

## Book Reviews

### Global Sustainability

#### The Impact of Local Cultures. A New Perspective for Science and Engineering, Economics and Politics

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The focus of the book is on cultural diversity as a key element of sustainable development in the context of science and engineering. It presents multidisciplinary information and investigation by 17 papers about the influence of cultural backgrounds on specific sustainable projects or the development of sustainability in general. The book is a result of a workshop held at the monastery 'Kloster Banz' located in the north of Bavaria, Germany on February 24 and 25, 2003 hosted by the European Academy of Science and Arts (EASA) in collaboration with the Bavarian Research Centers BayFORREST and FORAREA. The aim of this and a series of workshops before was to assist in the enforcement of the general Sustainability Development Guidelines and – very ambitious – in the realization of the Millennium Development Goals of the United Nations. As a basic question should be discussed how scientists and engineers can contribute to bring sustainability concepts into action.

During the workshop 36 scientists, engineers and entrepreneurs from 4 continents and 12 countries focussed on four specific areas:

- A. World cultures and world religions
- B. Poverty and economical development
- C. Global and temporal dimension of sustainability
- D. Technology, conflict and sustainability.

The editors were successful to bring 25 of those participants and their extremely different expertise and projects together under the common focus of the impact of local cultures. Reflecting the different backgrounds of the authors, the book is more a collection of different approaches than a holistic impact approach of cultural influences or a systematic assessment of them. According to the areas discussed during the workshop, the papers of the book are contributions to be considered in an overall global sustainability discussion.

The editors: Peter A. Wilderer is now in charge of the Institute on Advanced Studies on Sustainability. He retired in 2004 as a Professor and chair for Water Quality Control and Waste Management at the Technical University of Munich. Edward D. Schroeder is Professor of Civil and Environmental Engineering at the University of California. Horst Kopp is head of the Department of Geography, University

of Erlangen-Muremberg, where he holds the chair for Human Geography and Middle East Research. This coloured picture of skills continues when viewing the other authors of the papers by engineers of different branches, economists, experts for management and administration, sociologists, and others. This creates a good basis to regard the subject from different perspectives.

As is widely known, the term 'sustainability' was introduced in 1992, by the public debate during the UNCED (UN Conference on Environment and Development) in Rio de Janeiro, Brazil. During the passed 13 years, it has been largely discussed by politicians, industrial organisations, non-governmental groups, and other stakeholders, under their different interests and targets. As the term 'sustainability' is used as an argument in political conflicts, the development of criteria and indicators for sustainability is getting extremely important. Concepts for sustainability have been developed, which confirms that the influencing aspects are complex and a highly integrated approach is needed to consider all of them in advance. The latest initiatives were ambitious regarding the development of successful public sustainability projects. The purpose to present such 'stories of success' is to provide experiences on encouraging factors for the implementation and realization of other measures and projects.

The assessment of 'sustainability' requires the consideration of environmental, economic and social aspects of a society. Specifics of culture have been involved under social aspects without any fine-differentiation. The president of the Club of Rome, Moderator of the World Conference for Religions and Peace, Chairman of the Arab Thought Forum, His Highness Prince El Hassan bin Talal, presented in a Key Note Address his implications of Global Sustainability. He postulated a fourth-pillar-approach for sustainability involving a cultural, in addition to the social, ecological and economic dimension. He urged that a dialogue between different cultures should be established. A global progress should ensure that cultural backgrounds will really be involved – not only by awareness of their existence.

Some of the papers should be discussed here to show the type of information which this book offers. A first paper deals with history and mandate of sustainability from their

local forest roots to their global dimensions. Gabriela Weber-Blaschke, Reinhard Mosandl and Martin Faulstich discuss the energy flow of forestry ecosystems for wood production in comparison with the energy flow of industrial (eco)systems. The interesting conclusion is, which flows like a red line through many of the papers including the final synthesis, that it is not useful to give an exact definition for the term 'Sustainability', but to install a social negotiation process involving social circumstances in a specific region and at a specific time with partners, who are aware to be highly responsible for the process. This result leaves the impression that a specific goal does not exist but that the progress is the inherent goal.

Theoretical articles about Sustainable Development exploring the cross-cultural dimension from Ortwin Renn, a sociologist about cultural diversity, and from Hartmann Liebertruth, a managerial economist, give an outlook on the cultural dimension and its importance for the whole issue. Renn concludes that cultural values and commitments may be a decisive factor for implementing sustainable measures. The natural, socio-economic and cultural capital of the region, country or culture has to be considered to find out which needs are to be preserved and which are to be changed. A decisive influencing factor is that our world will change, and our world has to be changed towards a more sustainable future for the sake of future generations. The challenge is to bring both claims together.

A paper from Raoul Weiler, an engineer in chemistry, agro-industries and applied biological science, explains the technological progress in different cultures, starting from the history and projecting into the future. He demands, a bit far-reaching, a new vision or world order under a strong intellectual and political leadership. It should be mentioned that this postulate make the reader ask whether this call is meant to be in full consent with the future goal to develop a highly democratic and federal order with highly responsible people. Interesting stuff to think about!

An important value of this book are the examples from different regions of the world, which show the complexity of the issue. Edward D. Schroeder explains his investigations on how humility influences the process to establish a sustainable environment in California. Arid areas or deserts are faced with the question, how natural resources could be preserved in a way to keep them protected. Especially water management is an ancient endeavour, and efforts to manage water are already recorded in early histories. As the water management plans of California were developed without significantly considering the complexity of aquatic ecosystems, this plan resulted in a number of surprises. The concluding message of these experiences is that developing plans have to incorporate correctional algorithms to ensure a sus-

tainable environment. There does not exist a generally accepted view about the rules for environmental sustainability. The range of interest groups start with industry representatives and does not ends up with activists for environmental causes. No group has a claim on a truth at all.

A further regional example is presented by Dietmar Rothermund, a professor of South Asian History, on conflicts between traditional ideas and technocratic ambitions of modern governments in the Asian region. Most influencing in this region are the conflicts between rich and poor regions and countries, and the unsolved question of population growth. Another regional analysis by Monica Renner, a professor of Administration at the Economic Science School of the University Buenos Aires, Argentina, deals with challenges and opportunities in Latin America: uncontrolled growing population, immigration from rural to urban areas, increasing demands for products with short life cycles in urban areas resulting in waste problems, etc. There is a claim for economic development. The challenge will be to fit this claim in a sustainable pattern.

A final synthesis is given by the editors of the book. This synopsis is an attempt to summarize the various aspects of the papers. Reflecting the different types of contributions, the final conclusion is a true challenge. The conclusion tries to summarize the different ideas and approaches towards a four-dimensional understanding of sustainability including ecological, economic, social, and cultural dimensions. It may be a delicate conclusion to postulate that the conception of sustainability may have no clear target so far but is a process, directed by human society, politics and industry, constrained by three factors:

- (1) The carrying capacity of the ecosystem under consideration,
- (2) the variation resulting from natural changes in the environment resulting from factors such as climatic shifts, earthquakes, and volcanoes and
- (3) the resilience and adaptability of cultures.

The question is, if a hollow sphere model of ecological systems, developed more than forty years ago in 1960, may not be too simple to reflect the complexity of the problems. Nevertheless, the model pictures how a change of the relations between man-made and natural ecologic factors could balance or re-balance an overall environmental system.

Finally and concluding, the postulates, agreed by the participants of the workshop at Kloster Banz, are outlined. Readers of the book should have a comprehensive reflection of sustainable backgrounds, as the book is more focussed on aspects of creating a process towards a sustainable sensibility of the whole society, than to figure out final definitions and answers what sustainability means.