

## Report on Sustainability Reporting in India Getting Better But Miles to Go

A recent incisive study of 46 companies on the quality of India's corporate sustainability reporting shows significant progress. Yet, it rues lack of seriousness of senior management to sustainability and the lack of will to create greater value

**G**RI Regional Hub South Asia, Indian Institute of Management Bangalore and TCS Ltd jointly released a study in November 2016 titled 'Sustainability Integration – Corporate Reporting Practices in India'. It found that the level of disclosure by Indian companies has gone up indicating a greater understanding of the links between sustainability practices, corporate performance and competitive advantage.

It also explores the level of disclosure among Indian reporting organizations. It focuses on understanding the qualitative aspects of disclosure in the area of sustainability strategy, and its potential connection to senior decision-makers' commitment, materiality, risks, and opportunities.

To the authors of the report, 'Integrating sustainability' implies incorporating sustainability issues (environmental, social, and broader economic factors) into an organization's decision-making process, actions, and performance management.

It notes that a lack of an integrated approach limits an organization's abilities to thrive in the future. Integration of risk arising out of material aspects allows organizations to move sustainability from stand-alone initiative to an embedded consideration – part of the larger picture.

The authors also note that "high quality performance data is essential to integrate sustainability across the enterprise. Companies that embed this data into their business strategies will be able to make more informed strategic decisions.

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Action Plan to Clear Air in Delhi



**Vikram Mehta** For Dept of Energy & Sustainability in PMO

Big Hope for Cleaning Plastic in Oceans

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**SN's** Choice of Best Books of 2016

Books, Events, Courses



Confederation of Indian Industry  
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**Purpose:** To excite Indian businesses, SMEs, executives and students about the immense business opportunity in not only adopting Sustainability as Strategy in their companies but also inspire them to the possibilities of a big market for innovative sustainability products and services.

**Editor** Benedict Paramanand

**Editorial Advisors**

**Pradeep Kashyap**  
Founder & CEO, MART

**Madan Padaki**  
CEO, Head Held High

**Vasanthi Srinivasan**  
Faculty, IIM Bangalore

**H.S. Ganesh Keerthi**  
Design

**Rishabh Media Network**  
22, 1st A Main, G M Palya,  
Bangalore - 560 075. India  
Phone - 91 80 41126557/9880602275  
benedict@managementnext.com  
www.sustainabilitynext.in

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**Companies and stakeholders have realized that greater transparency fosters stronger relationships, which is essential for building long-term trust.**

India's stock market regulator Securities and Exchange Board of India (SEBI) has so far asked only top 500 companies listed on Indian stock exchanges to include business responsibility reports in their annual reports.

Of the 46 companies included in this study, 34 preferred reporting 'in accordance' with the GRI's G4 Sustainability Reporting Guidelines' core option, rather than the comprehensive option.

Most, especially small and medium-sized enterprises (SMEs) prefer to gradually step-up the level of their reporting, beginning with the core option and eventually moving on to the comprehensive option.

## Key Findings

- Only 39% of the firms in this study provided a comprehensive description of the risks and opportunities arising from sustainability trends. There is an urgent need for the management to pay greater attention to this aspect
- Over 93% of the firms studied identified and disclosed material aspects. These material aspects often have a significant financial impact in the short term or long term on an organization.

- While senior decision-makers generally articulate key events and achievements, few have started disclosing on challenges such as accidents, fatalities, or workforce unrest.
- Due to GRI reporting requirements and the evolution of regulatory bodies on mandatory reporting, Sustainability is now entrenched in the boardroom; leading to improved governance of sustainability impacts.

## The Flip Side

- Reporting is often seen as an **exercise in public relations** rather than a tool for corporate transformation which can contribute to a sustainable economy.
- **Many companies claim that ‘sustainability is in their DNA’ but fail to create value, indicating the lack of integration in their core business strategy.**
- While many corporate sustainability programs have achieved success on initiatives like optimizing energy use, reducing CO<sub>2</sub> emissions, water conservation, and managing labor conditions, few have broken out of the **sustainability silo** and embedded this practice in the overall organizational strategy for business value creation.
- Even leaders in reporting are still cautious about disclosing sustainability aspects.
- Very few companies demonstrate senior management involvement and leadership
- Absence of proactive interest from users of the sustainability-related information such as consumers and governments
- Dependency on a regulatory regime of disclosure rather than business case driven voluntary approach



Prof. P D Jose anchored the report at IIMB



“At Mahindra we went through an exercise of identifying climate change related risks which individual businesses run. The tractor business has been tracking water availability as a variable for demand forecasting. This led to the identification of micro-irrigation as a business opportunity and the initiation of the business through an acquisition.

**Anirban Ghosh**, Chief Sustainability Officer, Mahindra Group

“Unless you have this data upfront and are held accountable for the data, it will not drive performance.”

**Nazeeb Arif**, Executive Vice President, ITC Limited





# Integrate or Die

Integrating sustainability into finance and risk management strategies will help companies capture growth in the face of shifting customer, capital market and regulatory demands, says **Lucy Nottingham, Director, Global Risk Center, Marsh & McLennan Companies**, in a new report titled 'Unlock Growth by Integrating Sustainability: How to Overcome The Barriers'



Lucy Nottingham

## Key Takeaways

1. The rising pressures of a changing physical environment present a wide array of strategic and operational risks to many companies. Executives must ask themselves: How sustainable is our business, and are our strategies and operations at risk?
2. Customers, capital markets, and regulators are increasingly examining corporate sustainability risk profiles. The focus on sustainability and climate-change-related practices will affect both the cost and availability of financing for many companies.
3. Companies must identify, assess and respond to the strategic and operational risks and opportunities presented by the changing business environment.
4. Yet there are often disconnects between established corporate finance modeling and enterprise risk management processes and the discourse and expertise surrounding sustainability issues.
5. Three factors contribute to the organizational gap between finance and enterprise risk management and sustainability: unclear terms, unclear roles and risk responsibilities, and unclear corporate leadership and engagement on sustainability.
6. Companies that do not close this gap may find themselves losing ground in an increasingly competitive global marketplace.
7. Leading companies have leveraged sustainability initiatives to raise capital and reduce operational costs and volatility.
8. Finance, enterprise risk and sustainability leaders must integrate their efforts to provide real value in helping their organizations respond to evolving risks and capture competitive advantages.

"When your CFO is well-versed in sustainability, it goes a long way."

"Establishing a common core language relating to risk and resilience clarifies the issues that are deeply tied to business operations."

# Clean Air Action Plan for Delhi

**Sunita Narain and Anumita Roychowdhury** of Centre for Science & Environment have produced a comprehensive action plan to significantly reduce air pollution in Delhi. In a recent report posted on the website <http://www.cseindia.org/>, they have come up with a 15-point action plan

**M**any are of the suggest plans are already underway but need faster implementation and with better governance standards. With both the Supreme Court and the National Green Tribunal on watch and with AAP government making sincere efforts, chances of the crisis being managed better appears good. **Excerpts of the report:**

There is enough evidence in Delhi now that shows how emergency hospital admissions increase phenomenally during winter when pollution levels peak and several smog episodes occur.

This study, for the first time, put the spotlight on the problem of secondary particulates that are formed in the air from gases that come from combustion sources. This means the relative contribution of traffic, industry, power plants and open burning to particulate load becomes even bigger and needs stronger control.

## Guiding principles for clean-up

Even though Delhi, like several other cities, is monitoring air quality there is no clear framework to meet the national ambient air quality standards. Sustained air quality gains can be made with sustained action. Delhi and other cities need a comprehensive source-wise action plan-mix of short, medium, long and emergency measures--to meet clean air targets in a time-bound manner. These need some key guiding principles:

So far, action in Delhi has been driven by the urgency for immediate relief. The time has now come to move towards a full-blown action plan and compliance process.

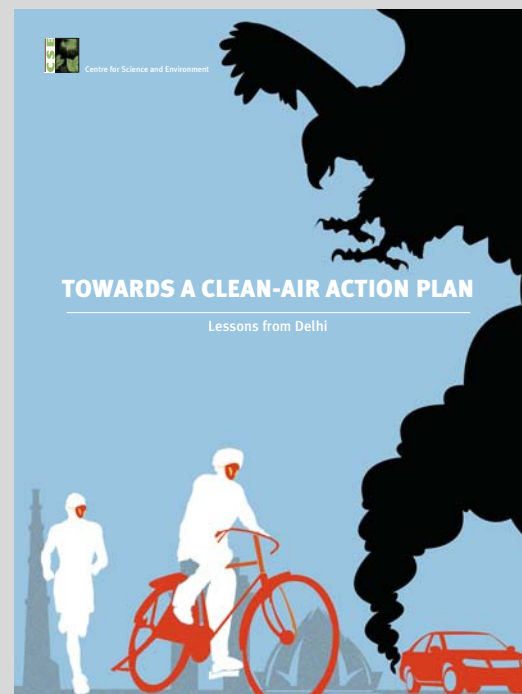
**Take a regional approach** - Over time, science has made it clear that local pollution cannot be solved without addressing the larger regional pollution. Satellite imagery shows how the entire north Indian belt stays smogged up during winter.

**Address quantum vs. toxicity** - Yet another principle that has been established is the setting of priorities according to what is more toxic and dangerous.

**Address quantum vs. toxicity** - Yet another principle that has been established is the setting of priorities according to what is more toxic and dangerous. Studies are assessing differentiated health risks according to the source of particulates.

## Agenda 1

- Make emissions standards uniform across the country



- Leapfrog emissions standards for new vehicles (Skip Bharat V to move to Bharat VI by 2020)
- Control dieselization of the car segment
- Equalize the fuel tax for diesel and petrol car users
- Control truck emissions
- Expedite completion of the peripheral expressways
- Control overloading of trucks
- Stop registration of diesel taxis under the All India Tourist Permit
- Introduce a favorable taxation policy for clean fuels



## **Agenda 2 – Improve and scale up public transport**

The Delhi Master Plan has set the target of achieving 80:20 modal share for public transport by 2020.

- Improve bus transport • Need multi-modal integration • Improve public transport connectivity in NCR

## **Action Agenda 3 – Right to safe walking and cycling on all roads**

## **Action Agenda 4 - Restrain the growth in car numbers**

## **Action Agenda 5 - Tax cars annually and higher than buses**

## **Action Agenda 6 – Institute an urban transport fund**

## **Action Agenda 7 – Stop pollution from power plants - Close down the Badarpur Thermal Power Plant**

## **Action Agenda 8 - Control pollution from industry**

## **Action Agenda 9 – Put a stop to garbage combustion**

## **Action Agenda 10 – Prevent pollution from construction activities**

## **Action Agenda 11 – Control crop fires**

## **Action Agenda 12 – Control pollution from biomass-based cook stoves**

## **Action Agenda 13 – Curtail road dust**

## **Action Agenda14 - Ban the use of diesel generator sets**

## **Action Agenda 15 – Curb the brick kiln menace**

With 13 of the 20 most polluted cities across the world in India the task is cut out for all stakeholders. India needs its civil society to get engaged better if these plans are to work. The report misses out on efforts that can be made to minimize pollution from bursting crackers during Diwali.

Meanwhile, Greenpeace referred to an IIT Kanpur study that wanted 13 thermal power plants within a 300 km radius of Delhi to be regulated.

Also, the Supreme Court recently accorded its nod to the Centre's graded response action plan to tackle different levels of pollution and asked the Central Pollution Control Board (CPCB) to upgrade its existing infrastructure and set up additional monitoring stations in Delhi-NCR within six months.

# Need Department of Sustainability in PMO

**Vikram S Mehta, Chairman of Brookings India** and senior fellow at Brookings Institution, a global think tank and a research body, has suggested that the Government of India should enact an 'energy security and responsibility act' and set up a department of energy resources and sustainability at the Prime Minister's Office (PMO)



Vikram S Mehta, Chairman, Brookings India

In his column in *The Indian Express* (December 5, 2016) he wrote: "I'm bringing this issue back because the various initiatives that this government has taken to reinvigorate the energy sector will fall short of their objectives unless they are woven together into an integrated energy policy and implementation within a holistic framework. "

He said only an integrated operational plan can help the government with its twin objectives of meeting the demands for access to clean and affordable energy and its commitment to COP21 (Paris Agreement on Climate Change December 2015). The government of India (GOI) has committed to reduce carbon emissions by 30 to 35% between now and 2030. He added that this is urgent because any delay will get India into a 'sunk cost trap'.

India will account for 30% of the incremental addition to the global energy demand over the next 25 years. And technology has narrowed the cost gap between fossil fuels and renewable. The cost difference between power from thermal and renewables has narrowed to over Rs. 2 per kWh.

In fact, Solarpack set a new record-low solar bid at 2.91 cents per kWh in Chile in August 2016. That beats the 2.99 cents/kWh big of Masdar Consortium which bid for an 800 MW solar power project in Dubai earlier this year.

Mr. Mehta stressed the point that renewable "Will make an appreciable dent in the energy basket only if it receives direct and indirect policy support from the government for not just power but also heat and transport in the operational plan."

**He stressed the point that "India will have difficulty meeting its climate change goals if coal retains its primacy in the energy basket. The GOI must therefore emphasize demand management and energy efficiency proactively support clean energy R&D and innovation."**

He has also suggested creation of the office of Energy Secretary.

The energy security policy could focus not just on energy also its broader inter-linkages with food, water, environment, technology, infrastructure, conservation and efficiencies. He wants the Act to contain measurable metrics for measuring progress towards the provision of secure, quality, affordable and clean energy.





## Plastic Menace in Oceans

# Two Pilots Show Big Promise

Over 5 trillion pieces of plastic currently litter our oceans. Five ocean garbage patches, the largest one is between Hawaii and California, show man's disdain towards the environment. Fortunately, two technologies – both pioneered by young college students – are in trial stages and offer hope

In 2013 18-year-old Boyan Slat founded The Ocean Cleanup. He now employs 50 engineers and researchers. Instead of going after plastic debris with vessels and nets – which would take many thousands of years and billions of dollars to complete – The Ocean Cleanup is designing a network of extremely long floating barriers that will remain stationary in the water, enabling the ocean to concentrate the plastic using its own currents. One passive system could theoretically remove about half the Great Pacific Garbage Patch in 10 years at a fraction of the cost.

Their logic is - **Why move through the oceans, if the oceans can move through you?**

Ocean garbage patches are vast but dispersed. By acting like an artificial coastline, the company passively concentrates the plastic completely powered by natural ocean currents. It requires no external energy source. The company states that modular array approach can be applied on any scale; from small-scale systems to intercept plastic near land, to multi-kilometer installations to clean up ocean garbage patches.

Models show that by utilising vast rotational ocean currents, cleanup systems with a combined span of 100km can harvest almost half the Great Pacific Garbage Patch in 10 years. The founders believe initiating the cleanup by 2020 is achievable. "This is the first solution the size of which matches the size of the problem."

After many scale model tests and prototyping parts of the system, the firm is now ready to launch the pilot – **the world's first operational ocean cleanup system, scheduled for deployment in late 2017.**

"Thanks to research partners including Teledyne Optech, NOARC (National Oceans and Applications Research Center) and ITRES, The Ocean Cleanup has access to the world's most advanced apparatus to detect the plastic, including LIDAR and Multispectral camera technology," states a company note.

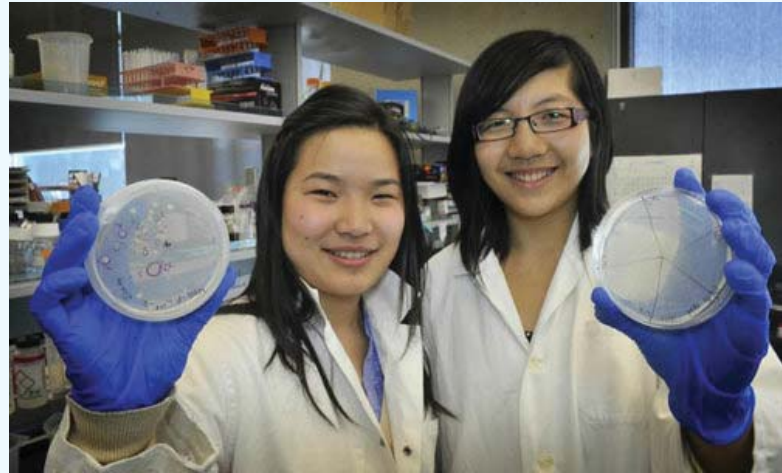
<https://www.theoceancleanup.com/>



# Fish Food Using Plastic Waste

During her school, one day, Miranda Wang was distraught at seeing a huge landfill with plastic contributing to most of the urban waste. She decided to do whatever it takes to address the problem of plastic. A few years later, she is now sitting on patents that could transform plastic into fish food.

Miranda Wang, studied cell and molecular biology, engineering entrepreneurship and philosophy, at the University of Pennsylvania. She was determined to blend her knowledge of microbiology, chemistry and entrepreneurship. She cofounded BioCellection in 2015, a startup that uses biological techniques to create a new kind of fish food using plastic waste.



Miranda Wang & Jeanny, Co-founders, BioCellection

“Throughout my entire time at Penn, I’ve continued working on plastic — the research for plastic biodegradation, as well as looking at the health effects of plastic pollution. That has led to this startup that we founded called BioCellection,” she told an interviewer recently.

Her startup was in between seed stage and series A fund raiser in 2016. “We’re about halfway finished building a genetically modified bacterium that can break down plastics about 80 times faster than the best known organism. We currently hold two provisional patents for this technology. **One of the products downstream of the science is that after the bacteria breaks down the plastic waste, because of the chemistry that happens in the cell, the cell is able to do this in a completely non-toxic way. So, the cell protein can actually be used to feed fish. We’ve demonstrated a 73% mortality rate reduction in salmon fish this past summer through feed trials,**” Wang said.

The R & D has evolved to take on not only ocean plastics, but polystyrene and film plastics that are being thrown into the landfill each year. Currently the management team receives mentorship from world-class experts in science, biotech scale-up, and business development, and has investors from USA, China, and Europe.

<http://www.biocellection.com/>

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## Is Lumiere at an Inflection Point?

It has taken Lumiere Organic, one of India's pioneers in seed-to-table organic food business, 14 years to feel confident that the business could be sustained and grown in the coming years. Founder Manjunath Pankkaparambill's dogged perseverance and uncanny faith could now set his enterprise for take off. **By Benedict Paramanand**

**R**ecent explosion of e-commerce may well be the game-changer. In four years Lumiere's e-store now does sales equal to that of one store. This is only going to shoot as commute is becoming such a hassle in Bengaluru and payment systems have become much simpler. The firm currently has physical stores in four outlets in Marathahalli, Whitefield, Koramangala and Sarjapur Road. It also runs an all-organic menu restaurant.

Manjunath says: "This means that 100% of everything that you eat at the restaurant has been produced by organic growers and farmers. Lumiere offers seasonal, fresh organic food, prepared in a healthy way." The star attraction is organic apple grown in Kashmir.

"Thus our dream of having a "Seed-to-table organic" business model has come true and we hope that many more such ventures would come up in our country as well as all over the world," Manjunath says with a glint in his eyes. Manjunath was once a California-based software engineer. He chucked his job at Oracle in 2002 to return to India.

Over a hot cup of tea, Manjunath chatted with the author on his early days, challenges he had to face and what the future holds for him, his firm and the organic sector in India.

### Software to Organic Farmware

Manjunath is a poster child of India's first phase of software boom. He could have stayed and earned millions more since the hyper growth phase was in the decade of 2000. But with already 15 years in it and



a neat bank balance he heeded his calling to do something that had larger purpose and meaning.

He picked up a large farm in Munnar, in Kerala in 2002 and started growing organic vegetables and fruits. He hasn't looked back since then even when the situation looked bleak and threatened to wipe out his savings. What held him in good stead are the partnerships he built with a few organic farmers across south India and some happened to be once software engineers like him.



Partner Ambrose grows Salad Vegetables

After dabbling with the idea of a restaurant and an organic store in Kochi, which had to be abandoned, Lumiere's real venture started after it moved to the then Bangalore in 2009.

With Nagaraja Prakasam, a prolific angel investor in social enterprises showing up four years ago, Manjunath's confidence was bolstered. According to a VC Circle report the company also crowd-sourced funds recently from some 20 investors to fuel its next phase.



Manjunath Pankkaparambilla, Founder, Lumiere Organic

Today, Lumiere has a fine network of partners from whom it sources free-range poultry (not caged and allowed to roam freely), milk, fruits, grocery and other organic products like honey, oils and pickles.

He still has many hurdles to cross which are more to do with the way the eco-system for organic farming is evolving. The primary challenges include price differential between organic and non-organic food items; poor customer trust in the certification process; lack of big funding to play the scale game, among a few.

**“With several players now in the market, the price is coming down. Customers don't mind paying 25% to 50% differential to regular food items like fruits, vegetables, grocery,” Manjunath says. “If we are able to reach optimal efficiencies in the next three to five years, which we can, we could even compete with them on price,” he adds.**

About pricing, Manjunath makes a point that the pricing of non-organic food items are openly manipulated, hence the wild swing, whereas the price of organic food items is more or less stable. **For example, price of carrots were cheaper in Lumiere stores than in the market for a few weeks in 2015.**

Also, most organic stores operate with fair trade concept – paying the farmer a minimum agreed price irrespective of market price. This ensures supply as well as minimum price swings.

He finds the current Indian government showing serious effort at promoting organic farming. Manjunath says he was interviewed by a senior government official recently to understand the areas that needed to be addressed for promoting this sector. Manjunath says: “We can do wonders in organic farming in India if the eco-system supports us a bit more.”

For Lumiere to take the leap from what it has built so far, Manjunath knows, he has to invest more in marketing and branding. The market is ready, so is Lumiere.



# First Off-grid Eco-village Soon

A **ReGen Village** will grow its own food, power itself, and handle its own waste.



The first of these *fully closed-loop settlements* will be built near Amsterdam in 2017.

Source: ReGen Villages, Fast Company

The pilot of the world's first off-grid village is now open in Almere, The Netherlands. The plan is to house 100 homes, followed by sites across Northern Europe in Sweden, Norway, Denmark and Germany. Further plans include the Kingdom of Saudi Arabia, UAE, MENA, Malaysia, India, China, parts of Africa, the U.S. and Canada, ReGen announced.

ReGen Villages went viral around the world after press announcement from the Venice Biennale in June, 2016. In the past couple of months it has received over 20 million page views and 10 thousand emails from all around the world.

**ReGen Villages** is a tech-integrated and regenerative residential real estate development company. The Dutch holding company, in collaboration with Danish

architecture firm EFFEKT, was founded by serial entrepreneur **James Ehrlich**, who describes his brand as “engineering and facilitating the development of off-grid, integrated and resilient neighborhoods that power and feed self-reliant families around the world.”

The model takes a holistic approach, combining innovative technologies that include energy positive homes, renewable energy and energy storage, door-step high-yield organic food production, vertical farming, aquaponics/aeroponics, water management and waste-to-resource systems.

**EFFEKT co-founder Sinus Lynge recently said: “We like to think of ReGen as the Tesla of ecovillages. We want to make it easy, convenient and accessible to choose a sustainable lifestyle off the grid. We are simply applying already existing technologies into an integrated community design, providing clean energy, water and food right off your doorstep.”**

The firm believes that in the next 30-years the size of the aspiring class will double to 4 billion, creating enormous demand for integrated neighborhood designs that incorporate door-step agency with high-yield organic food production that feed diverse nutritional needs.

On August 25th, 2016, ReGen Villages was presented at the White House for the Office of Science and Technology Policy (OSTP) as part of a round table on the nexus of food, water, energy and waste at the neighborhood scale, and was nominated for a Global Solutions Award from Singularity University.

<http://www.regenvillages.com/>

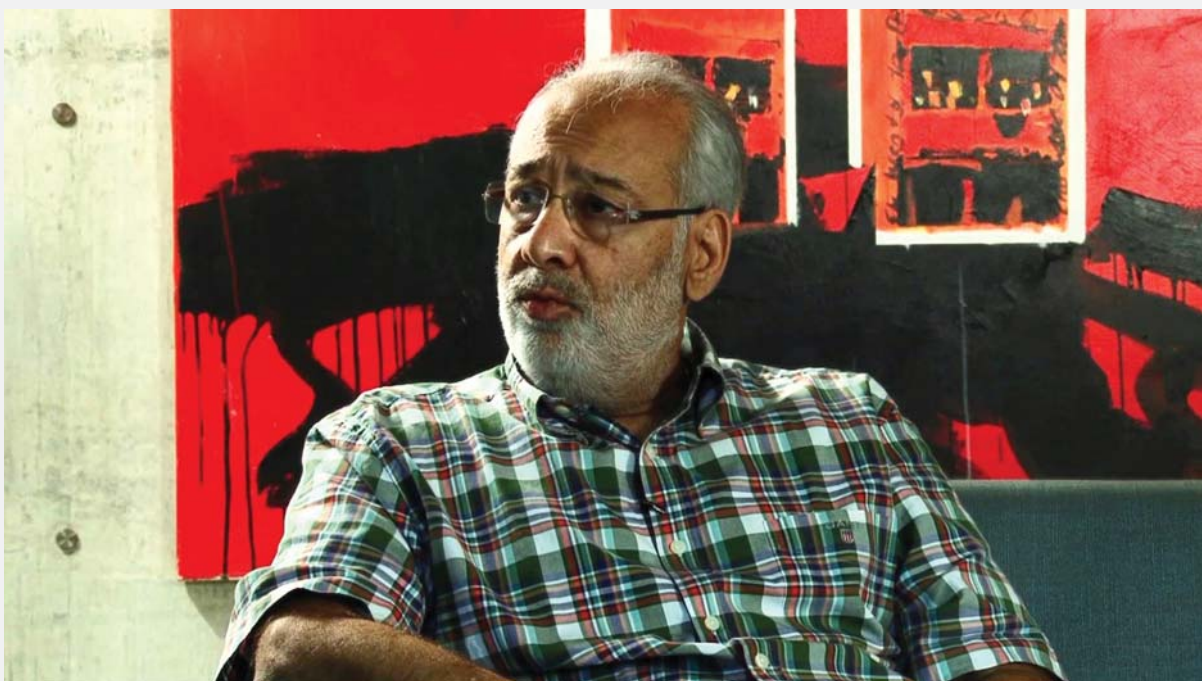
# Arvind Wins Asia's Top Sustainability Reporting Award

**A**rvind Limited, India's leading lifestyle and fashion conglomerate, has won the Asia's Best First Time Sustainability Report award at the recently concluded 2016 Asia Sustainability Reporting Awards (ASRA) in Singapore. Arvind was also declared joint winner in the Asia's Best Materiality Reporting category where it shared the award with Qatar General Electricity and Water Corporation.

68 companies from 14 countries made it to the final round of the 2016 award. The finalists were shortlisted by the members of an independent judging panel. Rajesh Chhabara, MD at CSRWorks International curates the Asian award. Hosted in Singapore, the Asia Sustainability Reporting Awards (ASRA) is the highest recognition for sustainability reporting in the region. This award is organised by CSRMatters, a unit of CSRWorks International, Singapore's leading boutique sustainability advisory, research and training firm. [www.csrworks.com](http://www.csrworks.com)

Chairman of Arvind Limited, Sanjay Lalbhai said the award reiterated "our commitment towards sustainability. Sustainable practices have been a key-focus area for Arvind for quite some time now and we continue to ensure that sustainability remains a top priority."

**Mr. Chhabara said:**  
"Sustainability reporting is crucial to attract Socially Responsible Investment (SRI) funds which invest only in responsibly-run businesses."  
He added that the assets under management by global SRI funds have grown to more than \$21



Sanjay Lalbhai, Chairman, Arvind Limited

trillion but less than 0.6 % of this is invested in Asia. "A key reason for low SRI investment in the region may be attributed to the fact that very few Asian companies have adopted sustainability reporting."

Arvind Limited has emerged as one of India's largest integrated textile and apparel companies with a strong retail presence. It is a pioneer of denim in India with a turnover of around US\$1.3 billion in FY2015-16.





# DST, Intel Sign Up for Real-time Online Data on Rivers

The Department of Science & Technology (DST) and chip maker Intel Corp have inked an agreement for generating real-time air and river water quality monitoring in India.

They will work on developing key technologies for sensing, communication and analysis of large-scale data collected from autonomous networks. This will be followed by integration and deployment for water and air quality monitoring in real-time.

They will invite proposals from academic and research institutions for developing online 'Water and Air Quality Monitoring' (WAQM) systems. The selected submissions will be provided grant-in-aid support. An amount of Rs 33 crore has been set aside for the project.

This program will be administered by the [Indo-US Science and Technology Forum \(IUSSTF\)](#). This could lead to development and deployment of low-cost, low-power, autonomous wireless sensor networks to provide a fine-grained view of several critical water and air quality metrics over large geographic areas (cities, rivers and watersheds).

**This venture could significantly strengthen and complement the missions of national priority like Namami Gange and others by serving as critical data feeders for pre and post treatment analysis.**

“Such networks may also eventually replace the current paradigm of environmental quality management via localized stations. The development of such an Internet of Things (IoT)-based solution will require innovations in sensor technology for miniaturized platforms for continuous, always-connected multi-modal sensing, ultra-low power radios for efficient communication and energy harvesting technologies to enable very long or perpetual operation of sensor nodes”, according to a DST statement.

It added: “These key blocks will need to be woven together by a data analytics framework that spans edge devices, gateways and cloud-based analytics, to enable inferencing and sense-making in a low-latency manner”.



# M&M Sets \$10 Internal Carbon Price

**M**ahindra & Mahindra recently became the first Indian company to announce its internal Carbon Price of US \$10 per ton of carbon emitted. Its carbon price is aligned with its commitment to reduce its Green House Gas emissions by 25% over the next three years.

Carbon Pricing is an internationally recognized business tool that enables companies to create resources which are invested in low carbon technologies, which help reduce future emissions and lower operating costs.



Dr. Pawan Goenka, ED, M & M

**Dr. Pawan Goenka, Executive Director, Mahindra and Mahindra Ltd said, “This new Carbon Price will help accelerate innovation and drive our investments in energy efficient and renewable technologies.”**

Tom Kerr, Director, Carbon Pricing Leadership Coalition, The World Bank Group, said, “Mahindra & Mahindra’s new internal carbon price is an excellent example for companies of how smart companies are taking advantage of low-carbon investment opportunities while managing carbon risk.”

A company note said Mahindra adopted the new carbon price after several months of rigorous planning. The company partnered with the World Bank and IFC led Carbon Pricing Leadership Coalition along with the World Resources Institute, India to enhance its understanding of the Carbon Price mechanism.

## Legacy

Mahindra started reporting its emissions from 2008 and over the last eight years it has reduced its carbon emissions by 47% and its energy use by 32%, the note added. E2O is India’s only electric car in the market. Other initiatives include 4.2 MW of wind power and the use of Magnetic induction, LED lighting technology and waste heat recovery systems at its plants.

As a sustainability pioneer, Mahindra said it has committed to doubling its energy productivity by 2030 and is the first global signatory of EP100, a program promoted by the international non-profit, The Climate Group. It is also the first Indian company that joined the World Bank’s ‘Carbon Pricing Leadership Consortium’ which was launched at COP21 in Paris. The press note stated that the company is aligned to the Government of India’s ratification of the Paris agreement on climate change in October this year.

Headquartered in Mumbai, the Indian MNC’s last declared revenue was \$17.8 billion and employs over 200,000 people in over 100 countries. It’s a global leader in tractors, utility vehicles, information technology, financial services and vacation ownership. In addition, Mahindra enjoys a strong presence in the agribusiness, aerospace, components, consulting services, defence, energy, industrial equipment, logistics, real estate, retail, steel, commercial vehicles and two wheeler industries.



Prime Minister Narendra Modi with SoftBank Corporation CEO Masayoshi Son in New Delhi recently

## Ola and Uber Could Jumpstart Electric Car Boom in India

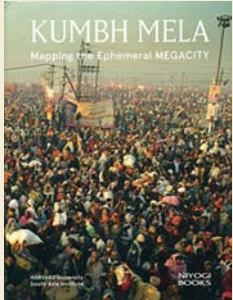
India's snail-paced growth of its electric car market is all set to get a massive surge in the next five years going by Ola's investor Softbank's Masayoshi Son's surprise statement at the recent HT Leadership Summit. He said he would gift one million of these cars to Ola drivers for free. He met Prime Minister Modi and is reported to have promised to make these cars in India. Only 2,000 electric four-wheelers were sold in the 2015-16 financial year in India.

There's no free lunch in business, so how does Son hope to give the cars for free? Obviously, the drivers would not be made to feel the pinch from the soft loans they could get. Son knows that only a 'big bang' strategy could spur the market for electric cars and this is the only way pollution from diesel cars can be seriously contained.

**If Ola is taking the lead in India, will Uber, the global leader in taxi-hailing service, stay quiet? Uber already has a head-start. Its 50 fully electric cars were made available on its app in London this September. Its hybrid cars are already doing well. Uber has partnership with car manufacturers BYD and Nissan. The London experiment will yield valuable data which Uber would be able to crunch to enhance the viability and feasibility of electric cars as taxi service across all its markets, including India.**

The key factor is the volume that Ola is speaking about. This will make electric cars affordable and perhaps would discourage people from owning private vehicles.

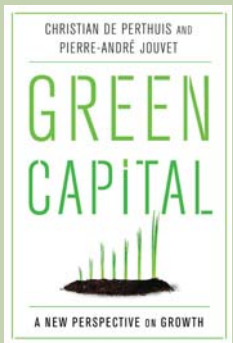
But clearly this is at least five years in the making. For cities like Delhi, an early introduction would indeed be a boon.



## **Kumbh Mela: Mapping the Ephemeral Mega City**

By Rahul Mehrotra & Felipe Vera, Niyogi Books, August 2015

**M**any people are not familiar with Kumbh Mela, and yet it is the largest celebration on earth: depending on the positions of Jupiter, the sun and the moon, Hindus travel to certain places along holy rivers, the Ganges for example, to bathe and cleanse themselves of sin. With a 2013 attendance of approximately 34 million, the triennial pilgrimage requires that the communities hosting the gatherings create functioning temporary structures to transport, house and feed enormous crowds of people.



## **Green Capital: A New Perspective on Growth**

by Christian de Perthuis, Pierre-André Juvet, Columbia University Press, October 2015

**C**hallenging the certainty that ecological preservation is incompatible with economic growth, Green Capital shifts the focus from the scarcity of raw materials to the deterioration of the great natural regulatory functions (such as the climate system, the water cycle, and biodiversity). While we can find substitutes for scarce natural resources, we cannot replace a natural regulatory system, which is incredibly complex. It is then essential to introduce a new price into the economy that measures the costs of damage to these regulatory functions.

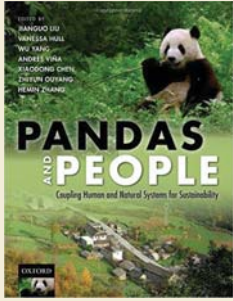


## **A Smart Energy System for Sustainable Buildings: The Case of the Bernoulliborg**

by Faris Nizamic, Rijksuniversiteit Groningen, Bibliotheek, January 2016

**T**oday's buildings are responsible for more than 40% of the world's total energy consumption. Current systems that manage equipment in buildings fail to reduce unnecessary energy consumption while at the same time maintaining the comfort of those using the buildings. This is usually because the existing systems cannot cope with the changes caused by interactions between people and the building environment. Furthermore, people using buildings are not sufficiently aware of how much buildings consume and of what concrete actions could help to reduce this consumption.

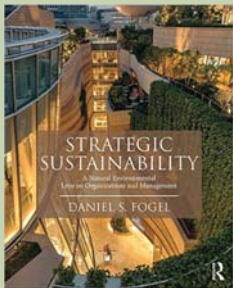




## **Pandas and People: Coupling Human and Natural Systems for Sustainability**

by Jianguo Liu, Vanessa Hul, Wu Yang, Andrés Viña, Xiaodong Chen, Zhiyun Ouyang, Hemin Zhang, OUP Oxford, January 2016

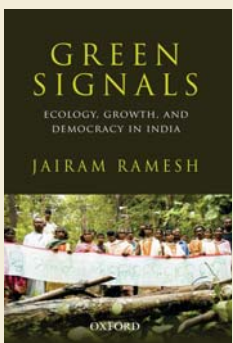
Understanding the complex relationships between humans and the natural world is essential for achieving environmental sustainability and improving human well-being, yet many studies are unable to reveal complex interactions and hidden trends. This is the first book to synthesize the findings and approaches of long-term integrated research in a model coupled human and natural system, and to illustrate their applications to regional, national, and global scales. It features a classic long-term interdisciplinary research project in the Wolong Nature Reserve of China, which contains one of the largest wild populations of the world-famous endangered giant pandas.



## **Strategic Sustainability: A Natural Environmental Lens on Organizations and Management**

by Daniel S. Fogel, Routledge, March 2016

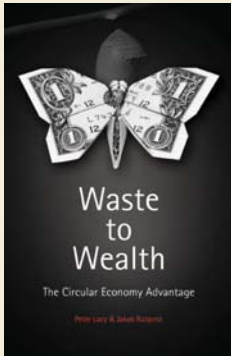
Strategic Sustainability examines how organizations can implement environmental sustainability science, theories, and ways of thinking to become more competitive. Including examples and ideas implemented in various countries, it is based on known scientific principles about the natural world and organizational principles focusing on the work domain. The intersection of these two realms of research creates a powerful and new approach to comprehensive, seemingly contradictory issues.



## **Green Signals: Ecology Growth & Democracy in India**

by Jairam Ramesh, Oxford Press, March 2016

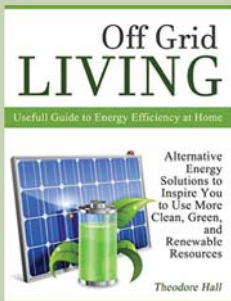
High economic growth rates are essential because they generate huge revenues for the governments, which can then be utilized for social welfare and infrastructure expansion program. Of course, it goes without saying that rapid growth alone is not enough. It must be of a nature that creates increasing productive employment opportunities. It must be inclusive so that more and more sections of society benefit visibly and tangibly from high economic growth. There is a third dimension to economic growth, that in addition to being rapid and inclusive, it has to be ecologically sustainable as well.



## Waste to Wealth: Creating Advantage in a Circular Economy

by Peter Lacy, Jakob Rutqvist

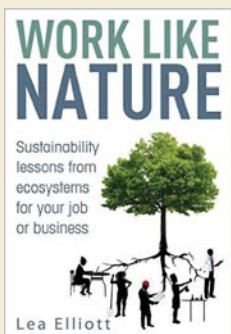
**I**t proves that 'green' and 'growth' need not be binary alternatives. The book examines five new business models that provide circular growth from deploying sustainable resources to the sharing economy before setting out what business leaders need to do to implement the models successfully.



## Off Grid Living: Alternative Energy Solutions to Inspire You to Use More Clean, Green, and Renewable Resources

by Theodore Hall, Amazon Digital Services LLC, April 2016

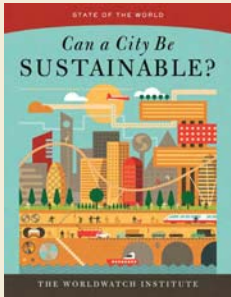
**Y**ou might have heard the phrase "living off the grid" used for some time now but don't have an idea of what it really means. Living off the grid means providing and relying on your own resources, rather than those of the community. It means you have the willingness to sacrifice material objects in order to achieve something for yourself. For example, spending money to earn more money. Since you are providing for yourself, it means you are not affected by anything going on around you, economically speaking, and you have no use for an excess of funds.



## Work Like Nature: Sustainability lessons from ecosystems for your job or business

by Lea Elliott, Naturehood, June 2016

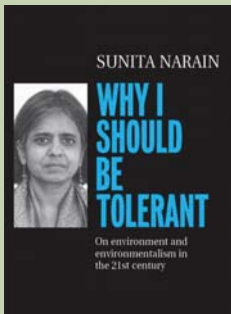
**D**o you want to take action at work that will benefit you, your job and your community as much as it helps the environment? Lea Elliott's Work Like Nature presents lessons from nature to help you make sense of sustainability and start making a difference. These ecosystem ideas are illustrated through inspiring stories from Vancouver-area green innovators. See how these bright thinkers from a variety of disciplines work like nature to benefit the environment and, surprisingly, to win at their job or business.



## Can a City Be Sustainable? (State of the World)

by The Worldwatch Institute, Island Press, May 2016

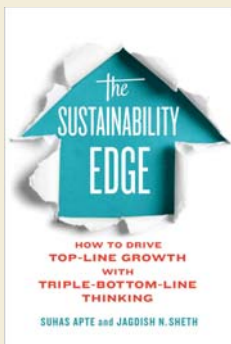
Cities are the world's future. Today, more than half of the global population—3.7 billion people—are urban dwellers, and that number is expected to double by 2050. There is no question that cities are growing; the only debate is over how they will grow. Will we invest in the physical and social infrastructure necessary for livable, equitable, and sustainable cities? In the latest edition of State of the World, the flagship publication of the Worldwatch Institute, experts from around the globe examine the core principles of sustainable urbanism and profile cities that are putting them into practice.



## Why Should I Be Tolerant - On Environment and Environmentalism in the 21st Century

By Sunita Narain, CSE, May 2016

Through the cacophony of current public discourse comes Sunita Narain's refreshingly wellargued collection of essays on critical environment and development issues. Written by noted environmentalist and *Down To Earth* Editor Sunita Narain, "Why I Should Be Tolerant" is a quasi-autobiographical book which chronicles the global development discourse from the 20th and 21st centuries. Narain, listed by Time magazine as one of the world's 100 Most Influential People, has captured the origin and context of the most important environmental issues of our times.

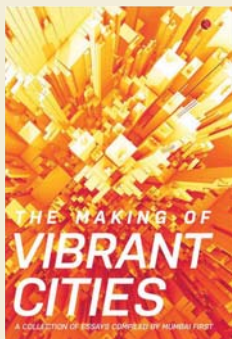


## The Sustainability Edge

by Jagdish Sheth, Suhas Apte, October 2016

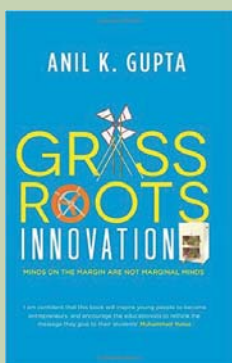
Prof. Sheth's book 'Sustainability Edge' could be more relevant to Indian enterprises than anyone else. The tremendous success of the Total Quality Movement in the decade of 2000 shows that Indian firms adopt game-changing models if they see perceived benefits to the bottom line and when the tools are unambiguous. He said: "TQM changed the manufacturing sector and later the services sector. The next frontier is sustainability."





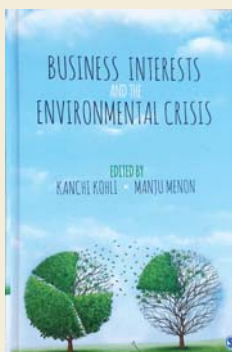
**The Making of Vibrant Cities: A collection of essays compiled by Mumbai First**  
by Sonali Rohra, Rupa Publications India, April 2016

**T**he Making of Vibrant Cities is a collection of ideas on urban themes straddling urban governance, finance, land use and planning, transportation, sustainability and climate change, etc. in an effort to bring together the thinking of various experts on meeting with the challenges of urbanization. Drawing contributions from an eminent group of people, this book is the first-of-its-kind in India, as it brings together former policymakers, practitioners, experts, and academics to share their perspectives on various urban issues, given the interdisciplinary nature of the challenges facing them.



**Grassroots Innovation**  
Dr. Anil Gupta, June 2016, Oxford Press

**L**arge scale distress among Indian farmers resulting in hundreds of them committing suicides each year is blamed primarily on their financial plight. A closer look into why they get into such a situation, Prof. Anil K. Gupta reveals in his book 'Grassroots Innovation: Minds on the Margin are not Marginal Minds', is because they are not aware, or they have not been made aware of native and frugal solutions that already exist in India.



**Business Interests and the Environmental Crisis**  
Edited by: Kanchi Kohli, Manju Menon, Sage, 2016

**A** major contribution to understand how the environmental crisis is viewed globally and responded to by policy. This book highlights the manner in which key aspects in policy discourse—commodity, pricing, ownership, and regulation—have borrowed economic and trade principles to address the environmental crisis and to what effect. The book addresses a fundamental issue in environment: if nature is no longer available as a limitless resource, how has the policy discourse on the environmental crisis come to view it, value it, and live with it?

# BOOKSHELF

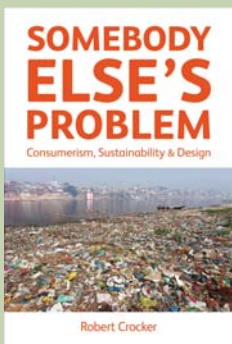
## Community Forest Enterprise Development: Case Studies from Latin America

Rainforest Alliance, Published on August 2016

Over the last two decades, countries across the tropics have devolved increasing authority over natural forests to local actors. While decentralizing control over natural forests is a step in the right direction, it is also clear that community forests can actually face increased pressure for conversion once they're handed over. In this context, the capacity of communities to manage forests sustainably and make forestry a competitive land-use choice has taken on greater importance.

The Rainforest Alliance supports community forest enterprises (CFEs) around the globe to improve forestry operations, organize socially-equitable enterprises, and achieve greater competitiveness. With support from the Multilateral Investment Fund (MIF) of the Inter-American Development Bank (IDB), we have produced a series of ten case studies profiling the results of our work with CFEs in the Latin America region. Case studies were carefully selected to cover all five countries where the MIF project operated (Guatemala, Honduras, Mexico, Nicaragua, and Peru), and to reflect the full range of participants—from highly incipient community operations to second-tier business alliances among multiple well-developed, certified enterprises. Special attention was also paid to ensuring representation among forest ecosystems (temperate and tropical), tenure arrangement (permanent and concession) and production focus (timber and non-timber).

Taken together, the ten studies support the growing body of evidence demonstrating that community-based production forestry can be an effective approach to conserving forest resources while also generating significant social and economic benefits for marginalized communities.



## Somebody Else's Problem: Consumerism, Sustainability and Design

by Robert Crocker, November 2016, Greenleaf Publishing

The book calls for a radical change in how we think about our material world, and how we design, make and use the products and services we need. Rejecting the idea that individuals alone are responsible for the environmental problems we face, it challenges us to look again at the systems, norms and values we take for granted in daily life, and their cumulative role in our environmental crisis.

Robert Crocker presents an overview of the main forces giving rise to modern consumerism, looks closely at today's accelerating consumption patterns and asks why older, more 'custodial' patterns of consumption are in decline. Avoiding simplistic quick-fix formulas, the book explores recommendations for new ways of designing, making and using goods and services that can reduce our excess consumption, but still contribute to a good and meaningful life.

**ROBERT CROCKER** is Deputy Director of the China Australia Centre for Sustainable Urban Development. He teaches the history and theory of design and design for sustainability at the University of South Australia.



## Business on a Mission: How to Build a Sustainable Brand

by Andy Last, December 2016, Greenleaf Publishing

The book is intended as a roadmap that can be readily applied by busy managers and practitioners, the book includes interviews with business leaders, including Paul Polman of Unilever, Adam Elman of Marks & Spencer, and Jonas Prising of ManpowerGroup to provide insight into best practice and clear guidance for implementation. Throughout, the book avoids jargon and theorizing to ensure readability.

The book is based on more than a decade working with some of the first businesses to develop social missions and shows the foundations behind their success. It looks at how businesses can profit from working hand in hand with society and identifies a model for success. The book demonstrates how businesses can go from hiding behind “social shields” to picking up “social swords” and presents the six criteria to look for in assessing a social mission. It also focuses on how good communications can build trust and bring about positive change; and it provides clear ways to engage employees and improve productivity as well as “rules” for communicating social missions externally.

**ANDY LAST** advises brands and corporates on social purpose and sustainability communications.



## Knowledge Brokerage for Sustainable Development: Innovative Tools for Increasing Research Impact and Evidence-Based Policy-Making

by André Martinuzzi and Michal Sedlacko, November 2016, Greenleaf Publishing

The menace of a post-truth era challenges conventional policy-making and science. Instead of fighting an uphill battle against populist solutions, those involved in both policy-making and science have to find innovative ways to collaborate, and make use of the vast amounts of knowledge that are already available. Knowledge brokerage, in this context, is more than a simple question-and-answer game: it is a process of co-creating and re-framing knowledge. In addition, the book deals with trade-offs and ambiguities, as well as world-views, cultures and the preferences of stakeholder groups.

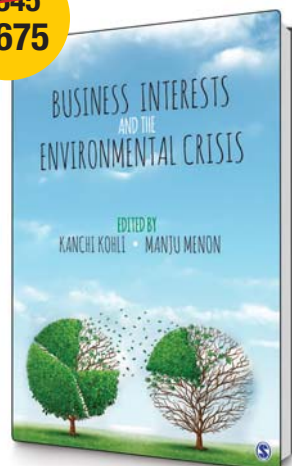
This book is the first in-depth exploration of how knowledge brokerage has the potential to help manage the challenges of sustainable development across political and scientific systems. It presents a selection of innovative and practical tools to enhance the connectivity of research and policy-making on sustainable development issues. In doing so, this book will be an essential publication in research and policy-making. It supports networking among the developers and users of knowledge brokerage systems and will make their experience better known to the different communities involved.

**ANDRE MARTINUZZI** is Head of the Institute for Managing Sustainability, Associate Professor at Vienna University of Economics and Business. **MICHAL SEDLACKO** is Senior Fellow at Vienna University of Economics and Business.



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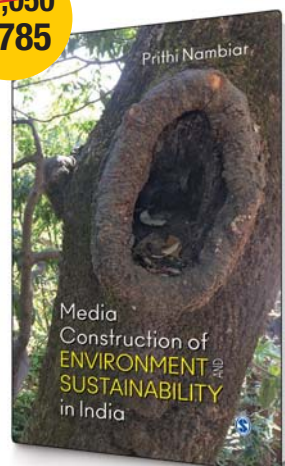
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This book highlights the manner in which key aspects in policy discourse—commodity, pricing, ownership, and regulation—have borrowed economic and trade principles to address the environmental crisis and to what effect. It addresses a fundamental issue in environment: if nature is no longer available as a limitless resource, how has the policy discourse on the environmental crisis come to view it, value it, and live with it?

2016 • 284 pages  
HB 978-93-515-0860-1

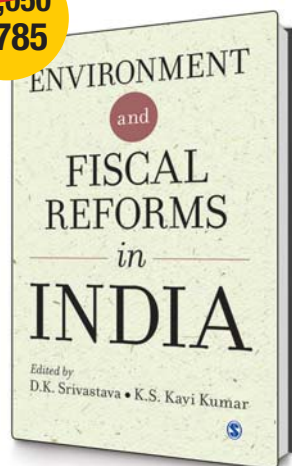
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The book presents a theoretical framework against which the role of media and communication in enabling this meaning negotiation is explored and illustrated through textual analysis and examination of interview data. The uniquely theoretical and practical perspective on the discursive construction of these concepts will be of immense value for policy makers, development and media practitioners, scholars, and students of media and communication.

2014 • 312 pages  
HB 978-81-321-1741-4

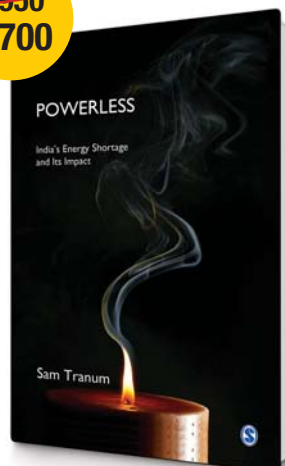
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The current structure of taxation in India, the book underlines, is characterized by inadequacies such as cascading, multiple tax rates and inter-state sales tax, fragmenting the all-India market. The book argues in favour of integrating environmental considerations in the GST regime. It emphasizes the importance of eco-taxes on polluting inputs and outputs.

2014 • 364 pages  
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Explains India's energy shortage, how much coal, oil, gas, uranium, and power the country uses, and for what purposes. It discusses how the shortages and resulting imports affect the country's economy, businesses, and residents. It also looks at the environmental and health effects of India's growing energy use and how efforts to mitigate these are likely to affect demand for coal, oil, gas, and uranium.

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Graduate Student  
Institute for Data, Systems,  
and Society - MIT



**Aniruddha Chatterjee**  
Manager - App. Engg.  
Pluss Advanced  
Technologies Pvt. Ltd.



**Dr. Ashok Saraswat**  
NEC Energy Solutions, Inc.



**Harshitha S Kumar**  
Head - Energy Storage Initiative  
Larsen & Tubro



**Hiren Shah**  
Sr. Director - ESS  
Delta Electronics  
India Pvt. Ltd.



**Jacquie DeRosa**  
Director of  
Emerging Technologies - U.S  
Customised Energy Solutions



**Dr. Karl Kolmsee**  
Managing Director - CEO,  
Smart Hydro Power GmbH



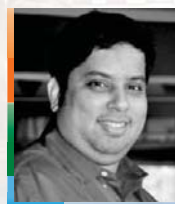
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Distributed Energy  
The AES Corporation



**Miriam Hegner**  
Technician and  
Standards Officer,  
BVES



**Dr. Peter Lilienthal**  
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Homer Energy



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**Dr. Satish Agnihotri**  
Former Secretary MNRE,  
Government of India

For more information, please contact:

**Ms. Shradha Malik**  
Project Manager  
Messe Düsseldorf India Pvt. Ltd.  
Tel. +91 (0)11 4855 0059  
Mobile +91 9871192345  
Email [MalikS@md-india.com](mailto:MalikS@md-india.com)

**Dr. Rahul Walawalkar, CEM, CDSM**  
Founder and Executive Director, IESA  
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**For more information, please contact:**

Arun Singh | Mob. +91 7827 855 273 | Ph. +91-11-4279 5033  
E-mail: [aruns@eigroup.in](mailto:aruns@eigroup.in)  
Praveen Singh | Mob: +91 9899 786 777 | Ph. +91 11 4279 5011  
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December 16 -18 2016, Bangalore

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### **4th India International Deaf Film Festival 2016**

Dec 28 - Dec 30, 2016, Bangalore

<http://www.buzzintown.com/bangalore/events/4th-india-international-deaf-film-festival-2016/id--1062283.html#EventdetailTab2>

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### **Campout**

Dec 28 - 31, 2016, Pune

<https://in.bookmyshow.com/concerts/sunburn/>

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### **TERI-ITEC Courses 2016-17: Course V - Energy and Water-use efficiency**

January 2 - 20, 2017, Gurgaon

[sachink@teri.res.in](mailto:sachink@teri.res.in) / [upinder.dhingra@teri.res.in](mailto:upinder.dhingra@teri.res.in)

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### **Automotive Free Hand Sketching**

January 07 - 08 2017, Bangalore

<http://allevents.in/bangalore/automotive-free-hand-sketching/80001759671516#>

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### **International Training Programme on Water Sensitive Urban Design and Planning**

January 16 - 20, 2017, Nairobi, Kenya

[wamiti@kewi.or.ke](mailto:wamiti@kewi.or.ke)

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### **International Training Programme on Water Sensitive Urban Design and Planning**

January 16-20, 2017, Nairobi, Kenya

[parul@cseindia.org](mailto:parul@cseindia.org)

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### **PRID Sustainability Research Conference**

January 19, 2017, London, UK

<http://www.eventbrite.co.uk/>

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### **ATREE@20 International Conference**

24-25 January 2017

J N Tata Auditorium, Indian Institute of Science, Bangalore

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### **International Training Programme on Water Sensitive Urban Design and Planning**

January 23 - 26, 2017, Pretoria, South Africa.

[wamiti@kewi.or.ke](mailto:wamiti@kewi.or.ke)

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### **International Conference on Nanobiotechnology for Agriculture: from Research to Innovation**

February 2 - 3, 2017, New Delhi

[www.teriin.org/events/nanoforagri/](http://www.teriin.org/events/nanoforagri/)

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### **TERI-ITEC Courses 2016-17 Course VI - Renewable Energy and Energy Efficiency**

February 6-24 2017, Gurgaon

[dhingras@teri.res.in](mailto:dhingras@teri.res.in)

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### **Vh1 Supersonic Festival 2017**

February 10-12 2017, Pune

<https://in.bookmyshow.com/bengaluru/events/vh1-supersonic-festival-2017/ET00048928>

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### **TERI-ITEC Courses 2016-17: Course VII - Natural Resource Security: Governance, Challenges and Opportunities**

27 Feb - 17 Mar 2017, Gurgaon

[shilpi.kapur@teri.res.in](mailto:shilpi.kapur@teri.res.in)

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### **Green Events & Innovations 2017**

March 07, 2017, London, UK

<http://www.eventbrite.co.uk/>

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### **TERI-ITEC Courses 2016-17: Course VIII - Integrated approach towards sustainable development**

27 Mar - 14 Apr 2017, Gurgaon

[chubamenla.jamir@teriuniversity.ac.in](mailto:chubamenla.jamir@teriuniversity.ac.in)

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### **Call for Papers: Immiserizing Growth – A Conference**

May 26-27, 2017, Toronto, Canada

<https://hd-ca.org/events/call-for-papers-immiserizing-growth-a-conference>

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### **Sustainability 4.0 Awards 2017**

May 26, 2017, Mumbai

<http://ww2.frost.com/event/calendar/sustainability-40-awards-2017>

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### **Challenging Inequalities: Human Development and Social Change**

6-8 September, 2017, Cape Town, South Africa

<https://hd-ca.org/>

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**Send Your Events Plan to - [ganesh.keerthi@gmail.com](mailto:ganesh.keerthi@gmail.com)**