

Framework for the Indian Resource Panel

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1 Introduction

The demand for natural resources is expected to rise dramatically in the future in India (see figure 1). This is a result of strong economic growth and shifting consumption patterns due to a rise in disposable incomes. Population growth, increasing accumulation of private wealth, urbanization and globalisation are spurring the demand for all types of consumer goods both within the country and worldwide (IGEP 2013).

This rising demand for resources has two interrelated impacts. On the one hand, inefficient mining of primary raw materials causes environmental and social stress. Particularly poor people are affected by the degradation of ecosystems. On the other hand, the limited availability of resources on the planet can cause disruptions to the raw material supply to businesses and in turn impair the development prospects of the economy. Finite resources such as metals and minerals will become more expensive as their extraction becomes more

difficult. The resulting supply constraints will put great pressure on productive sectors. The future needs of India for resources and its dimensions and challenges, such as resource availability and access, affordability and sustainability make it clear that resource-efficient production processes and the use of secondary materials are inevitable to meet both growing demand and supply constraints.

One way to tackle these adverse impacts on the environment and the economy is through enhanced resource efficiency and making better use of secondary raw materials. By reducing the need for primary resources, pressure on ecosystems and local communities can be alleviated. The recycling and reuse of secondary raw materials offers the potential to stabilize raw material supply for industry. Also, enhancing resource efficiency and developing a secondary raw material management sector has the potential to create many green jobs. Moreover, efficient use of resources often has substantial economic benefits. By reducing ever more expensive extraction of primary materials, businesses can reduce their costs of production. At the same time, many secondary materials have great economic value as they can be sold and reused, for example for the production of cars and electronic equipment. In sum, through the use of environmentally sound technologies and processes the overall footprint of consumption and production can be reduced and negative side effects on society mitigated.

However, these benefits are not (yet) enough to trigger an efficient use of resources – polluters do not have to pay for the environmental and social side-effects of their activities and innovators are often left alone with the costs for realizing their ideas. Due to the relatively low

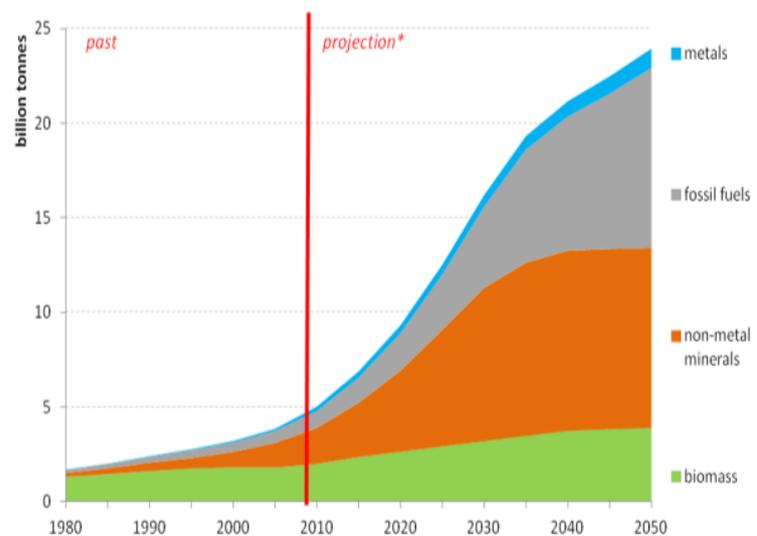


Figure 1: Past and projected future resource use in India (Source: based on data from Dittrich, 2012; SERI, 2012; World Bank, 2012; UN Population Statistics, 2012. Cited from IGEP 2013)

levels of awareness on sustainability issues, the demand for sustainable products and services is expanding at a gradual pace.

Around the world more and more research is being conducted on solutions to the imminent resource challenges and initiatives are being taken to promote the greening of economies. The European Commission (EC) is currently preparing an ambitious circular economy package that is meant to transform Europe into a more competitive resource-efficient economy, addressing a range of economic sectors, including waste (EC 2015). Resource efficiency is now high on the political agenda of the G-7, In June 2015, the G-7 decided to establish an Alliance on Resource Efficiency that will foster exchange and promotion of best practices involving business as well as all the other relevant stakeholders. In China, the circular economy has been introduced as a new development model that can help China leapfrog earlier practice to a more sustainable economic structure (Zhu 2014).

In India multiple initiatives have been taken by different stakeholders to promote sustainable resource use. For example, hubs have developed for the recycling of different materials both in the informal and formal sectors. At the same time, large manufacturers have started to pay attention to the sustainable design of products and research institutions are investigating the impacts of resource use throughout their life cycle. The Indian Government is also making efforts to stimulate the greening of the economy – for example, ambitious targets for renewable energy production have been announced, management and handling rules were developed for different types of waste and a demonstration centre for the recycling of end-of-life vehicles was set up in Chennai.

In 2014, the Clean India Mission and the Make in India Campaign were launched, both of which provide mechanisms for improving the use of resources in the country. Clean India is a national campaign that calls for the Indian people to clean the streets, roads and infrastructure, for example through the implementation of waste disposal systems (Ministry of Urban Development India 2014). Make in India encourages companies to manufacture their products in India in order to create new employment opportunities and to sustain economic growth. The campaign aims at high quality standards and minimising the impact on the environment. There is, however, still a need for policies that identify the underlying potential for enhancing resource efficiency and promoting secondary resource management across the multiple initiatives and missions of the Government of India.

However, the many initiatives, policies and networks need to be strengthened and consolidated in order to make sure that the Indian economy becomes economically, environmentally and socially sustainable.

An Indian Resource Panel would support this consolidation and strengthening by

- Setting the agenda for the overall legislative framework for secondary resource utilization
- Providing recommendations to the Government of India (GoI) towards a legislative framework on resource efficiency
- Developing an action plan on sustainable secondary resource management and material resource efficiency for the consideration of the GoI.

Additionally, the InRP could function as the platform for the Indian resource transformation by initiating information campaigns and high-level conferences. Through the integration of experts from different disciplines and institutions the InRP would embody great expertise. On the international level the relevance and success of such a panel has been demonstrated by the

International Resource Panel which has identified “numerous opportunities for governments and businesses to work together [...] to create and implement policies to encourage sustainable resource management” (IRP 2015).

2 Framework for the Indian Resource Panel (InRP)

2.1 Functions in policy advocacy and advisory

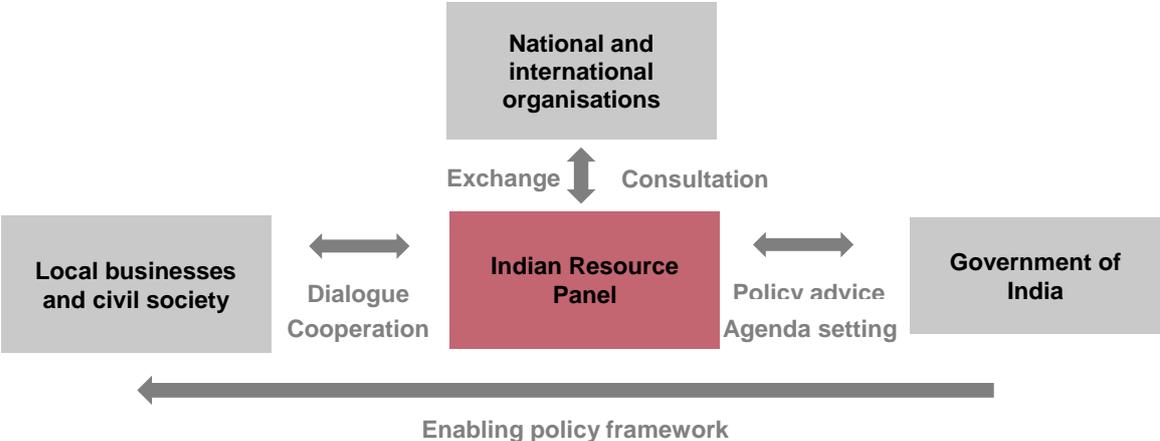
The overall objective of the InRP will be to provide advice to the Government of India (GoI) regarding the design and implementation of a framework for the promotion of primary raw material productivity and secondary raw material management.

The InRP members will

- Draw upon their expertise and knowledge to contribute to the overall mandate and orientation of the Panel.
- Review and evaluate relevant national and international experiences in the field of sustainable secondary resource management and resource efficiency.
- Consult and exchange experiences with experts from relevant national and international organisations whenever possible, e.g. by participating in conferences or workshops.

This will allow the InRP to gather relevant information on the policy frameworks developed in other countries as well as in other contexts within India. Collected information will be adapted to the context of sustainable resource management in India, particularly in consideration of the special requirements of the Indian informal sectors and MSMEs.

The InRP will also draw upon the experience of the members as well as the on-going GIZ project in which it is embedded to gather evidence on resource efficiency and productive use of secondary raw materials within India. It will consult stakeholders from relevant sectors on the identification of best practices and innovative solutions. It will also consult with civil society organisations to take into consideration the needs of the population that is affected by resource use. Through the cooperation and dialogue with stakeholders from various disciplines, institutions and sectors the InRP will be able to identify priority areas as well as opportunities and challenges for sustainable resource management in the Indian context. These insights will be used to make recommendations for the overall policy agenda as well as for concrete action to promote sustainable resource management.



2.2 Organizational structure of the panel

2.2.1 Panel

The InRP will be made up of 7-8 experts from the private sector, academia, and civil society organisations. These experts will be selected according to the criteria described in chapter 2.5. While the whole group will work together on the development of outputs, each expert will have specific duties and responsibilities according to the requirements of the panel and his/her capacities. The Member Convenor of the Panel would be the Nodal Officer (at the rank of Joint Secretary or above) within the Government of India of the bilateral project in which the Panel is currently embedded. The Project Director of the GIZ Bilateral Project would also serve as an observer of the Panel

2.2.2 Secretariat

The InRP will be coordinated by a Secretariat that provides support for the day-to-day organisation of the panel while at the same time driving its on-going engagement. The secretariat has been proposed to be set up at Central Pollution Control Board (CPCB) under the Ministry of Environment, Forest and Climate Change (MoEF&CC). It was furthermore suggested that the secretariat should be staffed with two officials from CPCB and the Bureau of Indian Standards (BIS) as well as two resource persons from GIZ.

Major tasks of the secretariat include organizing the meetings of the Panel and documenting the proceedings of the meetings. Based on the discussion of the meetings the secretariat will prepare draft papers. If required, it will commission or conduct action research to complement the discussion of the panel meetings. Moreover, the secretariat will organize dissemination events to share the outputs emerging from the Panel. Finally, it will serve as the direct contact address for the public and press. The terms of reference of the Secretariat are defined in section 2.5.

2.3 Information flows to and from the panel

One of the major tasks of the InRP will be to gather primary and secondary information from a wide array of sources.

- One of the most important sources will be the expertise of the panel members. Each member should have extensive knowledge on one or more topics related to the sustainable management of primary and secondary resources in India and/or similar contexts. The members would also draw upon the experience and expertise of the organizations to which they are affiliated to bring in additional insights. As a result, the panel would also provide a platform for the insights generated by the organizations of the panel members to be presented to policy makers and other relevant stakeholders.
- Another important source of information will be direct dialogue with business entrepreneurs, representatives of civil society and other practitioners from various resource-intensive sectors. This dialogue can be realized via interviews, workshops, online consultation or other participatory methods.
- Besides the bottom-up dialogue the InRP will also exchange information with experts from relevant national and international institutions. This can be achieved via the

organization of and/or participation in conferences or workshops. Furthermore, experts can be invited to contribute to the work of the InRP by participating in the development of outputs or by peer-reviewing draft outputs.

- Finally, the InRP will review secondary data in the form of studies, reports, conference abstracts or briefing papers from national and international institutions.

All relevant information will be used to produce various types of outputs that are adapted to the different needs of readers.

- Important results will be presented at regular intervals in the form of policy briefs for decision-makers. For example, policy briefs could treat crucial aspects of India's Resource Strategy and Raw Material Strategy; present resource policy across different development schemes (Make In India, Clean India, Climate Change...).
- Outputs will also include draft agendas, regulations, guidelines, as well as inputs for speeches or statements that are made by the Government of India on demand.
- Furthermore, the InRP will provide more comprehensive studies on important topics. The studies or reports will be addressed at experts from the relevant ministries, industry and academia. They can serve as the basis for further outputs, including policy briefs and/or media campaigns.
- Particularly relevant topics and/or innovative solutions will be discussed at high-level conferences targeting government officials, representatives of important Indian institutions, private sector as well as international experts. The conference will also be accompanied by press coverage, thus increasing international and national attention on salient issues.
- Finally, the InRP will make suggestions for media briefs and campaigns on topics that are relevant for the Indian society.

2.4 Terms of Reference for the Panel

The terms of reference outlined below are indicative based on the discussions with the GIZ project team. These ToRs would have to be revised based on the feedback of the MoEF&CC as well as some of the potential members of the Panel.

2.4.1 Core Activities

The InRP will hold two meetings per year. During these events Panel members will present and discuss progress on the Panel's deliverables. The content of further outputs will be agreed upon. The contents would be prepared by the Secretariat and the Panel members would be asked to review the contents, provide comments and agree on a final draft that can be released as an output of the Panel.

Panel members will participate in dissemination events organized to share the outputs of the Panel. During these events interested stakeholders will be invited to provide input to the documents and to discuss their comments directly with Panel members. Through this consultation process, the visibility and legitimacy of the InRP will be increased

- Participation in at least two meeting of the Panel every year.
- Contributions as per the agreed agenda of the Panel meetings.
- Review and comment on the agreed upon outputs of the Panel.
- Participation in at most one dissemination event every year as a Panel Member.

2.4.2 Deliverables

1) The InRP will elaborate at least one policy brief and one paper per year on the Strategic Framework and Roadmap for:

- Promoting Secondary Resource Management in India
- Promoting Material Resource Efficiency in India

2) The InRP will provide inputs for a strategy paper (draft prepared by Secretariat) for engagement and dissemination of the outputs.

3) Finally, the InRP will provide inputs for a strategy paper (draft prepared by Secretariat) for institutionalizing the Panel.

2.5 Terms of Reference for the Secretariat

The terms of reference outlined below are indicative based on the discussions with the GIZ project team. These ToRs would have to be revised based on the feedback of the MoEF&CC.

2.5.1 Core Activities

The Secretariat would be responsible for managing the day-to-day activities of the Panel. The members of the Secretariat would also serve as the bridge between the Panel and the relevant stakeholders. Further, the Secretariat would prepare the draft documents, based on the inputs of the Panel members that would be the basis for discussion during the Panel meetings. The detailed activities of the Secretariat are described below:

Engage: The Secretariat would be the point of contact for the Panel members. The Secretariat staff would engage with the Panel members and seek their views in developing the agenda of the Panel Meetings. They would also be responsible for constant dialogue with the Panel members on the issues to be discussed before, during and after the Panel meetings. The Secretariat would also be responsible for engagement with external stakeholders as well as the media. The outputs of the InRP would be shared with a wide audience and the Secretariat would need to disseminate these outputs with the relevant stakeholders.

Research: The Secretariat would conduct research that would contribute to development of input papers for the Panel meetings. These input papers would draw from three distinct sources. First, these inputs would be sourced from bilateral meetings with Panel members. Second, the inputs would be sourced from secondary sources, including best practices from around the world. Third, the inputs would be sourced from the bilateral project under which the Panel is being constituted. This research would contribute to the development of the agenda for the meetings, the inputs papers as well as the shaping of potential outputs.

The Secretariat would also be responsible for preparing the first drafts of the potential outputs of the InRP. For these first drafts, the Secretariat may choose to contract additional external

expertise. However, it must be kept in mind that the outputs of the Panel would be published under the logo of the India Resource Panel.

Organize: The Secretariat would be responsible for organizing the Panel meetings. This would include developing the agenda of the meetings (developed in consultation with the Panel members). The Secretariat would also be responsible for documenting the proceedings of the meetings. Further, the Secretariat would be responsible for organizing the venue, travel and other logistical needs for the meetings. For organizing the logistics, the Secretariat would be supported by the administrative staff of the MOEF&CC-GIZ bilateral project.

2.5.2 Deliverables

- 1) Agenda of the Panel Meetings
- 2) Input papers as per the Agenda
- 3) Draft at least one policy brief and one paper per year on the Strategic Framework and Roadmap for:
 - Promoting Secondary Resource Management in India
 - Promoting Material Resource Efficiency in India
- 4) Draft a strategy paper for engagement and dissemination of the outputs to be discussed during the second meeting of the Panel.
- 5) Draft a strategy paper for institutionalizing the Panel to be discussed during the third meeting.

methods of participatory learning and action, monitoring and evaluation, etc. He/she should show team working spirit.

Contribution and participation: The candidate should be able and willing to contribute substantially to the work of the IRP, according to his/her respective duties and responsibilities. He/she should be able and willing to participate in regular meetings of the InRP.

Gender: The InRP should be balanced in terms of gender.

Other: The candidate should be willing to adhere to professional conduct and scientific integrity principles.

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4 Annex 1: Potential panel members

Vishwanath Anand, Former Secretary MoEF&CC



Vishwanath Anand served in the Indian Administrative Service (IAS) from 1965 to January 2002. He held positions of the Additional Chief Secretary, Uttar Pradesh, Secretary to Government of India (GOI) in the Ministry of Environment & Forests, Ministries of Agro and Small Scale Industries. Other assignments with the State Government included Department of Rural Development, Institutional Finance and Bureau of Public Enterprises and with the Ministry of Industrial Development and Heavy Industry.

After retirement, he served as Vice Chairman, National Environment Appellate Authority, Chairman Central Advisory Committee for UP and Uttarakhand for allocation of State cadres and Chairman National Biodiversity Authority. As a Commonwealth Secretariat Consultant to the Government of Barbados prepared a country plan for development of the MSME sector in Barbados.

Rajen Habib Khwaja, Former Secretary MoEF&CC



Rajen Habib Khwaja has served as Special Secretary, Ministry of Environment, Forests and Climate Change (MoEF&CC), Government of India.

He later served as Secretary, Ministry of Mines and Ministry of Tourism. He belongs to the 1976 batch of the Indian Administrative Service (IAS). He completed his graduation in 1974 from St Stephen's College, Delhi. His post-graduation in history is from Aligarh Muslim University.

Mr. Khwaja is a committed environmentalist with special interest in the conservation of biological diversity.

Dr. Ashok Khosla, Development Alternatives



Dr. Khosla is one of the world's foremost experts on the environment and sustainable development. He was the first Director in the Indian Government's first Environment Office in 1972 and then Director of Infoterra at UNEP in 1976. Since 1983, he has been Chairman of Development Alternatives Group, a social enterprise that promotes sustainable livelihoods and commercially viable and environmentally friendly technologies. He is an experimental physicist from Cambridge and Harvard University, by training. Dr Khosla is also Co-Chair of the UN's International Resource Panel and member of the China Council for International Environment and Development. As a Co-chair of the IRP he was responsible for shaping the 2010 report on 'Priority Products and Materials: Assessing the Environmental Impacts of Consumption and Production'.

Ashok has served on the boards of numerous global environmental organisations, including the Club of Rome, the International Institute for Sustainable Development and the International Union for Conservation of Nature. He was President of the International Union for Conservation of Nature.

Dr. Ajay Mathur, Director General, Bureau of Energy Efficiency (BEE)



Ajay Mathur is the Director General, Bureau of Energy Efficiency (BEE), and a member of the Prime Minister's Council on Climate Change.

He has headed the World Bank's Climate Change Team in Washington, DC; and the Energy Engineering Division of TERI in New Delhi; and has also been President of Suzlon Energy Limited. Ajay Mathur received his Bachelor's degree in Chemical Engineering from the University of Roorkee, and PhD from the University of Illinois. He is the co-author of three books, and has been a lead author of the Intergovernmental Panel on Climate Change (IPCC).

Ravi Agarwal, Toxics Link



Ravi Agarwal is founder and Director at Toxics Link. Ravi Agarwal pioneers public advocacy based work in the area of chemicals and waste.

He has been part of several policy and legislative processes in India as member of Standards Expert Groups on Biomedical Waste, Hazardous Waste technologies, Plastics Waste management, amongst others. Internationally he has worked closely with agencies like WHO and UNEP for initiatives on hazardous waste.

He is an Executive Board member and Treasurer of the International POPs Elimination Network (IPEN), a global network with over 600 members. He was the first India chair of the Global Greengrants Foundation (GGF), and initiated the Environmental Equity and Justice Partnership fund in India to support grassroots work on chemical safety.

He is a well-known artist, photographer and curator.

Sunita Narain, Centre for Science and Environment (CSE)



Sunita Narain is the director general of the Centre for Science and Environment (CSE) and the director of the Society for Environmental Communications.

Sunita Narain has worked in various program units of the CSE involved in research, communication and advocacy on environmental issues. She has co-edited publications on the State of India's Environment, conducted in-depth research on the governance and management of the country's environment and directed campaigns on air pollution control, community water management and pesticide regulation. Narain was a member of the Prime Minister's Council for Climate Change as well as the National Ganga River Basin Authority.

Dr. Prodipto Ghosh, Distinguished Fellow, The Energy and Resources Institute (TERI)



Dr. Ghosh is involved in research and teaching at the interface of science, economics, philosophy, and public policy. Currently, he is Distinguished Fellow and Director at TERI. He is concurrently member of the Scientific Advisory Council of the Cabinet, and Governing Council of the Indian Council of Social Science Research. He has earlier been member of the National Security Advisory Board, Prime Minister's Council on Climate Change, G 20 Advisory Group of the Ministry of Finance, and the CAGs Audit Advisory Committee. He is Adjunct Faculty at the Carnegie-Mellon University, Pittsburgh, TERI University and Visiting Fellow at the Smith College, Oxford.

He was a member of the IAS from 1969 to 2007, when he retired as Secretary, Ministry of Environment and Forests. He has also held the positions of Economic Advisor and Additional Secretary to the PM, Additional Secretary at the DEA, and Senior Environment Specialist at the Asian Development Bank, Manila. He was a member of India's negotiating team at the UNFCCC climate change negotiations from 2001 to 2012. He is the author of a number of peer reviewed research papers, and several newspaper articles.

He has a Ph.D and M.Phil in Economics and Policy Analysis from the Carnegie-Mellon University, Pittsburgh, and B.Tech., Chemical Engineering from IIT Delhi, and has received Alumni Achievement Awards from both institutions. He is also the recipient of the BP Pal Centenary Memorial Award.

Dr. Tishyakshita Chatterjee, Director, Indian Institute of Public Administration (IIPA)



Dr. Chatterjee is part of the Andhra Pradesh cadre of the Indian Administrative Service (IAS) and has served in different capacities at the district and state level. Some of his major postings include Member Secretary, State Pollution Control Board, Andhra Pradesh, Principal Secretary of the Municipal Administration Department, Principal Secretary of Environment and Forests, Principal Secretary of Roads and Buildings Department, and Director, Environment Protection Training and Research Institute (EPTRI) in Hyderabad. He helped start India's first Hazardous Waste Transport, Storage and Disposal Facility (TSDF) near Hyderabad in Public Private Partnership (PPP) mode. Additionally, he helped start India's first four Common Bio-Medical Waste Management Facilities in the PPP mode. He was an Early user of GIS based satellite imagery interpretation for environmental location of townships and industry in 1998.

Seema Arora, Executive Director, Confederation of Indian Industry (CII)



As Executive Director, Seema Arora networks with the industry, the government and other community-based organisations to develop policy instruments and innovative voluntary approaches to sustainable development. She is working with the Planning Commission to develop a Low Carbon Growth Strategy for India, and with the Ministry of Corporate Affairs, Government of India to define the framework for measuring and rewarding the Sustainability performance of Corporates. She is also lending her expertise towards the formulation of Sustainable Development Action Plans at the State level. Seema Arora is a member of the Central Pollution Control Board, Ministry of Environment and Forests, Government of India and the Stakeholder Council of the Global Reporting Initiative (GRI).

Dr. Prasad Modak, Executive President and Founder Environment Management Centre



Dr. Modak is currently Chief Sustainability Officer (CSO) at Infrastructure Leasing & Financial Services (IL&FS) and Dean of IL&FS Academy for Applied Development. Prasad Modak founded EMC when he left the Indian Institute of Technology (IIT) Bombay in 1995 where he was faculty at the Centre for Environmental Science and Engineering (CESE) from 1984. He has worked with almost all key UN, multi-lateral and bi-lateral development institutions in the world. Apart from Government of India and various State Governments, Dr Modak's advice is sought by Governments of Bangladesh, Egypt, Indonesia, Mauritius, Thailand and Vietnam. His extensive consultations and involvement in the Asian region in particular has led to building implementation capacities of key environmental institutions. He has authored and executed more than 400 consulting reports and trained more than 6000 professionals across the World. Dr Modak has published books with UN University, Oxford University Press, UNEP and Centre for Environmental Education in India. He served as Hon Editor of the Journal of Indian Water Works Association between 1998 and 2004. Recently, he contributed chapters on Waste Management & Recycling in UNEP's Green