



**Third Edition**

# **W** **Wealth** **from waste**

**TRENDS AND TECHNOLOGIES**

Editors

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# Foreword

Economic development and population growth have led to a major increase in production and consumption of goods and services. There has also been a substantial increase in the generation of waste, both in magnitude and variety, emanating from the expanding cycle of production and consumption. This trend has been most pronounced in urban areas, and now that over 50% of the world's population lives in towns and cities, the quantities and types of waste generated have grown rapidly. Rural areas have not been an exception to this global phenomenon, and with the rise in incomes and consumption levels in villages across the world, waste generation in these locations has also increased substantially. The overall effect has been that both in economic and ecological terms, costs associated with waste generation and management have increased manifold in recent years.

Much is spoken and written about on the need for a new set of three "R"s guiding our actions and thinking. This imperative refers to the need for human society to reduce, reuse, and recycle goods produced and consumed worldwide. As a philosophy, human society need not bring about a radical regression in lifestyles and standards of living, but essentially, every community and individual would now have to ensure that one does not consume purely for the sake of consuming, but in response to needs and aspirations that are bound by a conservation ethic. Also, our pricing systems would have to internalize the cost of externalities imposed by private entities on the global commons and society at large; we would need to ensure that there is a set of incentives and disincentives for producers and consumers to move towards the greater reuse of materials at every stage of the production/consumption cycle. Government policy through carefully designed fiscal measures can create conditions for a major shift to greater reuse and recycling of materials and products. For instance, bio-waste can be converted into feedstock for several products, and through the applications of green chemistry, a new set of chemicals and products could be produced, which are inherently efficient in the use of natural resources.

In a country like India where waste materials ranging from municipal garbage and agricultural residues are simply burned, this practice not only

leads to higher levels of pollution but also results in the wastage of that material, which could be productively employed through technological innovations for producing useful products and services. A new set of technologies would need to be rapidly evolved to provide options by which waste can be converted to useful products, with consequent environmental benefits and economic gain. *Wealth from Waste* is a useful compilation of select technological interventions, which address these objectives, and which are assessed in depth for creating an understanding and application of these methods. The interested reader, therefore, would go through this volume fully understanding the usefulness of waste as a resource and the value of innovation to create wealth from waste. This book would also provide pointers to innovations and research directions, which could be undertaken in the future. The book is of value not only for academics and researchers, but also for leaders of industry, policy-makers, and the public at large.



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