

INSTITUTIONAL AND HUMAN RESOURCES FOR SUSTAINABILITY

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Summary

This article explores the kinds of institutional arrangements most likely to be able to address sustainability issues. The term “institutions” is taken to mean the wide array of social, political, legal, and economic arrangements, structures, and rules—not simply institutions of the state, but of community and society more broadly. Of particular interest here is the interconnection of people and institutions through community participation, enhanced human capacity, and mutual learning. First, the article sketches the nature of the sustainability challenge, and then suggests the kinds of institutions appropriate to this challenge, through the description of institutional principles and attributes. It then considers briefly some issues of human resources involving participation, education, and research and development. Sustainability requires the close integration of economic, social, and environmental concerns, and thus is a supremely difficult challenge. An “adaptive” approach, as sketched here, seems a useful way to integrate the activities and concerns of communities, scientists and professionals, firms and governments. Recent political theory, and the lessons and problems encountered in practice, suggest iterative, mutually informing and discursive ways of “doing” politics and policy. There would appear to be no better field in which to advance, test, and develop such a political future than sustainable development.

1. Introduction

Human societies achieve their collective goals and adapt to changing circumstances through the capacities of people taking actions within societal institutions. Human resources and institutional resources are, then, interdependent. Human culture, in all its technical, political, economic, social, and intellectual manifestations, is undoubtedly the

root cause of unsustainable interactions between human and natural systems. But human culture, in these various forms, is of course the only resource we have at our disposal to address this situation.

Human capabilities and societal institutions have always changed and still do, constantly. The evolution of human culture is a slow and uneven process, and at any given time institutional arrangements and our stock of knowledge will be shaped more by past situations and experiences than by the demands of the future. This leads to the topic of this article: how institutions and human capabilities can be developed in a way more relevant to the great, long-term demands of sustainability.

Of all the shared goals of humankind in contemporary times, the achievement of an ecologically sustainable and humanly desirable future—“sustainable development”—is at once the most well-supported and justified, but also the most supremely difficult. It will only be through the deployment of enhanced human resources through new and innovative institutional arrangements that ecologically sustainable human development can be addressed. In the longer term, we may never achieve “sustainability,” and are unlikely to even agree as to what it might be; the task is, rather, to establish the arrangements and wherewithal to set ourselves on that path in a purposeful yet flexible and learning way.

This article suggests kinds of institutional arrangements more likely to be able to address sustainability issues. The term “institutions” is taken to mean the wide array of social, political, legal, and economic arrangements, structures and rules—not simply institutions of the state, but of community and society more broadly. Organizations, more properly thought of as possibly shorter lived and specific manifestations of institutions, are included with institutions, with the proviso that this refers to organizations with sufficient longevity, social acceptance, and regularized patterns of operation. Of particular interest here is the interconnection of people and institutions through community participation, enhanced human capacity, and mutual learning. First, the article sketches the nature of the sustainability challenge, and then suggests the kinds of institutions appropriate to this challenge, through the description of institutional principles and attributes. It then considers briefly some issues of human resources involving participation, education, and research and development.

2. The Demands of Sustainability

The content and status of the idea of sustainability needs to be recognized at the outset in a fashion relevant to consideration of institutional and human resources. The modern idea of long-run sustainability has diverse and deep roots over several centuries, in classical economics, philosophy, renewable resource management, energetics, development studies, and elsewhere. Until recently, though, the “environment” was treated as a separate and marginal policy problem. However, mounting evidence of the severity of ecological degradation and human development and security problems, and of the inevitable linkages between them, forced a larger agenda. This agenda sought to integrate issues of environment and development and was most clearly stated through the World Commission on Environment and Development’s report *Our Common Future* in 1987, and the ensuing United Nations Conference on Environment and Development

(the Earth Summit) in Rio in 1992. Since then most countries have, through international agreements and national policy and law, supported the principles of sustainable development. These principles include inter- and intra-generational equity; integration of environmental, social, and economic policy; the importance of biodiversity and ecological life-support systems; the precautionary principle; the need for community participation; and the development of new and better policy and institutional strategies. A renewed focus emerged on how well nations have attended the institutional reform agenda that was stated both explicitly and implicitly at Rio, in the decade after the Earth Summit. This focus will emphasize many positive developments, many disappointments and unattended tasks, and our lack of understanding of what institutions for sustainability need to look like.

It is widely appreciated that statements of principle and intent, and the limited institutional changes that have accompanied these, have been insufficient and that the real work still lies ahead. International agreements generally do not bind or clearly instruct governments in their decision making, nor do national policies and laws. Recent changes to resource and environmental management regimes go part way only, and new processes for community participation in the main fall short of true enabling and empowerment. The political imperative of sustainability has nowhere near the power and influence enjoyed and demonstrated by the other, major political imperative of the late twentieth century: economic liberalization. Nonetheless, much has been achieved, as is evidenced by the many stories of endeavor and success recorded elsewhere in this encyclopedia. But obviously what was achieved in the last decade of the twentieth century should be viewed as contingent—a task only begun, and with much more yet to be learned and achieved.

The fact that institutional, policy, and human resource development in the 1990s has not proved adequate should not be seen as discouraging. Rather, the reasons why sustainable development has proved so difficult need to be recognized clearly, and then attention given to the sorts of arrangements needed to overcome these barriers. It is therefore useful to identify the peculiar *attributes of sustainability problems*:

- broadened, deepened, and variable spatial and temporal scales;
- the possibility of absolute ecological limits to human activity;
- irreversible impacts, and related policy urgency;
- complexity within and connectivity between problems;
- pervasive risk and uncertainty;
- typically cumulative rather than discrete impacts;
- new moral dimensions (e.g. other species, future generations);
- “systemic” problem causes, embedded thoroughly in patterns of production, consumption, settlement, and governance;
- significant resources and assets not traded in formal markets and thus not assigned an economic value;
- lack of available, uncontested research methods, policy instruments, and management approaches;
- lack of defined policy, management, and property rights, roles, and responsibilities;

- intense demands (and justification) for increased community participation in both policy formulation and actual management; and
- sheer novelty as a suite of policy problems.

These attributes are not unique to the sustainability field, but are encountered more often and more often in combination than in other, traditional fields of public policy, law, and management. This paints sustainable development problems as *different in kind*, and arguably even *different in degree* from those in more familiar and long-standing policy fields. If we concentrate on a few, crucial attributes, we can progress to thinking about institutional arrangements. We are dealing with problems cutting across jurisdictions and regions, human–natural system interactions with roots deep in the past and with implications for the distant future, and where complexity and pervasive uncertainty mean that we are unsure what to do but where there is a clear need to act purposefully and urgently. The causes of major sustainability problems—biodiversity, climate change, human impoverishment, insecurity, land degradation, etc.—are not easy to target, as they are embedded deeply in the patterns of production, consumption, settlement, and governance of modern societies. Yet new policy instruments, management regimes, and institutional structures are clearly required, involving the wider community rather than only traditional policy networks, and the design of these requires considerable thought.

An important barrier is the difficulty of breaking out of traditional or existing ways of approaching policy, institutional, and management problems, as these are unlikely to be sufficient. Approaching limits in resource allocation in areas such as land, forests, freshwater, and fisheries suggest that the standard political strategy in democratic systems—re-allocative compromise—may not work. New ways of using resources, more efficient through being more appreciative of multiple use, are required. The failure of undifferentiated economic growth to drive universal improvements in human development (although it has done much to achieve this in some areas) suggests that redistribution, at least of the necessary *means* of human development (technology, information, institutional capacity, access to markets and capital), must be attended to more than previously. The need to be both rigorous and purpose driven but also participatory and learning means that arguments over policy styles—whether they should be rational and mechanistic or shared and incremental—suggests that new approaches must do both things. Thus we need to achieve goals and be rigorous, but also allow for constant debate, learning, and adaptation.

Institutional arrangements in future need to address such issues, and in some ways societies are doing this. But a clearer basis for institutional design is needed to guide further endeavors. Institutional arrangements need to provide structures and processes suitable for the ecological dimensions of sustainability, but also the just as important human dimensions of participation, equity and access, empowerment, and learning. Many new and emerging frameworks exist that attempt to instruct institutional, policy, management, and program design—managerial extensions of the broader idea of sustainable development. These include integrated environmental management, total catchment management, environmental management systems, ecosystem management, and context-sensitive, integrated approaches to development. No framework is suitable for all contexts, and all are still very much under construction. A particularly useful

approach is that which has been extended from the idea of “adaptive management.” Developed by ecologists and managers faced with uncertainty and complexity but very real and pressing management problems, adaptive management views resource and ecosystem management as analogous to a scientific experiment; management interventions are framed as testable hypotheses, and the “results” are fed back to managers and stakeholders to inform ongoing improvement. This proposed meeting of the rigor of the scientific method with the realities of management and policy in an imperfect world is immensely attractive. Proceeding with purpose, but being prepared to learn and adapt. Extended beyond discrete ecosystem contexts to take in broader cross-sectoral and cross-landscape applications, and institutional and societal learning dimension, this invites consideration of *adaptive policy processes, institutional arrangements, and management regimes*. Such an approach seems ideally suited to the challenge of sustainability.

To this end, the core challenges of institutional reform and design are expressed in the following principles for adaptive policy processes, institutional arrangements and management regimes:

- *Persistence*, because without the maintenance of efforts over time little will be achieved in the longer term
- *Purposefulness*, because efforts need to be guided by widely supported principles allowing forward progression and the monitoring of this (the principles stated in the Rio Declaration, and various restatements of these in national policies, provide the essential foundation)
- *Information-richness and sensitivity*, because without intensive monitoring, wide communication, and broad ownership and use of information, adaptation, learning, and improvement are not possible
- *Inclusiveness*, because without the involvement of concerned communities, groups, and individuals, little progress will be possible, lasting, or indeed desirable
- *Flexibility*, because persistence and purposefulness should not become rigidity, and need to be balanced by an open-mindedness and preparedness to learn and evolve

Underlying these five general principles is the question of spatial (and thus political and administrative) scale: institutions must accord with the very different spatial scales over which natural systems and human–natural system interactions operate. Moreover, trends of internationalization mean that flows of people, capital, information, and law are less constrained by the boundaries of nation-states, and so institutions for sustainable development must operate at multiple, interacting, and constantly changing scales.

These principles are generally instructive only and portray a hard, long-term task. Furthermore, they are not without tensions, such as between purposefulness on the one hand and flexibility and participation on the other. Optimization of each principle as an institutional attribute is impossible; rather, the task is achieving a creative, ongoing balance. At a broad level, though, they can serve as guiding principles for either assessing the appropriateness of existing institutional arrangements or for prescribing (or at least suggesting) the features needed in new or reformed ones. The next section develops these principles in more detail.

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Biographical Sketch

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