7 for a set of sustainability indicators relating to transport).

Principle 2: indicators for each broad impact area should be provided by one body (the body with general oversight for that area of policy) and incorporated by other departments within their appraisals. This principle allocates ultimate responsibility for developing a common framework for appraisal, and is intended to achieve a degree of standardisation.

Principle 3: appraisal frameworks should incorporate categories of criteria or objectives that can readily be attributable to each major area of policy responsibility. These form the basis for the practice of 'joined up' thinking.

Principle 4: indicators should be devised in a hierarchical or nested format, so that any given area can be covered in greater or lesser detail, as appropriate, but within a common indicator framework. The intention here is not to impose a single format for all appraisals, but rather a flexible format with some common procedural principles.

Principle 5: all appraisal frameworks should support a common core set of disaggregations, by user type and stakeholder group; there should also be an agreed set of procedures for presenting a financial assessment of any scheme. This is intended to infuse the process of common appraisal and 'joined up' thinking throughout the policy community. If applied consistently and rigorously, it would also give the approach a strong, explicit grounding in social analysis.

Source: Jones and Lucas (2000)

Jones and Lucas envisage the setting up of cross-departmental working groups as a standard practice. Indeed, they allude to taking the proposed change of process even further and making all strategic-level policy *formulation* a cross-departmental activity, while assigning particular departments the primary responsibility for aspects of policy *delivery*.

A systems-based approach to formulating indicators of sustainability

Peet and Bossel (2000) describe a generic process for constructing sets of indicators which can be used as criteria for assessing the viability of systems ⁸ (p.231) - involving 5 main tasks -

1. identify overarching goal - sustainability itself;
2. adopt an ethical framework to guide relationships between subsystems;
3. identify and develop sufficient knowledge about each participating subsystem and its role and function in the sustainability of the total system;

⁸The authors state that this approach has been used by the Sustainable Seattle programme in the USA, and is currently being applied in Canterbury Region of New Zealand in the Canterbury Dialogues initiative - an activity supporting long-term strategic regional planning.

4. for each subsystem, find indicators to answer the questions (i) what is the viability - level of satisfaction of each basic 'orientor' of the subsystem itself? (ii) how does each subsystem contribute to the viability of the total system?
5. define the indicators clearly and unambiguously, quantitatively or qualitatively, as appropriate

The paper also sets out a participatory process for indicator selection (Box 5.3)

Box 5.3: Process for indicator selection

- Convene a working group representing a broad range of views and experience;
- Define a statement of purpose;
- Develop the values and visions of the group;
- Review available data;
- Draft an indicator set (related to the systems framework described in the paper);
- Involve community participation in critiquing and improving the indicator set;
- Involve experts in technical review of the indicator set;
- Research for required indicator data;
- Publish and promote the indicator set;
- Review and update the indicator set in a transparent, formal process.

Source: Peet and Bossel (2000)

Their overall analytical schema is as follows:

- the goal = sustainability = systems viability;
- a systems view provides the conceptual framework. As noted earlier, if the system under assessment is society as a whole, then the minimum number of subsystems necessary to consider in order to assess system viability is 3 - human & social subsystem, economic/infrastructure support subsystem, natural resources/environment subsystem. Further disaggregation, or greater focus on certain sub-systems is also possible;
- system viability is understood in terms of a set of 'orientors' which describe characteristics/needs of the system which relate to a set of properties in the system's environment (see Appendix 4 or examples);
- the satisfaction/health of each orientor is represented by an indicator of some description;
- this logic is applied to all subsystems in the system, to produce and assess a set of sustainability indicators;
- performance against each indicator in the set is proposed by qualitative scores (A-E) reflecting various degrees of orientor satisfaction/health, in order to identify areas of relative strength and weakness.

The concept of developing 'a common framework'

Jones and Lucas (2000) makes explicit reference to 'a common framework' for policy appraisal. Bosshard (2000), writing about substantive integration in rural planning, also advocates such a framework based around the vision, goals, and criteria/parameters for assessment. He suggests this not only provides a basis for developing a joint analysis/assessment, but, more specifically, it also provides an instrument to structure and facilitate communication among 'experts' and between 'experts' and the 'people concerned'. It ensures holism - all key dimensions are considered simultaneously and their interactions and trade-offs assessed.

In effect, the approach described by UNEP (2004) embodies the development and acceptance of 'a common framework'; in this case, a framework couched in the terminology of strategic planning.

5.4.4 Trade-off formats:

Three main themes are of interest concerning trade-offs

- the concept of sustainable development itself requires a focus on trade offs between environmental, social and economic objectives ;
- different forms of assessment/appraisal cast the trade-off issue in different lights; and
- a shift in the locus of trade-off decisions is required with the transition from a single -dimension assessment (e.g. EIA) to a multi-dimensioned sustainability appraisal.

A review of the literature on sustainable development and sustainability appraisal reveals few details of specific trade-off procedures, criteria or decision-making rules.

[add text on Canadian choicework approach]

In the same way that the needs of sustainable development policy and planning have driven the search for new, more integrated appraisal methods, so too have they changed the policy decision-making circumstances. The traditional win-lose trade offs are no longer acceptable forms of compromise. In the emerging policy and planning environment it is more difficult for decisionmakers to invoke some kind of limited domain argument. The kind of argument set out by Abaza (2003) is typical of much in recent literature – actions to achieve one goal should not compromise the ability to achieve other goals. This requires the ability not only to assess the outcome of actions to achieve a certain goal, but also the positive and negative impacts of the intended action on the ability to achieve any of the other goals. In adopting a systems-based approach, Peet and Bossel (2000) arrive at a similar conclusion. But their work implies that all subsystems and all 'orientors' require a basic level of satisfying to achieve viability and overall system sustainability. This is indeed a similar position to that espoused by Pope *et al.* (2004, p.610) who assert that the principles-based approach "emphasises interconnections and interdependencies between the pillar areas rather than promoting conflicts and trade-offs".

UNEP (2004) highlights an important feature of the sustainability appraisal context for trade offs – a disciplined approach requires that evaluation and subsequent trade-offs are made against an explicit framework of goals, objectives, rules, principles and indicators to facilitate informed judgement. In asking if proposed actions support or detract from sustainability (as defined by a particular country or community), judgements must be made about "standards necessary for the three bottom lines of environmental capacity, social equity and economic feasibility to be met". Spatial trade-offs (between here and there) and temporal trade offs (from now to later) can be examined using such an explicit framework (p.6), though the trade-off criteria and logic are not made explicit. Any expectation of

standardised trade-off frameworks is also dispelled - the values-based choices (trade-offs) about 'weak vs strong' sustainability and the risks related to threshold values will vary from society to society, and between rich and poor countries.

Pope *et al.*(2004) draw attention to what some might find to be a somewhat perverse reaction. Trade-offs under an EIA-driven, 3-pillar approach are seen as win-lose rather than win-win. This is because this approach is able to include the social and economic benefits of a proposal alongside environmental costs. The proposal is then seen by some as being more acceptable than if just the environmental costs had been considered - i.e. weak sustainability (p.603). However, environmentalists may see it as losing hard-won gains from the past couple of decades.

Jenkins *et al.* (2003) also take Western Australian experience and draw attention to the likely shift in the locus of trade-off decisions. They suggest that extending EIA to incorporate sustainability principles (i.e. environmental social and economic objectives) will probably mean that trade-offs are decided upon throughout the process of assessment, rather than just at the political level - at the end of the assessment process. In other words, traditionally, trade off decisions have been in the domain of the elected politicians; 'trade offs' in an integrated assessment regime might imply that trade-off decisions are moving somewhat into the bureaucratic realm.

