Institutions and Sustainability.
An Analytical Report.

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1. Introduction

For many people, a society that is ecologically and humanly desirable will entail a "new order of things". That is, sustainability is a profound challenge, where the basic assumptions and structures of society must be altered. Whether you agree with or believe that the challenge is not so crucial, it is not trivial. Significant changes are required in the way we- governments, individuals, organizations, firms and households – go about our activities. That our present situation is unsustainable is clear; the empirical evidence is abundant. The causes of unsustainable practices lie deep in modern societies, in patterns of production and consumption, settlement and governance. These patterns have emerged over long periods of time and are highly resistance to change.

These patterns are largely determined by *institutional arrangements*: the customs, laws, underlying rules and persistent organizations that shape our individual and collective behaviour. Without institutional change little will be achieved or, if possible changes are attempted, they are unlike to persist. For example, over the past decade, changes in climate change and the accelerated pace of Earth's warming have moved the issue of climate change at the top of the sustainability agenda. Climate change is one the most significant challenges facing the international community. It has implications not only for health and well-being of Earth's ecosystems, but also for economic strategies and social livelihoods. Creative institutional arrangements, then, are required to meet the challenge posed by climate change.

This report is about institutional arrangements and how they might encourage rather than constrain sustainability. This report deals with changes possible within existing political and institutional settings; however, more radical prescriptions can should be advanced and debated.

2. The Nature of Institutions

An institution is an underlying, durable pattern of rules and behaviours. An *organization* is changeable manifestation of that. For example, the institution of the common law in Canada or the civil law in Chile manifest through the organization form of a particular court system. For convenience and brevity, I will merge institutions and organizations in this discussion, with the important proviso that an organization would need a good degree of longevity and social acceptance to be thought of in these terms. The merging is a convenience but it also focuses on the notion of "institutionalizing" sustainability as a social concern – that is, to make it a more permanent and pervasive imperative across all fields of public policy rather than an ephemeral or marginal phenomenon.

Institutions may be formal and informal, local, national or global or customary, scientific, political or economic. Later, ways of describing the attributes of institutions will be provided to enable to a match between institutions and what we want them to do. A definition can be (drawing partly on J. Henningham 1995):

> An institution is a persistent, reasonably predictable arrangement, law, process, custom or organization structuring aspects of the political, social, cultural or economic transactions and relationships in a society. Institutions allow organized and collective efforts towards common concerns and the achievement of social goals. Although by definition persistent, institutions constantly evolve.

In addition, O'Riordan (1997: 2) with regard to the issue of institutions and climate change, indicates:

> Institutions are the multitude of means for holding society together, for giving it a sense of purpose, and for enabling it to adapt. Institutions help to define climate change both as a problem and a context, through socialised devices as scientific knowledge, culturally defined interpretation and politically tolerable adaptation policies. There is, in short, no 'climate change' outside of a socially constructed framework.

And, he adds:

> Institutions serve to maintain social relationships, preserve social cohesion, organise political change, and enable shifts of outlook to take place, peaceably or in anguish. Institutions pervade the analysis of climate change. The very phenomenon climate change – its discovery, its causes it possible effects and what should be done to combat it or accumulate to its perceived outcomes – is institutions bond … Because institutions are socially determined, and through political process, made effective, climate change can only be investigated in terms of the resolution of the formation and resolution of interest group biases and the application of coercive and persuasive power.

Institutions both as area of analysis and as reality of modern life are highly complex. Not only are there many institutions, they merge and interact in multiple ways. In the case of a multi-dimensional and across-sectoral policy issue pervaded by uncertainty – such as sustainability – this complexity is acute.

3. Institutions as Complex Entities

It is often stated that the failure to implement the goal of sustainability is due to "institutional failure" or inappropriate institutional arrangements. Many recommendations have been made, especially from different environmental advocates and other sectors of civil society. Thus, if we are to design better institutions for sustainability, we need guiding principles for the design of new institutions, and for recognizing the positive and negative features of existing ones. These principles need to reflect what we know about institutions, and about sustainability issues and policy and management challenges. First, what we know about human institutions, what makes them successful and persistent or not, can be summarized here in five "desirables principles of institutional design" proposed by Goodin (1996):

- *Revisability*, where an institution and those within it can learn through experience, and change trajectories and practices as required;
- *Robustness*, where an institution is subject to ill-thought change in response to any fleeting imperative, but responds appropriately to more or less significant pressures;
- *Sensitivity to motivational complexity*, accepting that what constitutes "appropriate" or "significant" will vary, and that institutions must be open to a variety of motivations and values;
- *Publicity*, where the logic of an institution or institutional change are publicly defensible and can gain political community support; and
- *Variability*, so institutional learning can be enhanced through encouraging "experiments" in different places and within different structures.

These principles are general and not at all strict. Judging that such principles have not been fulfilled may be easier that ensuring that they are. Set rules for institutional design are impossible – varying situations demand qualitative judgements. But these principles reflect general institutional theory and experience, and are relevant to institutions for sustainability.

Another principle is how well an institution fits in its operating environment. "Goodness of fit" (Goodin 1996: 18) as a criterion for a successful institution is at once valid and inadequate. It is useful as an explanation in hindsight, and in terms of small changes to the status quo. But it works less well when the purpose is to question existing institutional arrangements. Virtually every discussion of sustainability concludes that the existing institutions are part of the problem and that reform is required. If institutional reforms "fit" too well into the operating environment then is likely that they will, at best, be insufficient. At worst, they will exacerbate the situation by encouraging unsustainable

practices. As Goodin notes, there might be "good reasons for seeking institutions that fit ill, not well with the rest of the environment" (1996:34).

This might suggest only radical change. However, institutional change by sudden revolution is rare, and stands a higher chance of mistakes being made in haste. More practically, quick and major change has less chance of being achievable politically. Most institutional change is incremental and, though an incremental strategy has weaknesses for urgent problems like sustainability, it would be impractical to ignore this reality. *Purposeful* incrementalism can produce profound changes, although perhaps not as quickly as some might wish. Changes to underlying process may have long term impacts that quick or superficial change will not. And there may be existing arrangements that can promote desirable change. Recent initiatives in Canada have been more in the nature of disjointed incrementalism, lacking continuity. Policy has been to often a stop-start affair, characterized by *ad hocery* and amnesia.

To analyze or design new institutions, especially in terms of matching possible changes within existing institutional frameworks, some detail of the nature of institutions is required. The following attributes of *institutions* are "neutral design features", to aid a finer resolution view of institutional arrangements in different circumstances. This is a long list. But institutions are multi-faceted, and ignoring complexity lessens the chance of matching specific institutional capacities with specific problems and contexts:

- spatial extent or limits
- political and administrative boundaries
- permanence and longevity
- role or roles (information, cultural, legal, economic)
- sectoral or issue focus
- nature and source of mandate
- autonomy, independence and accountability
- formality or informality
- political nature and support
- exclusiveness/inclusiveness
- community awareness and acceptance
- functional and organizational flexibility
- resource requirements (financial, human, material)
- information requirements
- linkages with other institutions

This detailed but generic view is a start, but to progress we need to consider the nature of sustainability and identify relevant principles to guide institutional analysis and design. Taken together, these attributes have the potential to involve substantive changes and are consistent with the character of sustainability as both policy and institutional change.

Considering the nature of sustainability problems emphasises *means* before *ends*. Institutional reform must have a purpose, and that purpose must be shaped by the particular issue – in this case, sustainability. There will always be more than one

institutional means to a given end. Too often, institutional and policy change does not flow from sound problem definition and consideration of alternative proposals. People have their favourite models and advocate them against those of others.

4. The Nature of Sustainability Problems

While concern over the long-run sustainability of human societies has deep roots, the contemporary challenge of sustainability in a policy and institutional sense is quite recent. The challenge of sustainability cab be described by, first, the way recent policy and law describe it and, second, by delving deeper into the nature of sustainability problems.

Policies and institutions must reflect the nature of policy problems in sustainability. General principles of sustainable development adopted by governments and other actors convey some of this, but as expressions of political compromise they have their limits. We can go deeper. Problems like biodiversity, integrated land and water management, climate change and environmental-population linkages display attributes encountered less often, and especially in combination, than in many other policy fields (say service delivery or economic policy). Within these considerations, *La Red de Desarrollo Sostenible* (2000: 22-24) have identified the following attributes:

- broadened and variable spatial scales;
- deepened and variable temporal scales;
- the possibility of ecological limits to human activity;
- irreversible impacts;
- complexity within and connectivity between problems
- pervasive risk, uncertainty and ignorance;
- important environmental assets no traded or valued markets;
- often cumulative rather than discrete impacts;
- new moral considerations (eg. other species or future generations);
- "systemic" problems causes, embedded in patterns of production, consumption, settlement and governance;
- lack of accepted research methods, policy instruments and management approaches;
- lack of defined policy, management and property rights and responsibilities;
- demands for increased community participation; and
- sheer novelty as a set of policy problems.

These attributes –that are at the core of sustainability discourses (Enkerling 1995) – make sustainable problems different in kind to many other policy problems; they may also be different in degree. Thus sustainable problems will require policy and management approaches that match these attributes, and these approaches will necessary emerge from institutional arrangements that are different from those fashioned around traditional policy problems. Existing institutions are inadequate because they are not adapted to sustainability problems (Red de Desarrollo Sostenible 2000: 31). These attributes challenge research, policy making, law, and institutions. To achieve sustainability, we

need to plan and act for the longer term, across traditional sectors, issues and political boundaries. We need to recognize and address complexity and uncertainty, both in terms of informing ourselves better and of acting without inadequate information. We need to develop, apply and test new policy and management approaches, and to evolve new legal and socio-economic definitions of rights and responsibilities. And we need to keep a range of interests engaged.

With this sketch of the nature of institutions and of sustainability problems, we can proceed to define principles of institutional analysis and design specially formulated for sustainability. These challenges can be brought together through an *adaptive* approach.

5. Institutions for Sustainability

Faced with the complexities and uncertainties of managing ecosystems, ecologists developed the idea of "adaptive management". This accepts uncertainty and that we do not know whether both policy and management approaches will work, and treats these interventions as hypotheses to be tested and learned from. It is surprising how poorly we at times allow for policy and management learning, and this makes the designing in of monitoring, evaluation and communication crucial. We can extend this approach to include institutions and social learning across a broader range of sectors and issues – *adaptive processes, institutions and management*. Being adaptive recognizes that we are prisoners of modern instrumental rationality (Weber). Sustainability is the great challenge of our traditional modern practices. Being adaptive demands that we have the confidence to implement decisions, but also the humility to recognize the limits of our knowledge and to constantly learn and seek improvement.

What would be the features of adaptive institutions and policy processes? Noting the general design features of institutions presented earlier, we can identify five key principles for adaptive institutions, and match these with the attributes of policy problems in sustainability:

Persistent, where efforts are maintained over time, enabling learning experience, rather than the past pattern of *ad hocery*. This principle addresses the attributes of temporal scale, pervasive uncertainty, cumulative impacts, systematic causes, and lack of methods and policy property rights.

Purposefulness, where efforts are supported by stated principles and goals. This principle addresses the attributes of temporal scale, uncertainty, new moral dimensions and novelty.

Information-richness and sensitivity, where the best information is sought and made widely available. This principle addresses the attributes of uncertainty, lack of methods and policy approaches, the need for participation, and systemic causes.

Inclusiveness, where the full range of stakeholders are involved in policy formulation and in management. This attends the attributes of demand for participation, spatial scale, uncertainty and lack of policy and property rights responsibilities.

Fexibility, where there is a preparedness to experiment, preventing persistence and purposefulness from becoming rigidity. This attribute addresses temporal and spatial scale, uncertainty, and novelty.

Across all these principles is the imperative of defining suitable spatial and administrative scales. Ecological (and many human) processes rarely match historical defined political boundaries, and the match of human and natural scales in an ongoing challenge.

These principles are general but indicate the necessary direction (see UNEP 2002). There are tensions between them, and the art and craft of institutional design is to balance them. However, more operational "rules of thumb" for assessing and designing institutions are required.

Requirements of Adaptive Institutions

Attribute	**Explanation**
Purposeful mandate	Having a stated vision and set of goals, and matching mandate to pursue them.
Longevity	Sufficient longevity to persist, experiment, learn and adapt (including maintenance of institutional memory).
Properly resourced	Sufficient human, financial and information resources.
Legal basis	A clear basis in statute law ensuring transparency and accountability, and a higher probability persistence.
Independence	A degree of independence from short term political pressures, and not being too reliant on temporary mandate or resources.
Informed and Informing	High priority on information generation, use and wide ownership, with an emphasis on long-term monitoring and evaluation. Equally high priority placed on: ecological information, socio-economic information; policy and management monitoring; and multiple sources of information (scientific, community, traditional,etc.).
Multi-functional	Integration of research, planning, management and/or

	policy roles, so that these are kept separate or poorly connected. Achievable within an institution, and though coordination with others.
Applied	Degree of applied or grounded focus (be this on region, issue or sector), to ensure that actions and prescriptions are operational.
Integrative	Integrating environmental, social and economic aspects, and pursuing cross-sectoral, cross-problem and/or cross-cultural views.
Coordinated and Coordinating	Maintenance of linkages with other institutions and processes in related areas, in recognition of the interconnected nature of Sustainable problems.
Inter-jurisdictional	Cognisant of and capable of handling issues and process that cut across political and administrative boundaries (local, provincial, national).
Participatory	Participatory structure and process that is clear, genuine, predictable and maintained. Participation appropriate to the context – recognizing and choosing from a wide range of participatory options.
Comparative	Ability and mandate to engage in comparative analysis across sectors, issues and methods.
Experimental	Mandate and ability to experiment with approaches and methods, and to move across disciplinary and professional boundaries.
Political supported	Having political support at government, community and political and social levels to enable establishment and favour persistence.

These requirements are more operational, relate to the nature of sustainability problems, and are flexible enough to be adapted across situations. Not every requirement would need be fulfilled in every instance – a requirement might be fulfilled by linkages across institutions and policy process. The primary use is a checklist of preconditions for institutional sustainability, to inform discussion of how to improve institutional policy capacities. One fundamental requirement will be the assessment of current institutional arrangements and policy process.

6. Final Remarks

While institutional arrangements exist, they are insufficient to achieve an ecologically sustainable and human desirably future. Sustainability does not have parity with other policy fields, especially economic policy. It is marginal and fragmented across jurisdictions, government portfolios and agencies, sectors and issues, and over time. Despite some encourages developments regarding environmental policies and programmes, we need to consider deeper changes. Otherwise, responses will continue to be *ad hoc*, with many small changes of insufficient overall impact. Such changes will need to match the principles and attributes developed earlier. A strongly multidisciplinary approach is necessary, not in a rigid way, but to encourage cohesion, coordination and learning. Also needed is a longer term commitment to organizational and ecological scales (local, regional, and national).

This report draws on bibliographic research. This includes the following documents: "Evaluacion de la Adaptacion Institucional y del Marco de Politicas Publicas para Enfrentar el Cambio Climatico en Chile" and "Notes About Institutional Evaluation".

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