Chapter 16

SYNERGY FOR SUSTAINABILITY

Law, Science, and Computability

Wallace R. Baker

Introduction

At the most general level of analysis, concerns pertaining to sustainability includes the viability of (1) ecological configuration, (2) economic activity, (3) political behavior and governance, and (4) institutional performance. This chapter addresses key issues pertaining to law and implications for sustainability (Choucri, 1999: 149), and, by definition, to each of these domains as well.

Earlier in this book, we presented the overall GSSD design, including the segment on coordinated international initiatives for global accord. This segment is represented in the outer circle of the system. Implicit in the overall design is the assumption that there has been considerable progress in the international community’s understanding of, and responses to global environmental problems and the challenges of sustainability which still fall short of solutions for most of the serious problems confronting us. A related assumption throughout the entire book is that advances in computer-related technologies facilitate our understanding of, and responses to, dilemmas of sustainability at local as well as global levels.

Context

Law, along with ethics, often a component part of law, not only plays an important role in coordinated international activities (the outer circle of the system), but is also mixed into all the other rings, often in important ways; for example, in the rings “From Activities and Conditions,” “Sustainability Problems,” and “Social Circle and Technical Solutions,” laws and regulations apply to most, if not all of the subjects mentioned in these circles. This increase in understanding is in large part due to the realization that problems

of sustainable development can only be solved through application of knowledge from many fields in science, technology, biology, medicine, the social sciences and the law, including its ethical element. This chapter examines how law itself could become more effective by absorbing knowledge from other disciplines.

**Focus**

In this chapter we take a step back by adopting a broader perspective on the issues of law and legal and ethical precepts governing social interactions, for the purposes of exploring potentials for synergy in assessments and understandings. One purpose of this effort is to remind ourselves of some generic underlying issues related to providing order in complex social contexts – and recognizing the dilemmas posed by our increasing appreciation of the imperatives of complexity. A second is to explore some potential basis for “value added” derived from dual sources of insights: law and legal practice, on the one hand and science and computability, on the other. Most, if not all of the problems reflected in the Global System for Sustainable Development require knowledge from multiple disciplines – the natural sciences and the social sciences – and reflect current understandings of the sustainability domains and dimensions, the “outer circle” is about coordinated international actions, namely what we can do as an international community to manage the challenges generated by imperatives of sustainability.

Many of the illustrations (and anecdotes) introduced in this chapter draw upon legal discourse within advanced industrial societies; but it is important to remember that the issues central to this book – challenges of sustainability – are ubiquitous as well as generic. They cut across types of societies and levels of institutional development. And, most important of all: we must stress that the lines of inquiry pursued here is exploratory in nature. It is shaped by the overall logic of the previous chapters and the architecture of GSSD as an interactive agent interface between “users” on the one hand, and the rapidly growing “virtual community” generated by Internet, on the other.

**16.1 Progress in Law**

In the field of law there have been no Newtons, Lavoisiers, Darwins, Einsteins, or others who developed the quantum theory which governs the behavior of transistors and integrated circuits and is the basis of modern chemistry and biology (Hawking, 1988: 56). Scientific discoveries more recently, especially those in quantum mechanics, have triggered remarkable scientific progress which embodies new theories and paradigms which do not replace classical