ENVIRONMENT AND DEVELOPMENT

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Contents

Summary

The pressing need to combine protecting the environment with sustaining development has become increasingly recognized. This theme deals with environmental and ecological sustainable development. Environment damage has not only created obstacles to sustainable economic development, but is also posing great threats to human health and life, to ecological systems and the natural world, and to the socio-cultural environments in which human beings lead their daily lives. The growing pace and scale of environmental damage calls for prompt and comprehensive responses. The future of the environment and of sustainable development depends on the continuous acquisition of knowledge, the evolution of new conceptual frameworks and strategies, and the mobilization of political will and socio-economic resources. Certainly the issues raised by environmental protection and "sustainability" are complex ones. Only persistent individual and collective efforts by communities, scientific societies, social groups, governments, and the international community can find solutions to meeting future challenges.

1. Changing Perceptions

1.1. The Environment and the Concept of "Sustainable Development"

People have long been concerned with the health of the environment. It was not until the 1960s, however, that conceptual frameworks focusing on the environment and development began to emerge. The publication of Rachel Carson's *Silent Spring* in 1962 was a landmark event which has often been regarded as marking the beginning of the environmental movement. The concept of "sustainability" was formulated as a result of discussion of the linkage between pesticide use and widespread pollution, of the effects of pollution on the health of humans and other animals and plants, and through proposals for managing resources in a way which does not destroy supplies of resources

needed in the future. In the following decades, an increasing awareness of the need to balance human needs with the well-being of the natural world has grown. Much literature and discussion has addressed this theme, and a wide variety of social and political policy responses has been developed.

Human perceptions are socially and historically constructed. During industrialization a world-view of human welfare evolved which was based on materialism and the pursuit of wealth, achieved primarily through economic development, which is usually measured in terms of industrial expansion and economic growth. By the mid-twentieth century, as the industrialized countries looked to ever higher material standards of living and less-developed countries accelerated industrialization in emulation of their achievements, this world-view—based on the "conquest" of nature—had been accepted almost universally. The pursuit of development had become so important that nothing else seemed to matter very much. A country is considered "developing" when it is experiencing expansion of its productive capacity. The crudest, and most commonly used, indicator of this is Gross National Product (GNP), and/or GNP per capita. The well-being of all people depends largely on economic growth, which must keep pace with population increases: indeed it is difficult to imagine development without economic growth. As a result, however, nature has been sacrificed in the name of economic development. The pursuit of wealth and exploitation of the planet had taken place on an individualistic basis, on a collectivist basis, or a mixture of the two. Environment problems began to cause increasing concern in growing segments of societies, however, mainly in the developed countries.

The intensification of environmental concerns in the 1960s led to questioning of the conventional orthodoxies of economic growth. In 1972 the Club of Rome, composed of prominent political and social figures, published an important report, *The Limits to Growth*. This formed part of the critique of the industrial world-view which climaxed in the late 1960s and early 1970s, and hence was known as the "Doomsday" debate. The critique challenged the conventional pursuit of growth objectives. *The Limits to Growth* pointed out that growth cannot be pursued without limit because the world's resources are finite, and argued that the accepted model of exponential growth was harmful to the global equilibrium between population and resources. Such growth could not be sustained, as it would challenge the finite nature of the world's endowment of natural resources. The report therefore recommended an end to existing growth patterns in order to recover an equilibrium. It was followed by calls for "zero-growth" strategies in some developed countries.

The Limits to Growth, in criticizing "growth fetishism," prompted a fresh look at the relationship between economic growth and environment. However, anti-growth sentiments in turn prompted wide criticism. This dialogue was later partially superceded by suggestions that environmental protection and continuing economic growth were not in fact mutually exclusive aims, and therefore not necessarily in conflict. From this debate arose the concept of "sustainable development." This term was first used at the time of the Cocoyoc Declaration, adopted by the UN Environment Programme (UNEP) and UNCTAD in Cocoyoc, Mexico, in 1974. It entered the public arena in 1980 when the World Conservation Strategy was presented, in pursuit of the overall aim of achieving sustainable development through the conservation of living resources.

The argument for sustainable development holds that economic growth at the expense of uncontrolled depletion of natural resources is, by definition, not "sustainable." Present ecological conditions must be protected, in order to support a specific level of human well-being and for the benefit of future generations. This argument opposes seeking economic growth at any cost, and emphasizes not only the opportunities but also the constraints that the natural world presents to human activity. Therefore, sustainability begins with the notion of *ecological* sustainability, and calls for a broader view of both economics and ecology. The concept of sustainable development has left many issues in the relationship between environment and development to be debated further, however. While many consider—or wish to believe—that the needs of development and the environment should not be in automatic conflict, even today the two have not been reconciled into a harmonious relationship. The relationship has been approached from a number of perspectives, reflecting different world-views of the relationship between humanity and nature. The basic conflicting world-views may be seen as those of anthropocentrism and of biocentrism.

The *anthropocentric* tradition maintains that humankind is above nature, and has the right to subjugate it. It has both religious and secular aspects. Christianity is by far the most anthropocentric of the major religious traditions, which calls on humankind to impose its will on the natural world. This tradition has become integrated into the secular world in the form of industrialism, expressed by the scientific–rationalist concept. This concept has its roots in the ideas of Bacon, Newton, Descartes, and others who believed that planet earth exists for the benefit of the human race. The human world is seen as separate from the natural world, and humankind as superior to the rest of life on earth. It is largely on the basis of this view that social sciences were established as distinct disciplines independent from natural science.

The opposite view is the *biocentric* tradition. This tradition opposes the pursuit of wealth as a goal in itself, and seeks to enhance the non-material dimension of the human experience. It emphasizes quality of life, which is seen as quite distinct from the quantity of material possessions. The biocentric view gives greater recognition to the wholeness of the planet, regarding the pursuit of wealth through industrial expansion and economic growth as ultimately incompatible with the earth's finite resource base. This view also takes the position that economic growth at the expense of natural resources represents consumption of what belongs rightly to future generations. It promotes the idea of "right livelihood": in other words, that consumption should be based on human need rather than human greed.

The anthropocentric view gained ground during the era of industrialization. The development of social sciences most clearly reflected this trend. By the early twentieth century, social sciences incorporated two important notions that had been very influential up to that time. The first was that economic growth was essential to the health of human society, and that this could be achieved on the basis of exploiting natural resources. The second was a reliance on "non-naturalistic" explanations of the development of human societies. Contemporary social sciences had tried to break free from biologically grounded social theory, insisting on the distinctive features of social processes as opposed to evolutionary development and social Darwinism. In the context of the emerging environmental debate in the 1960s, the detachment of social sciences

from natural science began to be questioned, and the industrial world-view associated with the anthropocentric tradition was challenged. The new thinking emphasizes that humankind is part of nature, and that all life forms are interconnected. It follows that if humankind seeks to "subjugate" the planet this threatens its own existence, potentially leading to the destruction of humankind together with nature.

Tensions between these two scientific traditions—exemplified by different approaches to relationships between humanity and nature, or between the environment and development—continue today. It must be recognized that the anthropocentric position, in its various guises, remains dominant in the mainstream thinking of national and international societies. On the other hand the influence of the ecological critique of the industrial world-view, and that of the ecological movement on political decision-making and social processes, has grown enough to warrant attempts by anthropocentric thinkers and practitioners to "dilute" the domination theory. As a result, the concept of sustainable development has become embraced by a growing number of social forces. This has meant wider acceptance of the idea that some attention must be paid to environmental concerns. A diversity of perspectives and approaches emerged in relation to this development, as well as a range of policy options with regard to the environment and development.

1.2. Different Approaches to Sustainable Development

With increasing public acceptance of the concept of sustainable development, a whole spectrum of perspectives linking anthropocentric and biocentric views has developed. A ladder-like set of approaches and policy options associated with sustainable development has been identified. On the top of the "ladder" is the ideal approach to sustainable development. This position has been termed the "ecological" approach, as represented by the deep ecology movement. It envisages a form of "pure" sustainable development, in which humankind puts as much into the world's ecosystems as it takes out. Because humankind is seen to be living within finite ecological constraints, economies will have zero growth in quantitative terms. Instead growth should be measured in qualitative terms, in other words on the basis of quality of life rather than standard of living. Quantitative growth may occur only in certain areas—for example, in developing countries and poorer areas of developed countries—but there must also be *negative* growth in areas which are already highly developed. This ecological position is based on the biocentric view, viewing the earth as a home for all life rather than simply for humans. Non-human life is seen as valuable in its own right, independent from its usefulness to humans. The underlying conviction is that human beings should live in harmony with other living beings and processes. Seeking a morally egalitarian understanding of the value of different forms of life and adopting a holistic attitude towards planet earth, this model apparently offers a radically new attitude towards nature, to be expressed by radical change in existing social, economic, and political systems.

This ideal model emphasizes the social aspects of development, and considers the existing systems for measuring development as largely inappropriate. Instead, it proposes working out a more detailed set of development indicators that focus on quality of life. Greater account should be taken of production activities outside the

formal economic system: for example, not-for-profit economic activities by community based organizations. Such activities are important to the improvement of quality of life, and would therefore be encouraged even though they do not create monetary wealth. The ecological model of sustainable development has a small following, partly because some of its tenets can easily be dismissed as eccentric and/or untenable. For example, it is far from obvious to many people that everything that has life should be valued in the same way as humans. The concept of zero growth as a solution to the environment problems of our era has also been rejected by many. Nevertheless the ideal model, and social movements committed to it, can serve as a useful reminder for the necessity for change in the face of the difficulties of incorporating environmental values within the existing economic paradigm and system.

The next rung down the ladder is occupied by "strong" sustainable development. This position opposes the claim that economic development is a precondition of environmental protection, and argues that environmental protection is a precondition of economic development. This requires a new kind of economic development, which is more focused on the environmental dimension than has been the case hitherto. Under "strong" sustainable development, political and economic policies are geared to maintaining the productive capacity of environmental assets which are either worthy of preservation, such as tropical forests, or are capable of being improved, such as degraded soils. The accomplishment of this goal requires not only market regulation and state intervention but also the involvement of local communities, in such matters as the development of local economies and sustainable utilization of local environments. This approach puts less emphasis on quantitative growth. Unlike the ideal model however, which calls for an end to *quantitative* growth, it advocates a switch to *qualitative* growth, while the overall objective of sustaining economic growth remains.

Policy instruments are particularly important to the "strong" approach to sustainable development. A wide range of tools and mechanisms in legal, economic, fiscal, and environmental sectors is needed to influence or force changes in economic and social behavior. Government instruments in the environment sphere would include legal regulation in areas such as land-use planning; financial incentives and economic measures such as green taxes, pollution charges, tradable resources, and pollution permits; subsidies and deposit-refund schemes; various kinds of public expenditure; and encouraging changes in behavior through information, publicity, and persuasion.

Below this lies "weak" sustainable development, which aims to integrate economic growth with environmental concerns. This position argues that there are two fundamental dimensions of sustainability:

- sustainable development, that is, the sustainable growth of per capita real incomes over time which is the traditional economic growth objective
- sustainable use of resources and the environment.

Under this position, the principle of new classical economics may be applied to the solution of environmental problems, and the main objective of policies to promote sustainable development remains economic growth. The difference from the "traditional" growth model is that environmental costs are taken into consideration

through, for example, new accounting procedures. These procedures reflect the fact that the environment is considered a measurable resource.

"Weak" sustainable development has had a growing influence on international agencies, including the World Bank and the UN, and corresponds with what is usually intended by environmental management. Apparently it is closely associated with the anthropocentric view of nature as providing both material and environmental wealth to serve humankind. *Material* wealth creation is viewed as inseparable from *environment* wealth creation, which can be achieved through technical manipulation by enlightened managers equipped with new managerial and administrative tools. These include environmental impact assessment, cost-benefit analysis that takes account of the non-market aspect of environmental goods and services, and marginal adjustments to market forces using policy tools such as fees, taxes, and tradable permits.

The critique of this approach argues that the resource accounting method it endorses is highly ethnocentric, and biased in favor of the view of developed countries in terms of the development process. "Weak" sustainable development values the environment only in monetary terms, and not for its own sake in cultural or spiritual terms. As a result it leaves the new classical economic paradigm, with all its limitations, intact. It reduces environmental problems to managerial problems, which are viewed as soluble without changing the dominant political and economic system. The main beneficiaries of this model of development are the present generation, as opposed to future generations. Furthermore, this "environmental management" approach often takes no account of local peoples' relevant experience. Consequently, governments and policy makers run the risk of importing inappropriate solutions to environmental problems from elsewhere, typically from the industrial "core" to its "periphery."

At the bottom of the ladder is the "treadmill" approach, which is represented by multinational companies and the world of high finance. This approach sees the natural environment solely in terms of its utility to the economic system: sustainable development becomes synonymous with sustainable economic growth, which is measured in terms of the expansion of production. Under this approach, conventional methods for the accounting of wealth remain intact and the focus is on a narrow range of economic indicators such as income, investment, profit, and exports. Policy tools continue to aim at maximizing production and economic growth. Because this approach emphasizes the monetary dimension of economic activity, it often ignores its environmental impact. The "treadmill" approach views development in terms of the extension of western capitalist development into other areas of the world. The underlying assumption is that human ingenuity, given full freedom of innovation (especially expressed through technology), can solve any environmental or technical problem. According to some adherents to this approach, there is no limit to the capacity for humans to manipulate environmental systems, because humans' capacity to understand the world is unlimited. Essentially this approach, emphasizing the production imperative with little or no concern for environmental consequences, was the dominant position adopted by industrial capitalism until the early 1980s, and it is still to a large extent reflected in the industrial world. For economic activities, such as those in modern enterprises, based on the principle of maximization of profit the primary aim is to ensure competitiveness in the market. It is not hard to understand that environmental

regulations which may increase production costs are unlikely to be welcomed.

Defining these four approaches may help to understand the policy debate associated with different approaches towards sustainable development at international, national, and sub-national levels. Certainly these approaches are not mutually exclusive. They represent a spectrum of schools of thought which often overlap in various respects. For example, "strong" sustainable development supports the role of the not-for-profit organizations operating in the economy, which has also been promoted—albeit more strongly—under the "ideal" model. The further the approaches diverge from each other, however, the less they agree on the substance of sustainable development and the most appropriate methods for delivering it. There is little in common between the extremes of the spectrum. Nevertheless, the four approaches and their variations represent all possible conceptualizations of the relationship between humankind and nature, as well as of the solutions to the contemporary environmental crisis.

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Biographical Sketch

Aiguo Lu gained a Ph.D. in Sociology from the State University of New York at Binghamton, USA, in 1992, and has been a Research fellow at the Institute of World Economics and Politics, Chinese Academy of Social Science, China, since 1981, and Research Fellow at the World Institute for Development Economics Research in Helsinki, the United Nations University, in 1994–7.