Sustainability Today
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Editor

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Preface

The Wessex Institute of Technology (WIT) has held conferences on sustainability over a number of years. What began as an argument is now an established area of important research and we present here, for the first time, recent papers on a variety of topics related to sustainability.

A fundamental challenge facing our society is how to progress from fossil fuels to systems based on the direct or indirect use of solar energy.

A large proportion of fossil fuel energy is consumed by the built environment and it is here that substantial advances have been made, notably from improved insulation and the use of materials requiring less embedded energy. Architects and engineers are now becoming more aware of the benefits of designs that are in harmony with nature in terms of thermal isolation, re-use of water and waste and environmentally friendly materials, giving rise to what has been called an “architecture of mitigation”. The next stage is to develop a built environment that is fully integrated and responsive to nature, based on biomimicry.

We need to learn efficient ways of harvesting the sun’s energy. The quest for alternative energy resources is not only of primary importance for the built environment but for all other human activities. The current search for fossil fuels in ever more extreme environments is a clear sign of how urgent is the challenge facing our society.

Another important section in the book includes papers relating to food production and the effects of modern technologies on the environment. The aim of research in the field is to produce food of the required quality in sufficient quantities and in a sustainable way by taking the environment into account. We have the potential to produce enough food to feed the whole of humanity but new production practices frequently have detrimental effects on the environment and unintended consequences on human health.
Food and other forms of industrial production make the largest demands on our water resources. In our quest for cheap and plentiful food we have come to rely more on chemical products that damage the environment and the quality of water itself, particularly in rivers and aquifers. Shortage of water has led to innovative advances in water harvesting and storage. This topic, closely related to water management and soil recovery is presented in another section in this book.

Finally, papers in this volume discuss the effect that transient human displacements in the form of tourism are having on the environment. The resulting problems highlight the necessity of learning how to organise leisure time while mitigating damage to the natural and cultural environment.

The solutions to these urgent problems facing our Society require new approaches, respect for the environment and substantial research. This Volume draws together scientists from many different fields who share a concern for sustainability.

Carlos A. Brebbia
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