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### Book Reviews

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## Book Reviews

### **Common Wealth: Economics for a Crowded Planet**

Jeffrey D. Sachs

*Penguin Press, 2008. xiii + 386 pp., US\$27.95 (hardcover), ISBN 978-1-59420-127-1*

*Common Wealth: Economics for a Crowded Planet* is a reasoned interpretation of many major forces shaping the future of the globe accompanied by policy prescriptions on several fronts including population, natural resource usage, management, economic development and poverty alleviation. Interactions between these elements are skillfully exposed. There are numerous reasons why non-technical lay persons and academics alike should read the book, although the reasons may differ.

The book is divided into four major sections. The first three, on environmental sustainability, global demographics and economic development can stand alone while the fourth may make less sense without reading the first three. In the first section, the author lays out the anthropocene and the current environmental issues of climate change, water use and biodiversity. In the second section, population growth dynamics and the demographic transition are overlaid as both an effect and cause of anthropogenic stress. The third section pulls these elements together to explain poverty and merging poverty traps and the destabilizing force of global inequality in wealth and resource use. The fourth section offers 'problem solving' approaches to confront these issues.

Professionals and academics working on global issues of development, resource use and conservation will be familiar with the Malthusian premise and modern variants of the population-driven over consumption thesis and its attendant effects. Despite this, the book is difficult to dismiss as more of the same because of its timely relevance evidenced by food and fuel price shocks, growing empirical evidence on climate change and unbalanced growth in national economies. All of this is exposed against the backdrop of US foreign and environmental policy.

Readers exposed to these issues will easily follow the logic and flow of the book as much of the framework is shared in the theory underlying coursework in economics, community and social development, human and environment interactions, politics and political economy. With this in mind, the author uses these time-honoured frameworks for interpreting climate change, water scarcity, biodiversity and 21st century demographics in a highly synthetic and approachable manner. For the technical expert in these fields, the book will be easy to read because of its consistency and many may find it valuable because of the author's ability to synthesize across disciplinary boundaries. This often lends policy prescriptions towards broad generalizations but

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these prescriptions are made with artful skill. Nonetheless, I found many of the recommendations oversimplified and perhaps better suited for a non-technical or non-expert audience.

With this said the book has a second benefit as a primer for graduate or advanced undergraduate coursework. Many of the themes and theories that underlie the logic of the book are topics of primary importance in survey courses on of international development and global resource use. There is a balanced presentation on technological change issues and policy opportunities. This text could be used to either to introduce these topics to students or as illustrations couched in modernity. What is lacking, however, is an exposure of these topics within the context of highly variable governance capacity of many nations, both of high and low income.

Many may find the optimism for potential change mobilizing, others may find the book unbalanced. Many policy prescriptions are broad and purposefully vacuous. What is undeniable is that the book pulls together interdisciplinary elements that underlie the current environmental state of the world, their relationship to economic development and global equity while offering a break from the past with proactive opportunities to contribute to remedying these defects. This type of message can energize students and reinvigorate stumbling practitioners like myself.

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### **Sufficient Reason: Volitional Pragmatism and the Meaning of Economic Institutions**

Daniel W. Bromley

*Princeton University Press, 2006. xi+244 pp., US\$39.95 (hardcover), ISBN 978-0-691-12419-3*

This book is a must read for those seeking a framework for making sense of institutional and policy change associated with natural resources, environmental and ecological systems. It is not for the weak at heart, however, as it is a complex book which takes serious study. It is also a precise book: Bromley is not only a substantive institutional economist but is also a student of etymology. Words are chosen carefully like mathematical economists carefully choose symbols in forming equations: the resulting economic story is intricate; one needs to take the time to read carefully.

In passing, we might also note that the book is a critique of, and provides an alternative to, traditional welfare economics theory. For my review of this dimension, see Lynne (2007).<sup>1</sup> The focus here is on what the book means for a broader range of the sciences and law.

Bromley draws on both John R. Commons' 'artificial selection' and Thorstein Veblen's 'cumulative causation' in making the case for sufficient reason as the foundation of institutional and policy change. He also works to convince the reader that one can make more sense of institutional and policy change from the perspective of volitional (philosophical)

pragmatism. We come to understand that such change involves regular people, who, after becoming 'irritated' into taking action, ultimately make these changes.

Policy change reflects purposeful action with three elements (pp. 112–114): first, a volitional premise reflecting emerging beliefs seeing a better future. Second, an epistemic premise based in scientific as well as traditional beliefs and knowledge. Third, the practical necessity for change, the three elements giving new sufficient reason(s) for moving forward, doing the best we can at the time. The volitional premise combined with practical necessity points to what must be done, no matter the benefits and costs, arising in the judicial, parliamentary, administrative and other forums, not just in the market. The volitional premise looks to the present in terms of the future (based on co-evolving visions of the future) rather than looking to the future in terms of the past (traditional benefit–cost analysis based in discounting the future). The epistemic premise, including both scientific and common understanding, helps in forming new reasons. Policy change shifts to truly enhancing individual and social well-being over time, rather than with discounting future gains. New behaviours and prices evolve in response to new policy and institutions. We look to the future rather than using the current set of prices to dictate the future, the latter describing standard benefit–cost analysis. Public policy is 'collective action in restraint, liberation, and expansion of individual action' (p. 23), but always a policy that sees a vision for a new future reflected in 'creative imaginings' (p. 72). During this creative process, we arrive at new settled beliefs and sufficient reason for taking these pragmatic actions. Pragmatism gives the guidelines for what we see as truly warranted beliefs underlying sufficient reason. So, policy and institutions are about more than constraining individual pursuit of self-interest, including also now the liberation of new pursuits. This is about tempering and conditioning self-interest by the shared set of interests evolving in the process; the policy process gives and takes away based on what seems the best thing to do at the time. Economy needs to speak to both good and bad ends, not just being concerned with allocation among given scarce ends; it is through the policy process individuals in the economy so speak. Also, this is not about the operation of an invisible hand or a spontaneous order, but rather about people—individuals, families, communities, nation-states—constructing the order together, acting very much with a visible hand. We actively change the institutions—we change the norms and traditions, the working rules of organizations and the property rights and duties. This is not about interference, but rather about seeing new futures, together. This is especially the case for changing property rights and duties: we are often surprised when these rights and duties come to be viewed differently, and we arrive at new meaning for a new property right (p. 194); we just need to recognize the reasons—we seek sufficient reasons, which evolve over time. When do these institutional, including property right/duty, changes occur? Change arises when surprise and, as noted, the resulting 'irritation of doubt' (p. 96) emerges to bring it into conscious consideration, rather than continuing to operate on automatic in the 'status quo ante' (p. 73) of the past. Surprise causes us to act on abductive belief, looking for reasons, rather than the mere deductive and inductive. Individuals now have actual choice—not calculated, mechanistic choice—reflecting the 'human will in action' (p. 15), looking to the future and facilitated in a truly democratic market process. We are not 'homogeneous globules' (p. 69) reacting to market stimuli; this is not about endogeneity within a machine-like market process (p. 71). Rather, we are engaged individuals working on co-evolving shared visions with others, grounding the future market outcomes on valuable belief justified by reason—rather than on mechanism. A newly formed 'institutionalized

personality' (p. 49) responds to these new institutions, especially the new rights and duties.

Ways to think about policy and institutional change related to environmental pollution, long regarded as 'the essence of market failure' (p. 200), take on new life. The Coasian framework, so dominant in traditional economic reasoning, sees efficiency in what is, and if pollution describes what is, the pollution is not only efficient but good. With efficiency viewed as inherently good, any attempt to address the pollution problem is viewed as interference. Bromley finds this odd: rather, interference in the market is volitionally pragmatic and based upon new, sufficient reason. This way of thinking moves us beyond the circularity of traditional Coasian-based economic approaches, with efficiency calculations now taking on their actual meanings: true efficiency emerges only in the context of a jointly envisioned, good future rather than entrenched, often a bad (polluted) past. Actions can now be taken even when current prices used in calculations result in showing benefits less than costs, because changing the context changes the future prices such that the benefits actually will in the envisioned future exceed the costs. The ecosystem becomes efficiently clean rather than remaining efficiently polluted.

This book is well worth the time it takes to start sharing this profound understanding of institutional and policy change with Bromley. The bottom line is: we search for new belief—once we have it, we are quite prepared to act: 'That is all there is' (p. 224). There is even more to this book. I encourage you to read and study it, and more importantly, to help further elaborate and apply this pragmatic, sufficient reason framework in the real world wherein policy is continually changing, evolving, and giving new meaning to markets and market process.

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### Note

1. Lynne, G. D. (2007) *Sufficient reason: Volitional pragmatism and the meaning of economic institutions*, by Bromley, Daniel, W., *American Journal of Agricultural Economics* 89(4), pp. 1120–1122; also, see a short overview at [http://digitalcommons.unl.edu/agecon\\_cornhusker/299/](http://digitalcommons.unl.edu/agecon_cornhusker/299/).

### Water and Disasters

Chennat Gopalakrishnan and Norio Okada (eds.)

*Routledge Press, 2007. viii + 136 pp., US\$45.00 (paperback), ISBN 978-0-415-46207-5*

*Water and Disasters* is a current and cross-cutting assessment of water resource institutions and management systems as they respond to and prepare for extreme and potentially devastating events. Gopalakrishnan and Okada, the editors, have succeeded in drawing together a varied and interesting set of well-researched and, in a few cases, somewhat technical articles from among the leading water resource experts that span the extremes of

water-related catastrophic events. This volume highlights primarily the effects and responses to catastrophic flooding—particularly salient in the aftermath of Hurricane Katrina—and also includes a couple of articles pertaining to drought adaptation and management. Aiming for disaster management planners and practitioners, the volume's objective is to highlight some strategies to promote more effective and efficient design in disaster preparedness and flexibility in response.

The book begins with a thorough and interesting presentation of the Great 2004 Tsunami, its causes and consequences and sets the tone and scope for the book. With a focus on resiliency, the paper highlights the potential benefits of enhancing the capabilities of early-warning systems, public education and awareness and identifying characteristics that would improve disaster response and recovery. The overwhelming scale and magnitude of this disaster makes asking the question 'what could and should be improved upon' to mitigate damages and enhance recovery and relief when the next similar event happens a very critical and key question. Planners and managers in hurricane and tsunami susceptible areas will likely find many of the ideas and insights offered in this piece quite relevant for their own programmes and situations.

One of the most striking qualities I found in reading this book was the good blending of policy concerns with relevant techniques and methods. For example, I found quite enlightening the description of a dynamic policy framework in the chapter 'Floods as Catalysts for Policy Change'. Here, the authors describe how opportunities for altering institutions and policies changes over time and where opportunities for changes often coincide with events that create a 'window of opportunity' for change that is further affected by such characteristics as the magnitude of the event, availability of information and technology, socio-economic and political systems, and cultural attitudes and beliefs.

The quality of the contributions in this book is quite high. On the whole they are well written and substantive, with several providing leading-edge assessment methods and techniques. For example, the assessment of the drought response by farmers in Southeastern Colorado goes beyond the standard treatment of the technology adoption literature. I applaud and find refreshing, for example, the institutional realism introduced by Professors Schuck and Frazier who have restructured the behavioural response of farmers to conform to the reality that they are owners of water rights and fundamentally are not facing water prices per se as the literature has often presumed. On top of this, their analysis proceeds with high quality statistical analysis to assess behavioural response and adaptation.

The final paper is a fine closing note for the book as it describes how innovation and new market concepts can also contribute to improved disaster preparedness and risk management. In this case, the authors describe the merits for an Australian example of a weather derivative insurance market based on rainfall. In this example, the insurance product promotes more efficient behaviour and response on the part of agriculturalists by reducing incentives for less efficient behaviours; for example in this case, hoarding water and water entitlements as a defense against possible drought. The contingent-claim market provides at-risk producers with an effective and efficient alternative that potentially enhances the water supply condition across the watershed. Though this example may not be directly or immediately appropriate for other regions, either because of institutional or physical reasons, I think the true insight is in the creativity and imagination to identify and consider non-traditional approaches that can add flexibility to our systems of resource management and risk preparedness.

By providing case studies and historical contexts, conceptual frameworks, decision-support systems, and insights for new institutional mechanisms, *Water and Disasters* is a welcome, concise and accessible addition to the water resources literature that challenges readers to think outside traditional boundaries.

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### **Food, Energy, and Society (3<sup>rd</sup> Edition)**

David Pimentel and Marcia H. Pimentel.

*New York, CRC Press, Taylor & Francis Group, 2008. 400 pages, US\$89.95 (hardcover), ISBN 978-1-42004-667-0*

This book is an updated and expanded edition of the previously published *Food, Energy and Society*. The book comprises 23 chapters written by David and Marcia Pimentel as well as other contributors. The book provides a comprehensive discussion of energy use by humans in the pursuit of food production. Many chapters contain charts and tables that concisely summarize the main data presented. A unifying theme between chapters is the analysis of the interdependency between food, energy, water, land and biological resources. Many chapters compare the possible supply of energy for food production against possible future demand for food and other resources. A quote from the conclusion of chapter 12 is representative of a theme running through the book: ‘The basic equation of people versus food and energy intensifies the imbalances between the human food supply and the natural resource needs of a rapidly growing world population’. One weakness (from the perspective of an economist) is that the book does not deal explicitly with the role of economics in many of the resource use issues considered. Some chapters have a small section discussing some economic implications, but they are not dealt with in any depth. Many of the chapters are applicable to important economic questions, and could contribute to background reading and grounding for many issues related to resource use. This is a great reference text for anyone dealing with energy use issues or energy accounting.

The chapters within the book are grouped by theme. Chapters 1 to 7 provide a description and grounding on the importance of food production and energy use to society from the earliest hunter gatherer societies to today. These chapters discuss a broad array of topics. Energy is vital to the attainment of security and sustainability in society and affects the structure of society itself. The authors describe how the ability of societies to harness new energy sources, moving from our own individual energy, to animal, wind, water, solar and machinery have resulted in ability to move beyond concentrating all activities on food production and has led to more complex societal structures. Different energy sources are characterized and energy units and conversion factors used throughout the book are presented in addition to solar energy receipt of different lands and biomass production for food and fuel. Chapter 4, ‘Ecological Systems, Natural Resources, and Food Supplies’ examines the dynamics of

natural ecosystems and their relationship to agricultural productivity while chapter 5, 'Manipulating Ecosystems for Agriculture' discusses the interdependency between ecosystem components and examines how changing the composition of ecosystems (such as converting natural ecosystems to agricultural uses) requires large energy expenditures and often the addition of alternative energy sources such as fossil fuels and human labour to increase food production and increase societal standards of living. Chapters 6 and 7 examine energy use by early hunter gather societies and the use of animal power in food and energy production. Table 6.1 in chapter 6 provides some interesting data on energy expenditure of several occupations and compares these to energy expenditure of more primitive societies.

Chapters 8 to 12 consider energy use and energy output from a wide number of common agricultural systems, namely: livestock, fisheries and aquaculture, grains and legumes, and fruit, vegetable and forage production. Chapter 8, 'Livestock Production and Energy Use' presents some interesting data on total energy input needed to produce different classes of livestock, and compares this to the number of Kcal of protein produced in the form of meat, milk and eggs. In chapter 11 'Energy Use in Fruit, Vegetable, and Forage Production' there is an interesting comparison of the energy usage of vegetarian and non-vegetarian diets. Chapter 12 presents the energy usage by category and their costs for different food crops in developing and developed countries and highlights the relative use of labour and capital inputs between different systems. Chapters 13 to 16 consider some of the environmental consequences of agricultural production. Chapter 13, details human and animal poisonings due to pesticides and discusses the loss of beneficial insects as a result of pesticide use. Table 13.3 puts an economic value on the loss of beneficial insects by estimating their replacement value in terms of expenditure on other means of control. In addition the authors examine loss of birds and fisheries and in Table 13.6 and present an estimate of the overall societal costs of pesticide use in the US. Chapter 14 deals with water and outlines water use by humans, cropping systems and livestock in developed and developing countries as well as short sections detailing water subsidies and another on water availability and climate change. Chapter 15 considers soil erosion and chapter 16 biodiversity. There is a short section in chapter 16 that reports the results from some studies that estimate the value of services provided by plant and animal species.

Chapter 17 and 18 consider food processing and transportation respectively. There are some interesting data on the energy requirements for canning, freezing, salting, drying and smoking as well as the energy requirements for packaging. Alternative methods of cooking and their energy requirements are also presented. The chapter on transportation is very brief and presents the energy needs to transport 1kg for 1km using a range of transportation alternatives.

Chapters 19–22 deal with topics that are currently the subject of much debate. The topics covered are, renewable energy, biomass production for food versus fuel, ethanol and biodiesel production and US energy conservation and efficiency. A large quantity of data detailing and comparing the energy use of these alternative energy sources are presented in several tables. The final chapter summarizes the main points of the book and provides the authors' thoughts on the future resource needs for food production under the scenario of expanded food demand.

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