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REVIEW ARTICLE

SUSTAINABLE INDIA: ANSWERING THE WHAT, WHY, WHO, WHERE, WHEN AND HOW?

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ABSTRACT

The Indian peninsula in the course of time has faced adverse economic, environmental and social conditions. Nations, businesses and people are modifying their methods to ensure they earn revenues (Profit) and serve the society (People) while doing no or less harm to mother nature (Planet). Therefore, India wholly needs toshift from the current unsustainable path to a new one which will lead it towards a sustainable future. Sustainability with its focus on the three pillars or three Ps i.e. Profit, Planet and People will enable the country to make sure it grows economically while protecting the environment and ensuring social justice. The three Ps when in unison create complementary values to each other. The questions of What, Why, Who, Where, When and How vis-à-vis sustainable India need answer. This paper aims to answer the questions of What?, Why?, Who?, Where?, When? with special emphasis on How? vis-à-vis sustainable India in the light of the available bodies of knowledge. Furthermore, successful cases and examples from within India and the globe are used to demonstrate lessons as to how it can efficaciously be made sustainable in every domain.

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INTRODUCTION

The world is currently threatened by considerable damage or losses of many natural resources, including fisheries, lakes, and forests, as well as experiencing major reductions in biodiversity and the threat of massive climatic change (Ostrom, 2009). character that marks the twenty-first century is the emergence of a general awareness and understanding of the importance of sustainable development in the society (Pintér *et al*., 2006). The findings and evidence presented in the United Nations Climate Change Conferences in Mexico and South Africa in 2010 and 2011 reiterate the need for a paradigm shift towards building a low-carbon sustainable society to deal with climate change. As such, there is an urgent need for every level of society to review its actions and aim to be better stewards of our natural resources for developing low-carbon economies. If it emerges at all, a sustainable global economy will emerge through an era of intense technological, economic, social and political metamorphosis (Elkington, 2001). A key driver for a global sustainable economy will be the unsustainability of current patterns of wealth creation and distribution (Elkington, 2004). In 1987, the term sustainability and sustainable development came to prominence through the publication of Our Common Future also known as the Brundtland report by United Nations World Commission on Environment and Development (Dresner, 2002). The report defines sustainability as "the capacity of the present generation to fulfil its needs without compromising the ability of future generations to meet their own needs (United Nations, 1987). The ultimate objective of sustainability is the full integration of the natural, economic, and social systems, and this may be achieved through the integration of these objectives (Mebratu, 1998). The concept of sustainability views the worldly transactions from the view point of the triple bottom line- 3Ps – People, Planet and Profits (Elkington, 2004). It not only involves ensuring long-term economic viability (Profits) (Ameer and Othman, 2012) but also contributing to the socio-economic development of the society (People) (Barr, 2008) and the health and safety of the environment (Planet) (Dylan, 2012). It involves long-term economic growth aligned with social development and environmental conservation. Achieving sustainability is perhaps the most significant challenge currently facing humanity (Dresner, 2002). Yet that ideal of a collaborative environment among multiple stakeholders is still elusive (Melhus and Paton, 2012). Increasing evidence suggests that the adoption of sustainability targets as part of mainstream innovation strategy is accelerating (Trifilova *et al*., 2013). India is acknowledged as one of the fastest growing economies in the world and as a result, it faces the twin challenges of balancing consumption to fuel its rapid growth with the equitable conservation of its key resources and the impact of striking this balance on the society

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(GIZ, 2012). It continues to struggle to achieve food, water, livelihood, and socio-cultural security for its peoples. Additionally, there is increasing evidence of the ecological unsustainability of the current path of development, and of the growing chasm between rich and poor (Kothari, 2013). It is clear that we are very far from achieving the basic objectives any society or civilization should aim for—security of food, shelter, water, health, and clothing, and fulfilment of human potential through educational, socio-cultural, and political opportunities. What has added to the misery is the deterioration of the ecological environment on which the lives of millions of Indians depend. In certain places the degradation is irrecoverable. Therefore, the need for focusing on making India sustainable is alarming.

The Unsustainable Case of India

Indian businesses have been focusing just on their gains while polluting the Planet (Badami, 2005; Duflo *et al*., 2013; Greenstone and Hanna, 2014; Smith, 2000). The society has been doing the same (Goel, 2006; Kandlikar and Ramachandran, 2000; Smith, 2000). With the Planet on the losing side it has been acting instinctively to bring a balance to its exploitation by rebounding it back to and against the well-being of people as well the profits of the businesses. The lack of preservation of the natural environment (Madhusudan *et al*., 2003) and the ability to put a lid on rising environmental pollution has taken a toll on the Indian economy as well as its people (Cropper *et al*., 1997; Rao, Maikhuri *et al*., 2002). People have lost their jobs because of unexpected environmental phenomena; their houses damaged and their businesses rendered non-operational. Kothari, (2013)mreveals that India's population suffers from deprivations of one or the other kind like economic poverty (Gupta, 2012); malnutrition and under-nutrition (Pathak and Singh, 2011); lack of safe drinking water and sanitation (Chambers and Von Medeazza, 2013; Hussain *et al*., 2012; Kotecha *et al*., 2012; Suthar, 2011); unemployment (Jha and Tripathi, 2015; Thomas, 2014); inadequate shelter (Jha and Tripathi, 2015)and other such situations that are violations of minimum standards of human rights and well-being (Ghimire and Pimbert, 2009).(Kothari, 2013)further notes that these deprivations are often so serious as to cause irreversible health damage, premature mortality and suicides.

Many of these have roots in traditional socio-economic inequities and discrimination (Gornick and Jäntti, 2014), which have been compounded, or added to, by the inequities and exploitation of modern times (Kothari, 2013; Kothari and Shrivastava, 2012; Working Group on Human Rights in India and the UN, 2012). The society has been negligent of the subtlety of the ecology in the country and pertinently damaged it to the extent that it is now bringing havoc time and again with its increased unpredictability and power. The ignorance of the society and institutions towards the health of the environment has lashed back in the form of climate change (Burgess *et al*., 2013); intermittent rains (Jain *et al*., 2013; Subash and Sikka, 2014); erratic weather (Jain *et al*., 2013; Subash and Sikka, 2014); retreating glaciers (Bhadwal *et al*., 2013); increasing drought duration as well as area (Stanke *et al*., 2013); increasing temperatures (Jain *et al*., 2013; Subash and Sikka, 2014); reducing agricultural productivity (Burney and Ramanathan, 2014); declining marine life (Roxy *et al*., 2016); diseases due to anthropological pollution (Balakrishnan *et al*., 2014) and floods (Thayyen *et al*., 2013; Wasson *et al*., 2013); all of which boil down as a loss to the Indian society and its institutions. In India natural ecosystems beyond protected and conserved areas are under stress and thereby deteriorating (Global Foorprint Network and Confederation of Indian Industry, 2008); soil erosion is creating a havoc on wild and agricultural biodiversity (Burney and Ramanathan, 2014); water bodies are severely polluted (Goel, 2006; Greenstone and Hanna, 2014; Hussain *et al*., 2012; Kotecha *et al*., 2012; Suthar, 2011); productivity of land has reduced to below-optimal productivity (Burney and Ramanathan, 2014); Indian cities are among the top air polluted cities (World Health Organization, 2014); electronic, chemical and other modern wastes are being produced at rates exceeding our capacity to manage or recycle (Kaushal *et al*., 2012; Needhidasan *et al*., 2014); and so on . Climate change impacts are being felt in terms of erratic weather and coastal erosion, and the country has little in the way of climate preparedness, especially for the poor who will be worst affected (Bidwai, 2012).

Projections based on the historic trend of materials and energy use in India also point to serious levels of domestic and global impact on the environment if India continues on its current development trajectory modelled on industrialized countries (Singh *et al*., 2012). All such loss has been essentially because of ignorance towards the three Ps of sustainability and the lack of their integration in each and every activity in the country. Therefore, there is a need to introduce the concept of sustainability in the organizational as well as the society dimension in India so that every individual, community and organization transacts with the other keeping in view the sustenance of the people, planet and profits. It is the beauty of the pillars of sustainability that they are mutually linked (Boström, 2012; Hansmann *et al*., 2012) both in terms of benefits as well as losses. Ignoring any pillar while taking beneficial decisions and actions in favour of other pillars causes loses which then ricochet to others and manifest in further loses defeating our purpose in the first place. However, if before doing anything all of them are taken on board they will create a myriad of benefits which nurture all the pillars.

The Six Questions (What, Why, Who, Where, When and How) and the cases

Before dealing with the issue of making India sustainable we must ask the six questions to come about with a clear understanding of it. We must ask - What (do we need)? Why (do we need it)? Who (is supposed to act)? Where (can we apply it)? When (should we act)? and How (should we act)? In the following we try to answer each of the question in Indian context together with the help of cases pertinently giving lessons that India can learn in terms of making itself sustainable.

What

To start with it is essential to know "What (do we need)?"

In this case the answer is: Sustainability in India. We need an assessment of various visions and frameworks being proposed globally or in individual countries, from which India could learn, adopt, and evolve its own framework (Kothari, 2013). Consequently there is a need to introduce the importance of discourse and consideration of the three components - (3Ps) of achieving sustainability i.e. People. Planets and Profits or the triple-bottom-line (TBL).The TBL framework for sustainable

development is actually an accounting framework with three overlapping parts or pillars: people (or social), planet (or environmental) and profit (or financial). These three Ps are the "three pillars of sustainability" and call for a symbiotic partnership between the them to ensure a win-win-win scenario for all.

Why

Now comes the question of "Why (do we need it)?"

The following social, economic and environmental statistics from popular global institutions indicate India's misery and signal to act on its unsustainability:

- (United Nations Development Program, 2015) reports that India ranks 130th out of 188 assessed countries in the Human Development Index (which measures a composite statistic of life expectancy, education, and income-per-capita indicators).
- (United Nations Sustainable Development Solutions Network, 2015) reports that India ranks 117th happiest country in the world out of 158 assessed countries in the World Happiness Report (which measures the happiness of countries using factors like generosity, GDP-per-capita, social support and healthy life expectancy)
- (Hindustan Times, 2015) reports that India accounted for the largest number of poor people in any country in 2012.
- (IMF, 2015) reports that India ranks 125th place out of 187 assessed countries in terms of GDP(PPP) per-capita with its GDP(PPP) per capita at just International $5808.
- (World Bank, 2015a) reports that India ranks 120th place out of 185 assessed countries in terms of GDP (PPP) per-capita for the years 2011-15 with its GDP (PPP) per-capita at International $5700.
- (IMF, 2015) reports that India ranks 140th out of 186 assessed countries in terms of GDP (nominal) per-capita with its GDP(nominal) per capita at just US $1688.
- (World Bank, 2015b) reports that India ranks 143rd out of 183 assessed countries in terms of and GDP (nominal) per-capita for the years 2011-15 with its GDP(nominal) per capita at just US $1582.
- (World Health Organization, 2014)reports that top 4; 10 (out of top 15); 31 (out of top 100); 124 (out of 1215) most polluted cities in the world were in India in terms of particulate matter concentration, PM2.5.
- (Global Foorprint Network and Confederation of Indian Industry, 2008)report that India has the world's third biggest ecological footprint and it uses resources twice of its bio-capacity which itself has declined by half in the last few decades, which, in essence means that there are many more people today in India living on limited available resources.

Who

The question of "Who (is supposed to act)?" must be answered next. The sustainability agenda in India will need efforts from each and every entity and at every level. Individuals, families, communities, researchers, businesses, government and non-government organizations and institutes dedicated towards sustainability (Austin, 2000; Bouwen and Taillieu, 2004; Gardner, 2013; Lozano, 2007; Rosenberg *et al*., 2008) are needed to work together cohesively towards the attainment of set sustainability goals and objectives.

Individuals in the country (Diochon *et al*., 2005) especially celebrities (Ponte and Richey, 2011) from different industries like Bollywood should come forward and endorse sustainability efforts in the country. For example Leonardo DiCaprio, the Hollywood actor known for his role in the Titanic movie, established the Leonardo DiCaprio Foundation in 1998 which protects the earth's last wildlife places through grant making, campaigning, and media projects. He also serves on the board of theWorld Wildlife Fund, theNatural Resources Defense Council, International Fund for Animal Welfare and Global Green USA. Same is expected of celebrities in India e.g. Shabana Azmi is a social activist and Gul Panag supports causes like gender equality, addiction awareness, education, employment and disaster management.

Communities also play an important role in these initiatives e.g the UK government runs "Community Action 2020 – Together We Can" programme to support communities in their efforts to move towards sustainable living. Similarly "Chefs for Seals" are a community of thousands of chefs worldwide who have joined hands to stand up against Canada's massive slaughter of seals.

Businesses lead by example (Shrivastava, 1995) like BMW, the Munich-based maker of luxury cars and motorcycles, is the world's most sustainable company for the year 2016 according to (Corporate Knights, 2016). which measure an organization's sustainable management of resources, employees, and finances across 12 "key performance indicators" (KPIs) like efficient use of water, energy; lack of waste; responsible approach to paying taxes; large innovation investments; low employee turnover; and low CEO-to-average-worker pay ratio. Similarly NGOs like Greenpeace or Amnesty are working hard to give voice to environmental and social sustainability respectively (Brown and May, 1991; Hopgood, 2013; Sachs, 1995) . Dedicated institutions like Sustainability Research Institute at University of Leeds, UK, was established in 2004 as part of a school strategy to combine natural and social sciences in interdisciplinary research (School of Earth and Environment, 2016).

The government also needs to take part (United Nations Economic and Social Council, 2008) in sustainability initiatives e.g. in 2011 U.S.-China Eco-Partnership program for environmental sustainability was established by the U.S. State Department in order to handle environmental affairs that affect both the countries commonly (United States Department of State, 2015). Therefore, from common people to celebrities and from government to public institutions, all are required to work in unison to make India sustainable.

Where

"Where (can we apply it)?" is the next question due for an answer. Almost all sectors and industries in India can be subjected to sustainability to warrant their increased productivity and efficiency. Geographically these initiatives can be introduced in both rural as well as urban areas as they benefit them accordingly. However, testing their introduction within a small scope or geographical location will make it

easier to evaluate the benefits and intricacies of the sustainability initiatives and identify the changes to be made before full scalability in India. For example, Cochin International Airport at Kochi, Kerala, the first airport in the world to run completely on solar power (Menon, 2015). It was started as a small project with just 400 panels on its rooftop in 2013. With its success it has now be scaled up to a full-fledged solar power plant powering the airport with 46,000 solar panels generating 12 MWs of power. It is expected to recoup its development costs of $9.5 million in less than six years and produces much more energy than needed by the airport and as such banks the rest with the state power grid for rainy days and night-time requirements.

When

Now the question - "When (should we act)?" comes into being. Since the country hasn't been focusing much on its sustainability, it needs to make a paradigm shift from this unsustainable path to a sustainable one right now. The goals of sustainability are to be kept for a longer term. Though business leaders and politicians find it hard to think even two or three years ahead, the intensity of the problem is indicated by the fact that sustainability requires thinking beyond decades, generations and, in some instances, centuries. Introduction of the "long-time" dimension is necessary to expand the horizon of thinking, planning and acting in the sustainability issues. If we act now there is a chance for us to mend what has been done wrong for ages. If not then we are running towards a dead end, where there is no coming back. We will run out of natural resources, businesses won't flourish and the society will vanish. To exemplify Google is currently incubating and nourishing the idea of self-driving cars in its California campus. Though it has no concrete plans as to when the cars will be ready to get on the roads but Google has already started testing the cars to know about the different prospects and ramifications of the technology used in these cars in order to keep improving while it is in a nascent stage. Therefore, it is always better to start at the earliest and plan for long term when it comes to sustainable solutions in order to make them better at creating value for the society, businesses as well as the environment.

How

In the end a pivotal question of "How (should we act)?" is answered in detail.

Vision and Commitment

Developing a vision and commitment towards sustainability is vital. In Finland the Finnish National Commission on Sustainable Development, the department spearheading its sustainability initiatives, crafted a vision that by 2050 "Finland will be an affluent society that lays the foundation for sustainability and provides its citizens, communities and companies with the conditions they need to operate sustainably" (Sustainable Development Strategy Group, 2012).

To meet this end vision developed objectives and a commitment to see them through, based on each person's individual expertise and potential. Therefore, developing a vision and uncompromising commitment are a must to reach the ultimate goal of making India sustainable.

Sustainability oriented Decision-making

Every decision should have a sustainability touch to it (Lubin and Esty, 2010). We should strengthen guidance and decision making that promotes biodiversity, sustainable use of natural resources and considers social, economic and environmental conditions in a balanced manner (Toman and others, 1998). In today's social and environmental activism if institutions and governments do not take decisions with sustainability in view they are bound to face the wrath of the community and the environment and as such further their failure in the society (Koch, 2016) e.g. Shell, the oil and gas giant, because of global resentment to its 1995 Brent Spar and Nigerian controversies announced that it would, in future, consult NGOs on such issues as environment and human rights before deciding on development options. To exemplify more, a leading Chinese online portal, Sohu.com, recognized the role of telecommunications in driving a positive environmental impact and thus selected Telecom, one of the top five ''green enterprises'' in the country (Trifilova *et al*., 2013).

New Products and Services

All service and welfare sectors must integrate principles and practices of ecological sustainability (Kothari, 2013). The processes, business models and products are all targets for change initiatives that translate into becoming more sustainable organizations (Eccles *et al*., 2012) and have the potential to create valuable, unique resource bundles (Barney, 1991). Pertinently organizations in India need develop newer versions of products and services which functionally cause less or no pollution from their use, using less energy and perform better than their previous unsustainable versions. All the activities involved in the development of a product or service ranging from the conception of its idea, designing, prototyping, sourcing, production, delivery, use and even disposal by the customer can be dealt with a sustainable approach (Hauschild *et al*., 2005; Klöpffer, 2003; Westkämper, 2000). Nike, for example, has been the poster child in this category. In one of its product ranges it recycles plastic bottles and transforms them into superior performance apparel (Nike, 2012). Similar efforts are visible across its other products and services. In India, for example, ITC Hotels have revolutionized the hospitality sector by providing the "the greenest luxury hotel chain in the world" (Economic Times, 2016) with all of its eleven premium luxury hotels LEED (Leadership in Energy and Environmental Design) Platinum certified , the highest certification level. The world's first as well as largest LEED Platinum certified hotel belongs to ITC Hotels. Furthermore ITC Grand Central in Mumbai consumes 48% less water than LEED's standard for large size luxury hotels. ITC Maratha in Mumbai consumes 22% less energy than the USEPA's (United States Environment Protection Agency) benchmark for large size luxury hotels (ITC Portal, 2016).

Investment in Sustainable Infrastructure

All infrastructure development must be ecologically sustainable and socio-economically equitable (Kothari, 2013). Our goal in India should be to create a sustainable, healthy and comfortable living environment with special set of ecological, social and economic criteria and implement many pioneering solutions and practices to attain sustainability. For example Eco-Viikki, Kalasatama and Jatakasari are major ecologically designed neighbourhoods in Finland which use pioneering sustainability solutions and practices like sustainable building,

low carbon-footprint urban design, bicycle routes, smart power grids(Sitra, Tekes, and VTT, 2011). They not only use solar energy for powering homes but also for heating water and the premises. They employ thousands of people and house universities schools and colleges. The Smart Cities Mission from 2015-2020 of the Indian government is a significant step towards building sustainable infrastructure. These initiatives with the use of digital and information technologies, urban planning best practices, public-private partnerships, and policy change attempt to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'smart' solutions like assured water and power supply, sanitation and solid waste management, efficient urban mobility and public transport, robust IT connectivity, e-governance and citizen participation along with safety of its citizens (India.gov, 2016).

Corporate Governance

There is a growing concern with sustainability, the impact of organisational activities on the environment and society as well as the more traditional aspect of economic viability (*et al*., 2014; Kothari, 2013; Shrivastava, 1995). (Walls and Berrone, 2015) mention that "In response, companies have designed environmental and social policies, implemented sustainability management systems, and put structures in place to monitor these issues up to the level of the board. Corporates in India must also begun to shape visions that integrate sustainability into the strategic directions and actions of companies. A new spin to the sustainability agenda can be given by the corporate of India. They can turn to become the drivers of the sustainability movement in India (Majmudar *et al*., 2015). An early example of the trend here is the joint venture of Innovest, an investment advising company in Boston, and The Coalition for Environmentally Responsible Economies, a non-profit sustainability advocacy organization, on the corporate governance aspects of the risks associated with climate change (Elkington, 2004). Similarly at Alcoa, an aluminium company, a fifth of executive cash compensation goes is tied to safety, diversity and environmental stewardship, which includes greenhouse gas emission (GHG) reductions and energy efficiency (Confino, 2014). More and more companies need to need come forth and build the relevant sustainability requirements into their corporate DNA from the very outset, and into the parameters of the markets that they seek to serve.

Government Intervention

India has many publicly funded programmes for the prevention and control of climate change and issues relating to sustainable development (GIZ, 2012). However, there is no indication of a comprehensive or systematic integration of the principles of sustainable development into India's policies and programmes (Kothari, 2013) five Year Plans, annual budgets, and macroeconomic measures that drive the country's development process (Saldanha *et al*., 2006). In the past there have been many policies and programmes developed by the Government of India in support of environmental protection, social welfare and economic development: National Telecom Policy, 2011; National Mineral Policy, 2008; Micro, Small and Medium Enterprises Development Act, 2006; Sarva Shiksha Abhiyaan, 2003; Protection of Human Rights Act, 1993; National Rural Health Mission, 2005; National Forestry Action Programme, 1999; National Afforestation Programme, 2002; Water (Prevention and Control of Pollution) Act, 1974; (The Energy and Resources Institute, 2011) but they have been framed and run in isolation from each other rendering them incapable of creating multi-dimension benefits. It is therefore required that the concerned departments and ministries of the government take the immediate step towards integrating their sustainability efforts thereby motivating and inspiring others to follow. Setting up a separate department which will act as the guardian and integrator of sustainability efforts in India is required. For example Finland has the Finnish National Commission on Sustainable Development, the prime authority which looks after the sustainability efforts in the country and adapts international sustainable development goals into Finland's national policies (Ministry of Environment of Finland, 2015; Sustainable Development Strategy Group, 2012).

Sustainability Management and Reporting

Sustainability management tools can be defined as administrative technologies to manage sustainability issues by structuring, organizing, measuring and/or communicating sustainability information and/or developing and defining processes and structures. Information systems for performance management systems must be implemented which provide opportunity to incorporate measures aligned with sustainability outcomes and provide reportable indicators (Adams *et al*., 2014) for example, environmental management standards and systems. Institutions in India should make use of the International Organization for Standardization's ISO 14001 which allows organizations to deal with environmental issues in a systematic manner and provide them with guidelines for actions and processes to increase environmental performance. Similarly, social responsibility, social issues, working conditions are in the limelight of social management standards and systems like Social Accountability International's SA 8000 (Lockett *et al*., 2006; Scherer and Palazzo, 2011). There are tools which have an integrative focus and aim at linking and balancing environmental, social and economic aspects of management (Schaltegger *et al*., 2002). This includes, for example, standards for the management of stakeholder relations like AccountAbility's AA 1000 which helps organizations move beyond a compliance approach to sustainability issues and start seeing them as value drivers. Global Reporting Initiative (GRI), an international independent standards organization that helps businesses, governments and other organizations understand and communicate their impacts on issues such as climate change, human rights and corruption, can also be used enabling greater organizational transparency and accountability may be used. All these reporting tools shall be used to make the path to sustainability more achievable.

Collaboration and Partnership

Note that profiting from sustainability goes hand in hand with greater collaboration among many groups both internal and external to the operation. With the aim of progressing in sustainability, central stakeholders to it, like private and public companies, influential people and NGOs in India should enter into collaborative alliances and partnership with each other. (Smallman *et al*., 2007) explores the new forms of governance that are emerging to facilitate corporate sustainability, particularly involving collaborative decision-making, since TBL sustainability engages organizations of all kinds. Collaborations between private and public organizations (Kiron *et al*., 2012) will allow for sharing for risks and resources generating benefits for both sides. Organizations can

partner with each other in order to bring about a good in the society and environment by planning, investing and creating sustainable technologies, initiatives and programs. They can join hands to make the world a better place to live and act as environmental and social activists e.g. Ford, the US auto giant has established requirements for first-tier suppliers to drive its environmental and social expectations further down the supply chain and works with suppliers to establish GHG emission reduction and energy efficiency targets (Ceres and Sustainalytics, 2014). This can also be the case of influential individuals, for example, Abhay Deol, the bollywood actor, joined hands with Greenpeace in a bid to convince the government to stop coal-mining in the country's depleting forests (The Indian Express, 2012). The Lighting a Billion Lives (LaBL) initiative launched by The Energy and Resources Institute (TERI), New Delhi, a not-for-profit organizations, aims to replace kerosene-based lighting with cleaner, more efficient, and more reliable solar lighting devices. LaBL with a local entrepreneur trained by TERI and its partner organizations provisions to establish micro solar-enterprises in un-electrified or poorly electrified villages providing clean energy access to the community for an affordable fee. The initiative has reached to around half-a-million people in 1860 villages across 22 states of India (Climate and Development Knowledge Network, 2013).

Education

Universities are expected to prepare students to develop the ability to integrate social, environmental and economic considerations in future decision making. There is a general consensus on the notion of education as an important tool in achieving change and sustainable development (Mochizuki and Fadeeva, 2010). Efforts must be made to educate Indians about sustainability issues. TERI (The Energy and Resources Institute) University, for example, is the first of its kind in India dedicated to providing the most advanced education and training in Sustainable Development, Energy Studies, Bio-sciences, Environmental Studies, Management and Public Policy and offers an MA programme in Sustainable Development Practice, an MBA programme in Business Sustainability and other courses in the fields of energy, environment, environment law, public policy, climate science, renewable energy (Jain *et al*., 2013; TERI University, 2016). Introduction of new education programs in sustainability science, sustainable development and sustainability education in new already existing educational infrastructure can transform the potential of education in India to turn students into change agents for sustainability. Organizations (private as well as public) and NGOs can also initiate education drives and initiatives to educate employees, clients and people about the importance of sustainability (Austin, 2007; Molnar and Mulvihill, 2003) for examples, KPMG India has a foundation course on sustainability wherein it helps businesses educate their workforce on the business case for sustainability and key sustainability topics as well as empower them to implement sustainability in their daily jobs.

Conclusion

Since India has borne a lot of losses to its society, environment and economy, the need to introduce the concept of sustainability is urgent. Although the intrinsic characteristics of India are different from that of the leaders in sustainability and that matching the leaders is a daunting task but keeping them as benchmarks for the sustainability efforts worthy. Before developing an India-centric model for sustainability it is imperative that we answered the basic six questions which one asks before dealing with a new phenomenon i.e. What, Why, Who, Where, When, and How and we must learn some lessons concerned with these questions in notable examples from within India and the globe leaders in sustainability who already have a great deal of experience with these efforts.

REFERENCES

Adams, C. A., Muir, S., and Hoque, Z. 2014. Measurement of sustainability performance in the public sector. *Sustainability Accounting, Management and Policy Journal*, *5*(1), 46–67. http://doi.org/10.1108/SAMPJ-04-2012-0018

Ameer, R., and Othman, R. 2012. Sustainability practices and corporate financial performance: A study based on the top global corporations. *Journal of Business Ethics*, *108*(1), 61–79.

Austin, J. E. 2000. Strategic collaboration between nonprofits and business. *Nonprofit and Voluntary Sector Quarterly*, *29*(suppl 1), 69–97.

Austin, J. E. 2007. Sustainability through partnering: conceptualizing partnerships between businesses and NGOs. *Partnerships, Governance and Sustainable Development: Reflections on Theory and Practice*, 49–67. article.

Badami, M. G. 2005. Transport and urban air pollution in India. *Environmental Management*, *36*(2), 195–204.

Balakrishnan, K., Cohen, A., and Smith, K. R. 2014. Addressing the burden of disease attributable to air pollution in India: the need to integrate across household and ambient air pollution exposures. *Environ Health Perspect*, *122*(1), A6–A7.

Barney, J. B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99–120. http://doi.org/10.1177/014920639101700108

Barr, S. 2008. *Environment and society: Sustainability, policy and the citizen*. Ashgate Publishing, Ltd.

Bhadwal, S., Groot, A., Balakrishnan, S., Nair, S., Ghosh, S., Lingaraj, G. J., Siderius, C. 2013. Adaptation to changing water resource availability in Northern India with respect to Himalayan Glacier retreat and changing monsoons using participatory approaches. *Science of the Total Environment*, *468*, S152--S161.

Bidwai, P. 2012. *The Politics of Climate change and the Global crisis: Mortgaging Our Future*. New Delhi: Orient Black Swan.

Boström, M. 2012. A missing pillar? Challenges in theorizing and practicing social sustainability: introduction to the special issue. *Sustainability: Science, Practice, and Policy*, *8*(1).

Bouwen, R., and Taillieu, T. 2004. Multi-party collaboration as social learning for interdependence: Developing relational knowing for sustainable natural resource management. *Journal of Community and Applied Social Psychology*, *14*(3), 137–153.

Brown, M. H., and May, J. 1991. *The greenpeace story*. London, UK: Dorling Kindersley, Inc.

Burgess, R., Deschenes, O., Donaldson, D., and Greenstone, M. (2013). The unequal effects of weather and climate change: Evidence from mortality in India. *Unpublished Working Paper*.

Burney, J., and Ramanathan, V. 2014. Recent climate and air pollution impacts on Indian agriculture. *Proceedings of the National Academy of Sciences*, *111*(46), 16319–16324.

Ceres, and Sustainalytics. 2014. Gaining Ground: Corporate Progress on the Ceres Roadmap for Sustainability. Massachusetts, USA: Ceres: Ceres.

Chambers, R., and Von Medeazza, G. 2013. Sanitation and stunting in India. *Economic and Political Weekly*, *48*(25), 15.

Climate and Development Knowledge Network. 2013. *Case Studies on Low Emission Development: TERI's Lighting a Billion Lives initiative in India*. New Delhi, India: Climate and Development Knowledge Network (CDKN), US Agency for International Development (USAID) and Asia Low Emission Development Strategies (LEDS) Partnership.

Confino, J. 2014, April 30. Best practices in sustainability: Ford, Starbucks and more. *The Guardian*.

Corporate Knights. 2016. 2016 Global 100 results: The results for the 2016 Global 100 Most Sustainable Corporations in the World index. Retrieved November 7, 2015, from http://www.corporateknights.com/magazines/2016-global-100-issue/2016-global-100-results-14533333/

Cropper, M. L., Simon, N. B., Alberini, A., and Sharma, P. K. 1997. The health effects of air pollution in Delhi, India. *World Bank Policy Research Working Paper*, 1860.

Diochon, M., Menzies, T. V, and Gasse, Y. 2005. Canadian nascent entrepreneurs' start-up efforts: Outcomes and individual influences on sustainability. *Journal of Small Business and Entrepreneurship*, *18*(1), 53–74.

Dresner, S. 2002. *The Principles of Sustainability* (1st ed.). London, UK: EarthScan.

Duflo, E., Greenstone, M., Pande, R., and Ryan, N. 2013. *Truth-telling by third-party auditors and the response of polluting firms: Experimental evidence from India*.

Dylan, A. 2012. Rethinking sustainability on planet Earth: A time for new framings. *Electronic Green Journal*, *1*(34).

Eccles, R. G., Perkins, K., and Serafeim, G. 2012. How to become a sustainable company. *MIT Sloan Management Review*, *53*(4), 43–50.

Economic Times. 2016, August 31. Best of the best: Top 20 brands and their report card. *Economic Times*.

Elkington, J. 2001. *The Chrysalis Economy: How Citizen CEOs and Corporations Can Fuse Values and Value Creation* (1st ed.). New Jersey, USA: Capstone.

Elkington, J. 2004. Enter the Triple Bottom Line. In A. Henriques and J. Richardson (Eds.), *The Triple Bottom Line: Does it all add up?* (1st ed., pp. 1–16). London, UK: EarthScan.

Gardner, S. K. 2013. Paradigmatic differences, power, and status: a qualitative investigation of faculty in one interdisciplinary research collaboration on sustainability science. *Sustainability Science*, *8*(2), 241–252.

Ghimire, K. B., and Pimbert, M. P. 2009. *Social change and conservation*. London, UK: Routledge.

GIZ. 2012. *Sustainability Reporting Practices and Trends in India 2012*. New Delhi, India: Deutsche Gesellschaft fur Internationale Zusammenarbeit, GmbH.

Global Foorprint Network, and Confederation of Indian Industry. 2008. *India's Ecological Footprint A Business Perspective. Hyderabad, India: Global Footprint Network and Confederation of Indian Industry*.

Goel, P. K. 2006. *Water pollution: causes, effects and control*. New Delhi, India: New Age International.

Gornick, J., and Jäntti, M. 2014. *Income inequality: Economic disparities and the middle class in affluent countries*. California, USA: Stanford University Press.

Greenstone, M., and Hanna, R. 2014. Environmental regulations, air and water pollution, and infant mortality in India. *The American Economic Review*, *104*(10), 3038–3072.

Gupta, A. 2012. *Red tape: Bureaucracy, structural violence, and poverty in India*. North Carolina, USA: Duke University Press.

Hansmann, R., Mieg, H. A., and Frischknecht, P. 2012. Principal sustainability components: empirical analysis of synergies between the three pillars of sustainability. *International Journal of Sustainable Development and World Ecology*, *19*(5), 451–459.

Hauschild, M., Jeswiet, J., and Alting, L. 2005. From life cycle assessment to sustainable production: status and perspectives. *CIRP Annals-Manufacturing Technology*, *54*(2), 1–21.

Hindustan Times. 2015, October 5. India is home to world's largest poor population. New Delhi, India.

Hopgood, S. 2013. *Keepers of the flame: understanding Amnesty International*. New York, USA: Cornell University Press.

Hussain, I., Arif, M., and Hussain, J. 2012. Fluoride contamination in drinking water in rural habitations of Central Rajasthan, India. *Environmental Monitoring and Assessment*, *184*(8), 5151–5158.

IMF. 2015. World Economic Outlook Database, October 2015. Retrieved December 14, 2015, from https://www.imf.org/external/pubs/ft/weo/2015/02/weodata/index.aspx

India.gov. 2016. Smart Cities Mission: A step towards Smart India. Retrieved February 2, 2016, from https://india.gov.in/spotlight/smart-cities-mission-step-towards- smart-india

ITC Portal. 2016. ITC Hotels. Retrieved July 16, 2016, from http://www.itcportal.com/businesses/hotels.aspx

Jain, S. K., Kumar, V., and Saharia, M. 2013. Analysis of rainfall and temperature trends in northeast India. *International Journal of Climatology*, *33*(4), 968–978.

Jain, S., Aggarwal, P., Sharma, N., and Sharma, P. 2013. Fostering sustainability through education, research and practice: a case study of TERI University. *Journal of Cleaner Production*, *61*, 20–24.

Jha, D. K., and Tripathi, V. K. 2015. Analysing Spatio-Temporal Dimension of Urban Poverty in India. *Indian Research Journal of Social Sciences*, *29*(1).

Kandlikar, M., and Ramachandran, G. 2000. The causes and consequences of particulate air pollution in urban India: a synthesis of the science. *Annual Review of Energy and the Environment*, *25*(1), 629–684.

Kaushal, R. K., Varghese, G. K., and Chabukdhara, M. 2012. Municipal solid waste management in India-current state and future challenges: a review. *International Journal of Engineering Science and Technology*, *4*(4), 1473–1489.

Kiron, D., Kruschwitz, N., and Haanaes, K. (2012). Sustainability Nears a Tipping Point. *MIT Sloan Management Review*, *53*(2), 1–19.

Klöpffer, W. 2003. Life-cycle based methods for sustainable product development. *The International Journal of Life Cycle Assessment*, *8*(3), 157–159.

Koch, A. 2016, June 26. Major companies falling behind in the fight against unsustainable palm oil. *Mojo News*.

Kotecha, P. V, Patel, S. V, Bhalani, K. D., Shah, D., Shah, V. S., and Mehta, K. G. 2012. Prevalence of dental fluorosis and dental caries in association with high levels of drinking water fluoride content in a district of Gujarat, India. *The Indian Journal of Medical Research*, *135*(6), 873.

Kothari, A. 2013. Development and Ecological Sustainability in India: Possibilities for the Post-2015 Framework. *Conomic and Political Weekly*, *48*(30), 155–159.

Kothari, A., and Shrivastava, A. 2012. *Churning the Earth: The Making of Global India*. New Delhi, India: Penguin.

Livesey, S. M. 2001. Eco-identity as discursive struggle: royal Dutch/Shell, Brent Spar, and Nigeria. *Journal of Business Communication*, *38*(1), 58–91.

Lockett, A., Moon, J., and Visser, W. 2006. Corporate social responsibility in management research: Focus, nature, salience and sources of influence. *Journal of Management Studies*, *43*(1), 115–136.

Löfstedt, R. E., and Renn, O. 1997. The Brent Spar controversy: an example of risk communication gone wrong. *Risk Analysis*, *17*(2), 131–136.

Lozano, R. 2007. Collaboration as a pathway for sustainability. *Sustainable Development*, *15*(6), 370–381.

Lubin, D. A., and Esty, D. C. 2010. The sustainability imperative. *Harvard Business Review*, *88*(5), 42–50.

Madhusudan, M. D., Raman, T. R. S., and others. 2003. Conservation as if biological diversity matters: preservation versus sustainable use in India. *Conservation and Society*, *1*(1), 49.

Majmudar, U., Rana, N., and Sanan, N. 2015. *India's Top Companies for CSR and Sustainability*. The Economic Times, Futurescape and Indian Institute of Management Udaipur.

Mebratu, D. 1998. Sustainability and sustainable development. *Environmental Impact Assessment Review*, *18*(6), 493–520. http://doi.org/10.1016/S0195-9255(98)00019-5

Melhus, P., and Paton, B. 2012. The Paradox of Multi-Stakeholder Collaborations: Insights from Sustainable Silicon Valley's Regional CO2 Emissions Reduction Program. *Journal of Environmental Sustainability*, *2*(1), 1–17. http://doi.org/10.14448/jes.02.0007

Menon, S. 2015, October 9. How is the world's first solar powered airport faring? Retrieved from http://www.bbc.com/news/world-asia-india-34421419

Ministry of Environment of Finland. 2015. Sustainable Development. Retrieved May 12, 2016, from http://www.ym.fi/en-us/the_environment/Sustainable_development

Mochizuki, Y., and Fadeeva, Z. 2010. Competences for sustainable development and sustainability: Significance and challenges for ESD. *International Journal of Sustainability in Higher Education*, *11*(4), 391–403. http://doi.org/10.1108/14676371011077603

Molnar, E., and Mulvihill, P. R. 2003. Sustainability-focused organizational learning: recent experiences and new challenges. *Journal of Environmental Planning and Management*, *46*(2), 167–176. article.

Needhidasan, S., Samuel, M., and Chidambaram, R. 2014. Electronic waste--an emerging threat to the environment of urban India. *Journal of Environmental Health Science and Engineering*, *12*(1), 1.

Nike. 2012. Nike revolutionizes sustainability in performance product. Retrieved February 1, 2016, from http://news.nike.com/news/nike-better-world

Ostrom, E. 2009. A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science*, *325*(5939), 419–422.http://doi.org/10.1126/science. 1172133

Pathak, P. K., and Singh, A. 2011. Trends in malnutrition among children in India: growing inequalities across different economic groups. *Social Science and Medicine*, *73*(4), 576–585.

Pintér, É., Deutsch, N., and Ottmár, Z. 2006. New direction line of Sustainable development and marketing in green banking. *Available at SSRN 2505529*.

Ponte, S., and Richey, L. A. 2011. Product (RED): How celebrities push the boundaries of "causumerism." *Environment and Planning A*, *43*(9), 2060–2075.

Rao, K. S., Maikhuri, R. K., Nautiyal, S., and Saxena, K. G. 2002. Crop damage and livestock depredation by wildlife: a case study from Nanda Devi Biosphere Reserve, India. *Journal of Environmental Management*, *66*(3), 317–327.

Rosenberg, A., Hartwig, K., and Merson, M. 2008. Government-NGO collaboration and sustainability of orphans and vulnerable children projects in southern Africa. *Evaluation and Program Planning*, *31*(1), 51–60.

Roxy, M. K., Modi, A., Murtugudde, R., Valsala, V., Panickal, S., Prasanna Kumar, S. Lévy, M. 2016. A reduction in marine primary productivity driven by rapid warming over the tropical Indian Ocean. *Geophysical Research Letters*, *43*(2), 826–833.

Sachs, A. 1995. *Eco-Justice: Linking Human Rights and the Environment*. Washington D.C., USA.

Saldanha, L. F., Naik, A., Joshi, A., and Sastry, S. 2006. *Green Tapism - A Review of the Environmental Impact Assessment Notification -2006*. Bangalore, India: Environment Support Group.

Schaltegger, J., Schaltegger, S., Herzig, C., Kleiber, O., and Müller, J. 2002. *Sustainability Management in Business Enterprises - Concepts and Instruments for Sustainable Organisation Development*. Bonn, Germany: The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

Scherer, A. G., and Palazzo, G. 2011. The New Political Role of Business in a Globalized World: A Review of a New Perspective on CSR and Its Implications for the Firm, Governance, and Democracy. *Journal of Management Studies*, *48*(4), 899–931.

School of Earth and Environment. 2016. The Sustainability Research Institute. Retrieved April 5, 2016, from http://www.see.leeds.ac.uk/research/sri/the-sustainability-research-institute/

Shrivastava, P. 1995. The role of corporations in achieving ecological sustainability. *Academy of Management Review*, *20*(4), 936–960.

Singh, S. J., Krausmann, F., Gingrich, S., Haberl, H., Erb, K.-H., Lanz, P. Temper, L. 2012. India's biophysical economy, 1961–2008. Sustainability in a national and global context. *Ecological Economics*, *76*, 60–69. http://doi.org/http://dx.doi.org/10.1016/j.ecolecon.2012.01.022

Sitra, Tekes, and VTT. 2011. *World-class sustainable solutions from Finland: Sustainable Urban Development Sustainable Buildings Sustainable Solutions*. Helsinki, Finland.

Smallman, C., Benn, S., Teo, S. T. T., and Benn, S. 2007. New processes of governance: cases for deliberative decision-making? *Managerial Law*, *49*(5/6), 196–205.

Smith, K. R. 2000. National burden of disease in India from indoor air pollution. *Proceedings of the National Academy of Sciences*, *97*(24), 13286–13293.

Stanke, C., Kerac, M., Prudhomme, C., Medlock, J., and Murray, V. 2013. Health effects of drought: a systematic review of the evidence. *PLOS Currents Disasters*, *1*. http://doi.org/10.1371/currents.dis.7a2cee9e980f91ad7697b570bcc4b004

Subash, N., and Sikka, A. K. 2014. Trend analysis of rainfall and temperature and its relationship over India. *Theoretical and Applied Climatology*, *117*(3–4), 449–462.

Sustainable Development Strategy Group. 2012. *The Finland we want by 2050 - Society's commitment to sustainable development*. Helsinki, Finland.

Suthar, S. 2011. Contaminated drinking water and rural health perspectives in Rajasthan, India: an overview of recent case studies. *Environmental Monitoring and Assessment*, *173*(1–4), 837–849.

TERI University. 2016. Academic Programmes. Retrieved May 16, 2016, from http://www.teriuniversity.ac.in/program

Thayyen, R. J., Dimri, A. P., Kumar, P., and Agnihotri, G. 2013. Study of cloudburst and flash floods around Leh, India, during August 4--6, 2010. *Natural Hazards*, *65*(3), 2175–2204.

The Energy and Resources Institute. 2011. *Sustainable Development in India: Stockating in the run up to Rio+20*. New Delhi, India.

The Indian Express. 2012, March 2. Abhay Deol joins hands with Greenpeace. *The Indian Express*. India.

Thomas, J. J. 2014. The demographic challenge and employment growth in India. *Economic and Political Weekly*, *49*(6), 15–17.

Toman, M. A., and others. 1998. Sustainable decisionmaking: The state of the art from an economics perspective. *Valuation and the Environment: Theory, Method and Practice*, 59–72.

Trifilova, A., Bessant, J., Jia, F., and Gosling, J. 2013. Sustainability-driven innovation and the Climate Savers ' programme : experience of international companies in China. *Corporate Governance, 13(5), 599-612.*, *13*(5), 599–612. http://doi.org/10.1108/CG-06-2013-0082

United Nations Development Program. 2015. *Human Development Report 2015: Work for Human Development*. New York, USA: United Nations Development Program.

United Nations Economic and Social Council. 2008. *Achieving Sustainable Development and Promoting Development Cooperation: Dialogues at the Economic and Social Council*. New York, USA: United Nations Economic and Social Council and United Nations Publications.

United Nations Sustainable Development Solutions Network. 2015. *World Happiness Report 2015*. (J. Helliwell, R. Layard, and J. Sachs, Eds.). New York, USA: United Nations Sustainable Development Solutions Network.

United Nations. 1987. *Report of the world commission on environment and development, General Assembly Resolution 42/187*. New York, USA.

United States Department of State. 2015. U.S.-China EcoPartnerships Program. Retrieved November 6, 2015, from http://www.state.gov/r/pa/prs/ps/2015/06/244111.htm

Walls, J., and Berrone, P. 2015, October 12. How Corporate Governance Affects Corporate Sustainability and Why It Matters. *The Huffington Post*.

Wasson, R. J., Sundriyal, Y. P., Chaudhary, S., Jaiswal, M. K., Morthekai, P., Sati, S. P., and Juyal, N. 2013. A 1000-year history of large floods in the Upper Ganga catchment, central Himalaya, India. *Quaternary Science Reviews*, *77*, 156–166.

Westkämper, E. 2000. Life cycle management and assessment: approaches and visions towards sustainable manufacturing (keynote paper). *CIRP Annals-Manufacturing Technology*, *49*(2), 501–526.

Working Group on Human Rights in India and the UN. 2012. *Human Rights in India Status Report 2012 Human Rights in India*. New Delhi, India: Working Group on Human Rights in India and the UN.

World Bank. 2015a. GDP per capita, PPP (current international $). Retrieved February 6, 2016, from http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD

World Bank. 2015b. GDP per capita (current US$). Retrieved February 6, 2016, from http://data.worldbank.org/indicator/NY.GDP.PCAP.CD

World Health Organization. 2014. Ambient (outdoor) air pollution database, by country and city. Retrieved January 5, 2016, from http://www.who.int/quantifying_ehimpacts/national/countryprofile/aap_pm_database_may2014.xls?ua=1

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