

The evidences of the impact of global warming in the recent years have been significant. Increase in the number of natural disasters like severe drought on one part of the world to devastating flood in the other part of the world clearly indicates the unintended side effects of rapid economic growth for human development. One of the reasons for these incidences have been attributed by the scientific community to the over exploitation of the natural resources for the benefit of mankind. Hence, the academic community as well as practitioners are exploring new ways to save our earth using various environment-friendly techniques and technologies. Energy sector in most of the developing countries is among the top ranked polluting sectors, primarily because of the over-reliance on coal-based thermal power plants. Given that the economic viability of cleaner sources of energy are still in question, especially in the developing world, a proper management of the production as well as distribution of energy has become very important. Decentralized energy management is one such attempt where energy is produced close to the point of consumption, rather than at a large plant elsewhere and sent through the power grid. This local generation reduces transmission losses and lowers carbon emissions.

Hence, this special issue on ‘Decentralized Energy and Environment Management’ is an attempt to study the various methods/techniques (qualitative as well as quantitative) and policy actions which have been practiced or proposed to reduce energy wastages and to improve environment management in developing countries such as India. The special issue sought quality research articles in the following domain: Energy and Sustainability, Green Community and Business Initiatives, Public–Private Partnerships, Participatory Decision Making and Implementation Impact Studies, Systems Dynamics, Resource Conservation, Recycling and Reuse, and Sustainable Operations.

The first article by Shankar (a power policy analyst) on ‘Electricity Governance in India’ conducts a rational analysis on electricity sector (since independence) considering various social, economic, legal, technical and environmental issues surrounding India at this point of time under various frameworks. The study provides a disappointing picture: there is indifference to the consumers’ needs, inequity of access, financial mismanagement, lack of professionalism and frequent non-compliance with relevant laws. These conditions indicate the need for a paradigm shift in the way the sector is governed. This article recommends that both in governance as well as in planning, effective stakeholder participation and regular consultations with the domain experts will help to address the major issues. System-wide measures such as efficiency improvement, Demand Side Management (DSM), energy conservation and effective use of distributed Renewable Energy sources (REs), supported by micro grids and smart grids, should be the way forward.

This is followed by an article by Narayanan et al. on ‘Energy Consumption Response to Climate Change: Policy Options for India’. The article explored the role of energy sector emission in climate change. In case of the Indian economy empirical estimates based on an indexed decomposition analysis found that the structural changes in the economy are more important than emission reduction. The article suggests that in order to improve energy efficiency, reforms of inefficient energy pricing, imposition of carbon emission taxes, promoting investment in renewable energy and creating public environmental awareness can play as some potential mitigation strategies for the Indian economy.

The third article by Bhatia et al. on ‘An Empirical Analysis of Sustainability Disclosure Practices: Evidence from India and China’ seeks to compare the sustainability reporting practices in two major Asian economies—Indian and China. The study conducted content analysis of sustainability reports of companies from India and China during the period 2006–2011. Using appropriate statistical tools the study concludes that Indian companies outpace their Chinese counterparts in adoption of sustainability practices.

The final article by Rupesh Pati on ‘Modelling Bullwhip Effect in a Closed Loop Supply Chain with ARMA Demand’ attempts to measure the bullwhip effect on Closed Loop Supply Chain (CLSC) with recycling as a reprocessing option for materials like paper and plastics. The proposed model considers the effect of two critical parameters of CLSC: quality of recyclable raw material (in terms of its yield) and degree of segregation at source. The model enables the CLSC managers to anticipate the downstream demand. Sensitivity analysis on replenishment lead-times provides managerial insights for effective design of recycling—distribution system, with constant accumulated lead-time. Further, the analysis reveals that increased degree of segregation at the source reduces the bullwhip effect. This reduction in bullwhip is expected to reduce the pressure on the earth for virgin raw material as the recycled material could act as a substitute up to certain extent.

As a Guest Editor for this special issue, I sincerely acknowledge the efforts of all the reviewers and the active support and encouragement of Prof. K. Balooni, Prof. M. Bhave, Editor-in-Chief (Prof. Debashis Chatterjee) as well as Managing Editors (Prof. S. Dey and Prof. K. Guhathakurta).

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