
Book Review

Reviewed by Natalia Yakovleva

E-mail: Natalia.yakovleva@winchester.ac.uk

Treasure of the Earth: need, greed and a sustainable future

by Saleem H. Ali

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Saleem Ali sets the stage for the discussion on reconciliation of mounting demands for minerals with ecological impact of production processes, resource depletion and quest for sustainability by exploring the complexity of global needs to extract valued materials from the Earth. The author explores the history and cultural basis for the growing demand for minerals and dependence on minerals production for the fulfilment of human needs and wants that brought us to the modern era of 'unparalleled consumption' of all minerals. Indeed, the 20th century was witness to a dramatic mining boom across the world when technological innovations deepened societies' reliance on mineral resources. When industrial mining overtook small-scale operations at the turn of the 20th century the impacts on the environment amplified and we are increasingly reminded about the limits for exploitation of mineral resources.

Ali argues that, notwithstanding continuous efforts for improvement of efficiency in materials use and development of alternative technologies, the complexity of minerals usage is dramatic and the global dependence on non-renewable resources still remains. This makes it difficult to achieve strong sustainability. Saleem raises a question of how to achieve 'weak sustainability' with regards to minerals exploitation that still requires a substantial shift in functioning of the global economy. Importantly, the author argues that certain changes are required by indicating the avenues for efficiency improvement, new technological development, and changes to material flows and governance systems that are possible to implement by still supporting the culture of consumerism. The book emphasises a lack of preparedness to generate alternatives in order to accommodate existing patterns of consumption in the light of the ultimate decline in availability of non-renewable resources. One may not agree with this idea of retaining the consumer-driven culture; the book explores the universal close societal attachment to mineral consumption by presenting an excursion through continents, cultures and historical periods.

The aim of this book is not to provide empirical evidence based on original research, but rather to stimulate reflection on complex connections between society and minerals. In the polarised debate concerning impacts and benefits of minerals exploitation, the author attempts to open a dialogue about the future of minerals exploitation, to reconnect the reader with the role of minerals in human history, culture and development and to

explain how minerals became a part of technical constructions and markets, while also being a part of ancient tradition and culture.

The book consists of three parts. Part I traces the history of exploration, extraction and exchange of minerals and how societies learned to harvest wealth from minerals. However, this growing consumption of minerals raises questions of how to deal with depletion of resources and how the modern world addresses negative social implications of minerals production. Part II explores in detail the economic, social and environmental implications of the extractive industries worldwide. Finally, Part III reviews a range of alternatives, strategies and possibilities for the incorporation of minerals exploitation in a sustainable future.

By building analogies, Chapter 1 explores the issues of excessive consumption and depletion of resources that undermine the development of civilisations. Saleem describes how societies grew dependent on minerals for the fulfilment of human needs and wants by tracing the history of mineral extraction, mapping inventions of uses of minerals and weaving cultural links with metal production. Chapter 2 discusses the range and evolution of applications for the extracted minerals from decorative to scientific and industrial uses. The author explores how minerals became valued, traded and treasured, how the exploitation of minerals contributes towards opportunities for economic development, and how minerals got entangled in conflict. The chapter also identifies a treasure-seeking impulse that led to exploration of remote corners of the world. Chapter 3 explores the role of minerals in the global economic order, including urban planning, migration and growth of regional economies fuelled by minerals extraction. The chapter specifically explores the role of gold in monetary systems and fossil fuels in energy provision.

Chapter 4 links consumerism to desires for affluence beyond basic needs. Chapter 5 explores how resource abundance in some countries may relate to slow economic growth by reviewing 'resource curse', conflict and corruption in public and private sectors. Chapter 6 explores a range of social and environmental implications of the extractive industries and specifically reviews negative impacts of the extractive sector on indigenous peoples, human health and the natural environment that inspire global resistance to resource extraction projects.

Chapter 7 examines limits and possibilities for minerals recycling to improve the use of non-renewable resources. The chapter argues that configuring the right economic incentives and governance structures is essential for the improvement of recycling and efficient waste management. Moreover, Ali emphasises the need to explore how concepts of industrial ecology can contribute to effective use and reuse of materials. Chapter 8 explores the importance of mine rehabilitation and possibilities that exist after successful reclamation of old mines for further productive economic development of the regions. It also investigates how to plan future reclamation in the existing mines. Chapter 9 reviews how extraction of mineral resources as a depletion of natural capital can contribute to growth of human capital through investment in human development. It reviews the role of technology and innovation in breaking the incredible dependence on minerals alongside environmental remediation, and reviews future scenarios for the development of the extractive sector. Saleem states that extractive industries, under present technological conditions, do indeed have a permanent impact on the regions, and that the extraction of non-renewable resources is not sustainable. However, Saleem argues that with proper planning there is a possibility for communities to benefit from minerals extraction and the activity can serve as a 'prelude' to sustainable development.

Saleem suggests that minerals and energy policies need to be reviewed to strengthen the commitment to the sustainable development agenda. Importantly, the author recommends seeking alternative strategies, changing governance models and conducting further research in five key areas: stakeholder engagement; supply chain management; pollution prevention and risk management; post-closure remediation and sustainable livelihoods; and cooperative linkages between projects via mutual dependence.

Saleem H. Ali is an Associate Professor of environmental studies at the University of Vermont and serves on the adjunct faculty of the Watson Institute for International Studies at Brown University. Readers can easily spot author's dedication to the discussion of minerals contribution to sustainable development agenda as the book is based on personal as well as research experience and a long-standing commitment to finding solutions to social and environmental conflicts around the extractive sector.

Book Review

Reviewed by Jean Hugé

E-mail: Jean.Huge@vub.ac.be

Climate Change and Agriculture in Africa: Impact Assessment and Adaptation Strategies

by Ariel Dinar, Rashid Hassan, Robert Mendelsohn, James Benhin and others

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by Earthscan Publications, London, UK

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This work presents the results of a study aimed at developing analytical procedures to assess quantitatively how climate affects agricultural systems in Africa, to predict how these systems might be affected in the future under various scenarios, and to suggest what role adaptation could play. It focuses mainly on the policy implications of the economic impacts of climate change on agriculture and the farming communities in Africa, based on both the cross-sectional Ricardian method and on crop response simulation modelling.

From a development perspective, it is indeed essential to rely on scientific methods to understand the effects of climate change and to design and motivate adequate adaptation actions. The study is especially relevant and timely, as adaptation has become a key element of any cooperation and/or investment project in Africa. Development agencies are increasingly seeking to integrate adaptation mechanisms in their interventions, as shown by initiatives such as the OECD's Development Assistance Committee's Policy Guidance on Integrating Adaptation into Development Co-operation, the IISD's and the World Bank's Workshops on the 'Sharing of Climate Adaptation Tools', and the United Nations Environment Programme's portal website on 'adaptation learning mechanisms'.

Yet scientific data to support adaptation actions within such frameworks are lacking, especially in an African context. Adaptation is basically the enhancement of resilience in the face of climate change, and as such builds both on existing (yet sometimes embryonic) practices as well as on innovative approaches. This book responds to the need to anchor adaptation recommendations in sound scientific findings.

Through a selection of mainly quantitative data gathered across Africa's eight agro-ecological zones, the results of an econometric analysis, and a climate impact analysis are presented for 11 different countries. This is followed by an analysis of farmers' perceptions and adaptation strategies, again presented per country. Interestingly, lack of credit or savings is considered to be the main hurdle for adaptation across all sampled countries, thereby underlining the need for additional adaptation financing mechanisms. This is an indication of the practical saliency (next to the political-strategical context) of the additional discussion of adaptation funding and Official Development Assistance (ODA).

The concluding chapters (5 and 6) are probably the most relevant for development scholars and practitioners interested in 'the bigger picture'. Indeed, several policy issues are highlighted through looking at the agronomic impacts, economic impacts, hydrological analysis and perception results, all from a regional point of view. The impact of climate change on the net revenues of current farms is an interesting way of presenting its potentially devastating effects on rural livelihoods throughout the continent, although much of the climate change impact will be difficult to attribute to a single cause and will also be difficult to monetise.

The findings concerning crop choice, livestock choice and the number of animals make the adaptation challenge tangible and allow the authors to come up with clear recommendations. For instance, managing livestock in Africa is likely to be relatively more profitable than growing crops in future climatic conditions.

Next to the quantitative data, the farmers' perceptions of climate change, adaptation practices and barriers are analysed by way of a survey. This qualitative approach compliments the use of the crop modelling and hydrological models and the Ricardian analysis, as it allows to situate climate change impacts into a broader societal perspective. Africa is indeed facing a series of other key challenges, such as population growth, natural resource degradation and rural to urban migration, which are not directly linked to climate change. The lack of holistic perspective is maybe one of the shortcomings of the book, although the limitations of the approach are acknowledged by the authors in the introduction.

The high-quality colour plates in the centre of the book are an asset, as well as the clear writing style and the general structure, as it allows different audiences (agronomists, country-based specialists or generalist development professionals) to systematically gather and understand the information they need. The policy implications of the concluding chapter raise important development-relevant questions, e.g., regarding the role of government in promoting adaptation. The country-specific information on the other hand, could easily be used in supporting National Adaptation Programmes of Action (NAPAs) and long-term government actions in favour of climate resilience. Altogether, this book indeed contributes to bridge the gap between scientific climate impact modelling and tangible adaptation recommendations for Africa.

Book Review

Reviewed by Torsten Wiedemann

E-mail: Torsten.Wiedemann@vub.ac.be

The Changing Governance of Renewable Resources in Northwest Russia
by Soili Nystén-Haarala
Published 2009
by Ashgate, Farnham and Burlington, UK
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The objective of the book is to examine the interplay between managers, workers and inhabitants on the local level and official and unofficial institutions on the regional, national and international level, involved in the governance of forestry and fishery resources in Northwest Russia.

The book consists of 11 thematic chapters, written by 14 different authors. The authors are scientists from a wide range of faculties and departments, such as politics, sociology, economy, geography, environmental and forest management. Most authors work at universities in Russia and Finland.

The chapters are bundled in three parts:

- National policies and the transition to a market economy
- Case studies on different aspects of governance
- International and global impacts on national environmental policy and local forestry and fishery

According to the authors, Russia seems to be in a situation where a political, social and economic vision at the federal level is missing, leaving space for decision makers, managers, NGOs and multinationals to operate freely at the local level.

The forestry enterprises and fishing communities are practically the most powerful key actors in the governance of resources, but they depend on the local trust of the members of the communities. In many Western countries, enterprises don't have to worry about local trust, because the welfare state has taken care of trust-building on the national level. In Russia, enterprises have a social responsibility within the local communities. Therefore, trust-building is an important issue. Personal relations between managers and officials are very important. Corruption is one of the major problems in the region. On the other hand, all stakeholders involved in forestry and fishing are directly confronted with transnational players, NGOs and multinationals as well, since the national government is not able to function as a buffer between global powers and local communities.

The authors provide case studies from a limited number of enterprises in Northwest Russia, engaged in forestry and fishery. They discuss the different approaches made at

the local level to deal with the situation of a society in transition, balancing between traditional paternalistic and transnational economic and social models. The local views of the stakeholders were examined empirically by means of interviews at selected sites.

The first part of the book provides an insight into the recent developments of the institutional framework, relevant for forestry and fishery in the study-area. But (thematic) maps, graphs and tables are missing, which would make the framework more transparent for the reader.

The study-area is not fully described according to its geographical setting. Data about evolutions of quantities and qualities of natural resources, land-use, population densities, climate etc. are missing.

Materials and methods for the case studies (the second part of the book) are not clearly described: how many interviews have been taken at which study-site? Who were the interviewees? Which questions have been asked? A systematic analysis and summary of the results of the interviews is missing.

Rather than analysing the process of political, social and economic transition scientifically and systematically, the authors merely describe the present-day situation by means of anecdotes and examples.

Recommendations and future scenarios are missing. Given the heterogeneous background of the authors, a comparison of the evolution in Northwest Russia with the evolution in comparable study areas in Western countries (for example the forestry and fishing industries in Finland) would have been possible and valuable, to make the interplay between transnational and global forces more transparent.

This book might be interesting for politicians and economists searching for examples for the functioning of the present-day Russian forestry and fishing industries at a local level, but the book provides little valuable information for environmentalists and ecologists. The authors provide an insight in the reasons for the lack of trust in foreign investors in Russia, but their approach is exemplary and descriptive, rather than structured and scientific.

Book Review

Reviewed by Luc Hens

E-mail: human.ecology@vub.ac.be

Urban Climate Change Crossroads
by Richard Pluntz and Maria Paola Sutto
Published 2010
by Ashgate Publishing, Surrey, UK
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With over 50% of the world citizens within their territory, cities face important challenges of sustainable development. The increasing amounts of pollution and resource use will force them to move to more sustainable modes of transport, to more and better green areas and to more rational forms of energy and land use. Cities equally show a particular vulnerability to (the effects of) climate changes. New York City was very much affected by the impact of Hurricane Katrina in 2005. Heat-waves cause more of their deadly victims in cities than in rural areas.

On these challenges, a growing number of books and papers are published these days. Most of them focus on the physical effects of climate changes. This book is different. It draws attention to the social aspects of climate changes in cities and the policy implications thereof.

In five sections, it deals with issues as diverse as environmental justice, health concerns and policy responses, governance, urban competitiveness, communication on safety, and dealing with uncertainties. This variety of subjects points to two major elements of the social and policy climate change discussion that are illustrated by the book:

- They illustrate the broad array of fields and disciplines that must be called upon to address the global climate changes: from environmental to political science, from economics to philosophy and architecture, from public health to psychology and communication;
- The patchwork of subjects also shows that – in contrast to the scientific part of the global changes discourse – the social and political discussion is much less integrated. No doubt all the issues covered by this book are relevant to and even important for climate changes, but their logical coherence remains vague and not actually described.

The chapters in this book are based on contributions to an international forum held in Rome in 2008. The main texts are provided by citations from the questions and discussion section. This is interesting as it frames the contributions. On the other hand, the quotes also illustrate how alienated social scientists are sometimes from the physical and biological basis of climate changes. A quote such as “most of what we are labelling

as a scientific debate on climate is actually manipulation of symbols and concepts and manipulation of human psychology”, might illustrate this alienation.

What is interesting about this book is that it looks beyond the physico-technical aspects of sustainable cities. It shows that mitigation and adaptation to climate changes necessitate more than a transition to sustainable energy use, smart grids and carbon neutrality. It is equally – if not more – about merging ecology and economics, about integrating technology, spatial analysis, community participation, perception and a deep appreciation of ecology. It is about real interdisciplinarity and holism, appealing to economists, public health experts, designers, architects, and community organisers. The book focuses on an underemphasised dimension of the climate changes discourse.

Book Review

Reviewed by Luc Hens

E-mail: human.ecology@vub.ac.be

Landmarks for Sustainability. Events and initiatives that have changed our world
by Wayne Visser
Published 2009
by Greenleaf Publishing Ltd., Sheffield, UK
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The world has been working on sustainable development since at least 1987, when the UN World Commission on Environment and Development published its report. Since then, however, many of the global challenges (climate change, biodiversity, drinking water availability, urbanisation, to list only a few) are getting worse, rather than better. To support educated thinking on sustainable development, knowledge of its history, facts and figures is helpful.

This book supports this type of understanding. In 20 chapters, it reviews five main thematic areas of sustainable development. It starts with environment, health and safety with data on climate change, the state of the planet and crisis events. Section two is on 'Society and economy' and addresses issues of globalisation, poverty and human rights. Following the challenges, are the global responses. Section three is on (international) leadership, business associations and social enterprises. A section follows this on industrial, financial and consumer collaboration. The book is concluded with four chapters on management for sustainable development. They deal with international standards, corporate governance and (industrial) stakeholders.

The book is remarkable, as the chapter are not written in a traditional way. Rather, each chapter is a collection of facts, figures, historical records, quotations, photographs and cases. The documentary aspect is the strength of this book. Apart from this it illustrates a number of trends on how the world has dealt with sustainable development during the last 20 years. During this period a number of issues, such as the climate change discussion, moved from marginality to the mainstream. Business and government changed from being largely reactive to more proactive attitudes. The book also illustrates a growing consensus on principles and standards.

The landmarks of the sustainable development approach provide the book its original character. On the other hand, a most selective picture of sustainable development is presented. There is a focus on business, industry and governance, but much less on the contributions by environmental and sustainable development NGOs. It is equally inevitable that such an approach cannot be complete. However, the fact that the 'landmarks timeline' at the end of the book does not mention the 1987 Brundtland report is symptomatic for the selective character of the approach.

Once one is aware of these limitations, however, this landmarks book is useful documentation for business managers, decision makers, consultants and all those among us who lecture about sustainable development.