

## **IMPLEMENTING SUSTAINABLE DEVELOPMENT: INSTITUTIONAL FEATURES**

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### **Summary**

This chapter develops a human-centred and development-oriented approach to sustainable development that emerges from a reading of the relevant United Nations documents. It shows how this approach can be incorporated into the institutional design of a system and depicts the salient features of this system. Section I explains the position that sustainable development is human-centred and development-oriented by a brief survey of the relevant official United Nations documents. Section II outlines the analytical features of the human-centred and development-oriented approach, with particular reference to research in the fisheries and urban planning arenas, as good examples of sustainable development of oceanic and land resources. The

epistemological features of a Coasian interpretation built on neoclassical economic foundations are presented. Section III describes one possible interpretation of the essential features of a “win-win strategy” of economic development and sustainability of resources in the light of the effectiveness and limitations of the market in reflecting values of environmental attributes. Section IV discusses what institutional features are required for encouraging this win-win strategy. Reference is made to the ideas of other contributors to this topic where appropriate.

## 1. Introduction

“Open your eyes and see how beautiful the world is, and how lucky we are who are alive!” (Popper 1999a, p. 198)

In one of his final works, *All Life is Problem Solving* (Popper 1999b), Karl Popper warns us of the threat of terrorism to modern society. Yet, he espouses optimism in human problem solving in all walks of life, including the environment. Popper maintains that “optimism is a duty” (Popper 1999b, p. 143). This paper is written in the light of Popper’s words of wisdom.

Sustainable Development as a paradigm can be an elusive slogan without any workable method of implementation. Scholars and policy makers in various parts of the world have expended much effort in their attempts to provide workable guidelines and indicators for such a paradigm. For example, the Food and Agriculture Organisation of the United Nations (FAO) has viewed institutions as the means to achieve a balance between environmental integrity and human well-being. A research project of the UK Department for International Development regards six types of capital—natural capital, physical capital, human capital, financial capital, social capital, and stakeholders—as being significant in promoting sustainable development (Bahiigwa *et al.* 2000). The concept of stakeholders is also central to the Sustainable Land Management Guidelines for Impact Monitoring of the Centre for Development and Environment (CDE 2001). The institutional and stakeholder features of a system, however, could depend on the type of sustainability a community understands and wishes to pursue.

Generally speaking, there are two distinct approaches to the meaning of sustainable development. The first requires the *setting of critical limits for resource exploitation*. It emphasises non-renewable resources, or those only renewable on a very long time scale. These include the ozone layer, fossil energy resources, topsoil, and wetland habitats. The concept of non-renewability or irreplaceability entails the preservation of resources against development for the sake of protecting **biodiversity** and every niche of the local, regional, and global ecosystems. The institutional features of a policy package developed in the light of this approach to sustainable development would emphasise methods of management and control, usually administered by *a centralised authority that restricts market transactions*. There is a deep mistrust in this approach of voluntary behaviour, easily lending it to the service of anti-globalists and trade protectionists.

The second approach to sustainable development does not focus on non-human species or resources *per se*, but on the *interaction* of these species and resources with human society. It focuses on balancing social, economic, and ecological goals. It aims at

meeting a broad range of *human* needs and aspirations, including health, literacy, religious and political freedoms, as well as purely material needs. It is *human-centred* and *development oriented*. This concept has been endorsed in the *Rio Declaration*. This widely supported approach will not appeal to the materialist or hedonist, with their endorsement of consumerism and their insatiable quest for enjoyment. Nor does it concern itself purely with efficient resource allocation, ignoring equitable resource distribution. It is compatible with ethical norms and beliefs that respect free choice and concern for others. These norms and beliefs put stress on education and changes in perception through communication, dialogue, and internal transformation rather than suppressing or restricting behaviours.

This article has the object of further developing the human-centred and development-oriented approach by illustrating how it can be incorporated into the institutional design of a system. It depicts the salient features of this system. To achieve this objective, the rest of this paper will be divided into four sections, each providing further references to specialist discussions made by contributors of different persuasions who have written articles for this topic.

Section 2 explains the position that sustainable development is human-centred and development-oriented by surveying key official United Nations documents.

Section 3 outlines the analytical features of the human-centred and development-oriented approach to sustainable development, with particular reference to research in the fisheries and urban planning arena, as good examples of oceanic and land resources. The epistemological features of a Coasian (after R.H. Coase) interpretation informed by the idea of Schumpeter are built on neoclassical economics. The Coasian interpretation regards property rights institutionally as a means to constrain competition, an idea developed by the article of Mueller and Mueller (see *The Role of Institutions in Sustainable Development*) to explain that the state of sustainability is dependent on the property rights structure selected. Arguably, this interpretation is consistent with the tenets of *Austrian Economics* as elucidated by the article of Pennington (see *Free Market Environmentalism versus Environmental Market Socialism: An Austrian Perspective on Institutional Choice*), and with the perceived need to generate “an appropriate structure of incentives” as explained in the article of Batty (see *Sustainable Urban Planning: Models and Institutions*) with respect to the planning for and management of land resources.

Section 4 describes the essential features of an interpretation of a win-win strategy of economic development and sustainability of resources in the light of the effectiveness and limitations of the market in reflecting values of environmental attributes, as demonstrated by the study of the hedonic pricing literature in the article of Chau *et al.* (see *Hedonic Price Modelling of Environmental Attributes: A Review of the Literature and a Hong Kong Case Study*).

Section 5 discusses what institutional features are required for encouraging this win-win strategy. The key features are the establishment of a platform for integrative interactive dialogue; promotion of adaptability and resilience of resources, a point driven home by Charles’ article (see *Sustainability and Resilience in Natural Resource Systems: Policy*

*Directions and Management Institutions*); an understanding that the criteria for sustainability are evolving rather than being static; development of indicators of sustainability such as those suggested in the article by Lai and Leung (see *Economic Indicators of Sustainable Development in Fish Culture*) for aquaculture; and finally, a readiness to give up a resource when all criteria of sustainability cannot be met.

## **2. Sustainable Development as a Human-Centred and Development-Oriented Concept**

The challenge posed by the need to develop a viable global life support system is a difficult and complicated one. This challenge is characterised by the inherent tensions that underlie the very concept of **sustainable development**. A type of tension is the simultaneous advocacy for various universalist notions, such as free trade, equity and respect for the idiosyncrasies and specificities of individual countries or cultures.

Another type of tension occurs because of the apparent contradictions and tensions in the understanding of the general concept of sustainable development itself. Such contradictions and tensions arise largely due to the tendency of some theorists to equate sustainable development to sustainability of biodiversity with the stress put on non-human species. This is an extreme school of thought, as sustainability is a qualification for and not a veto of development. This extreme view, often attributed to the report *Our Common Future*, of the Brundtland Commission (World Commission on Environment and Development 1987), is shared by many ecological theorists (e.g. Barbier 1987; Barbier and Markandya 1990; Barbier *et al.* 1990; Shiva *et al.* 1991; Sachs 1992; Norgaard 1994; Callicott and Mumford 1997; Folmer and Tietenberg 1997). Emphasising the damage of human actions on the environment, especially the depletion of non-renewable resources, these theorists tend to ignore another equally important dimension of sustainable development, namely development for the economic and social progress of human beings. Indeed, some such theorists simply drop the expression development altogether and use the term sustainable world community or sustainable and just economy instead, implying a stationary economy as being the most appropriate mode of coexistence of human and non-human species.

The *Rio Declaration* unambiguously asserts that sustainable development is human-centred and respectful of the right of human development at the same time that the environment is not to be abused by human beings in such rightful development. Evidence of this interpretation is found in the following principles of the Declaration:

*Rio Principle 1*: “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.”

*Rio Principle 3*: “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.”

*Rio Principle 4*: “In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.”

Chapters 2 and 3 of another official document ensuing from the Earth Summit, *Agenda 21*, condemned to be the “secular bible of global free markets and pluralist democracy” by Doyle (1998), are also relevant to our discussion. Chapter 2 of *Agenda 21*, entitled “International Co-operation to Accelerate Sustainable Development in Developing Countries and Related Domestic Policies” envisages a “more efficient and equitable world economy” and that environmental policies “should address the root causes of environmental degradation so as not to result in unjustified restrictions on trade.” Chapter 3, entitled “Combating Poverty” advocates a bottom-up, community-based approach that must be geographically and ecologically specific in addressing local needs. The emphasis is on what economists would call specificities.

The bias against the development dimension of sustainability has led to an unfortunate reactionary stance towards investment activities on land and in the sea that potentially are capable of enhancing sustainability. Instead of finding ways to balance the needs of development and ecology, not to mention developing means of development by which growth and ecology can be, within limits, mutually supportive, there is a view that resisting, delaying, frustrating, and pre-empting development is a measure of success in promoting sustainability. A consequence of obstructing development in the name of biodiversity in this purely repressive manner is the piling up of effective economic and political demand, which eventually takes a much greater toll on the environment when such demand overwhelms the obstructions. Large-scale habitat destruction in many previously centrally-planned countries testifies to this proposition. Thus, a constructive view of sustainability must pay due regard to the balance of development and environment and must not assume that development and ecology are always and in every instance mutually incompatible.

As an example, the FAO’s *Code of Conduct for Responsible Fisheries* logically follows the balancing aspect of development and ecology (Garcia 2000):

*FAO Principle 1:* “The natural resource base (land, water, plants and genetic resources) should be conserved and the environment should not be degraded.”

**FAO Principle 2:** “The human economic and social needs should be continuously satisfied, now and in the future.”

*FAO Sub-principle 2.1:* “The human needs (in terms of sustainable access to high quality and safe food, employment, income and recreation), and social/ethical values should be satisfied.”

*FAO Sub-principle 2.2:* “The economic conditions of the fisheries (e.g. in terms of incentives, costs, revenues, prices) should be conducive to long-term economic viability.”

FAO Principle 3: “An effective management system should be in place, to orient the institutional and technological change required.”

Sub-principle 3.1: “...(3) elimination of excess capacity”

Regarding implementation, “...(12) conducting international trade according to WTO principles, rights and obligations, without market distortions and trade barriers; ... (14) aiming at cost recovery (of research, conservation and management)”.

It is clear from the above extracts from the *Rio Declaration* and the *FAO Code of Conduct* that economic indicators *must* form part and parcel of any system for evaluating sustainable development. Furthermore, the institution of the *market* is to be fully utilised to promote sustainable development, with due regard to environmental and ecological implications. The onus is on those who disagree to challenge the express statements of the *Rio Declaration* and the *FAO Code of Conduct* quoted above. Furthermore, we need to reiterate that the implicit assumption of the ecological school of sustainability that development and ecology are necessarily mutually exclusive or that a trade-off is always involved need not be correct. This stance is best illustrated by the *UN Chronicle* (June 1992, p.46), which explains, “Sustainable development is a complex concept more easily defined by what it is not, then by what it actually is. Fundamentally, it is not based on the conventional belief that economic progress and environmental protection are mutually opposing goals.”

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Popper K. (1999a) *Undended Quest: An Intellectual Autobiography*. London: Routledge.

Popper K. (1999b). *All Life is Problem Solving*. London: Routledge. [Popper reviews his ideas about open society and expresses his views about the major political issues in the last century. He mentioned his concern with population explosion and his perception of the “Greens”. He concedes that “some problems – air pollution, for example, may require special legislation....” (p.101).]

Posner R.A. (1992). *Economic Analysis of Law*. Boston: Little Brown. [This book applies the concepts of the new institutional economics to legal research, and the idea of “economic analysis of law” has become the name of popular courses in law and econ schools.]

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Sachs W. (1992, ed.). *The Development Dictionary: a Guide to Knowledge as Power*, 306 pp. London: Zed Books. [This is not a dictionary of a massive amount of terms, but a collection of 20 articles on the key terms in the development paradigm. Although the concept of “sustainability” only appears in two pages of this dictionary used by Shiva (referred to below), the intellectual elements in support of a new perspective of “development,” such as sustainable development, are emerging.]

Sadovy Y. (1998). Marketing and monitoring live reef fishes in Hong Kong, an update. *SPC Live Fish Information Bulletin* Issue 4, pp.51-53

Sager T. (2001). Positive theory of planning: the social choice approach. *Environment and Planning A* Vol.33 No.4, pp.629-647. [This article surveys the positivist approaches to planning inquiry and gives an account of the social choice approach that emerges in the new institutional economic.]

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Schumpeter J.A. (1934). *The Theory of Economic Development*. 437 pp. Cambridge: Harvard University Press. [This is one of the leading works of Schumpeter, another Nobel Prize winner. It argues that socialism is a logical outcome of developed democracy, one under capitalism, as the latter generates the necessary human capital for socialism.]

Scott A. (1955) The fishery: the objectives of sole ownership. *Journal of Political Economy*, Vol. LXIII, pp.116-124.

Shiva V., Anderson P., Schucking H., Gray A., Lochmann L. and Cooper D. (1991). *Biodiversity: Social & Ecological Perspectives*, 123 pp. London: Zed books. [This book consists of five chapters. Chapter 2 by the first author explains the weakness of the profit mechanism for biodiversity conservation as in the case of commercial monoculture plantation.]

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Smith A.H. and Berkes F. (1991). Solutions to the tragedy of the commons: sea-urchin management in St. Lucia, West Indies. *Environmental Conservation* Vol.18 No.2, pp.131-136. [This paper explains how the problem of open access is tackled by reference to the example of sea-urchin management in St. Lucia.]

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Staley S.R. (2001). Ballot box zoning, transaction costs and urban growth. *Journal of the American Planning Association* Vol.67 No.1, pp.25-37. [This paper empirically evaluates the effects of democratic participation in vetoing development applications, affirming the view that over participation can sabotage development and lead to fall in investment.]

Strauss M. (1998). Fish catch hits a new high. *Vital Signs 1998* (eds. L.R. Brown, M. Renner, C. Flaivin *et.al.*), pp.34-35, New York: Norton.

Tregear T.R. (1958). *A Survey of Land Use in Hong Kong and the New Territories*. The World Land Use Survey (ed. L. Dudley Stamp) Monograph 1: Hong Kong. Hong Kong: Hong Kong University Press Geographical Publications Limited. [This is a good reference to the state of the agricultural sector in Hong Kong at the time her “industrial take-off” occurred.]

Tullock G. (1993). *Rent Seeking*, 98 pp. London: Edward Elgar. [Tullock presents his ideas of non-price competition and rent seeking activities.]

United Nations (2000). Rio Declaration. *The Globalisation Reader* (ed. Frank J. Lechner and John Boli), pp.381-384. Oxford: Blackwell. [This chapter is the Rio Declaration itself.]

Weber P. (1995). Net loss: fish, jobs and the marine environment. *Worldwatch Paper 120*, <http://www.worldwatch.org/pubs/paper/120.html>.

Webster C.J. (1998a). Public choice, Pigovian and Coasian planning theories. *Urban Studies*, Vol.35 No.1, pp.53-75. [This paper discusses the role of Coasian economics in public choice issues of town planning.]

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Webster C.J. and Lai L.W.C. (2003). *Property Rights, Planning and Markets: Managing Spontaneous Cities*, 249pp. Cheltenham: Edward Elgar. [This book is a synthesis of the ideas of Webster and Lai in respect of the urban planning and management in terms of property rights. The hallmark of this work is that the influence of Austrian economics is more pronounced than in their previous works.]

Webster C.J. and Wu F. (1999a). Regulation, land-use mix and urban performance. *Environment and Planning A* Vol.31 No.8, pp.433-442. [This paper, in two parts, discusses regulation and the market interacting to affect land-use mix.]

Webster C.J. and Wu F. (1999b). Regulation, land-use mix and urban performance. *Environment and Planning A*, Vol.31 No.9, pp.529-1546. [A sequel to Webster and Yu (1999a) above.]

Webster C.J. and Wu F. (2001). Coase, spatial pricing and self-organising Cities. *Urban Studies* Vol.38 No.11, pp.2037-2054. [This paper discusses Coasian transaction costs concepts and their relevance for spontaneous organisation cities.]

Wood E. (2001). Global advances in conservation and management of marine ornamental resources. *Aquarium Sciences and Conservation* Vol.3, pp.65-77. [This paper presents world wide attempts to enhance conservation of marine resources in respect of ornamental species, which used to be exploited as a pure open access resource.]

World Commission on Environment and Development (1987). *Our Common Future*, 400 pp. Oxford: Oxford University Press. [This is the original authority of the idea of sustainable development.]

Yu B.T., Shaw D., Fu T. and Lai L.W.C. (2000). Property rights and contractual approach to sustainable development, *Environmental Economics and Policy Studies* Vol.3 No.3, pp.291-309. [This is the paper in which Yu's interpretation, using conventional neoclassical techniques, is first discussed. The techniques help distinguish the "soft" from "hard" sustainability. Examples of the application of this interpretation to promote sustainable development from Hong Kong and Taiwan are demonstrated.]

#### Some relevant web sites

<http://www.ulb.ac.be/ceese/english/indexuk.htm>

<http://www.cde.unibe.ch/>

<http://iisd.ca/default.htm>

[http://www.ksdn.or.kr/index\\_e.htm](http://www.ksdn.or.kr/index_e.htm)

<http://www.iisd.ca/linkages/>

<http://www.igc.apc.org/habitat/csdngo/surviving.htm>

<http://www.rprogress.org/>

<http://sdgateway.net/>

<http://www.iadb.org/sds/>

<http://www.ecouncil.ac.cr/>

<http://gssd.mit.edu/GSSD/gssden.nsf>

<http://www.un.org/esa/sustdev/csd.htm>

<http://www.westonsolutions.com/>

<http://www.wbcd.ch/>

#### Biographical Sketches

**Professor Dr. Lawrence Lai** is Reader in economics, law and planning with the Department of Real Estate & Construction, University of Hong Kong. Professionally, he is a member of Royal Australian Planning Institute, Hong Kong Institute of Planners, Chartered Institute of Logistics and Transport, International Association of Aquaculture Economics and Management, World Society for EKISTICS. With government and consultancy experience in the arena of planning and environmental protection, his research interest is in the economics of planning, heritage conservation and sustainable development.

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