

A study on challenges of developing a green growth strategy

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Abstract

'Green' phenomenon is an innovative exemplar in the arena of Green Economy. In today's dynamic world *green* is a very renowned and flattering topic which encompasses every phase of our life. The environment, developing economies, consumers, corporate strategy, the product, production processes and supply chain benefit from green growth. The obvious benefactor of *green growth* is the environment. Moreover, managers of corporate strategy realize multiple benefits from a green approach to marketing. Companies that incorporate ecological consciousness into their mission statements and strategy enhance their images among consumers, employees, investors, insurers and the general public. It is a well-known fact that some consumers have strong affinities towards green products, and approaching the market with an ecological focus which enhances image of the brand among these consumers. Corporate initiatives that emphasize a green orientation to markets have several implications to their workforce. Our study revealed that the impact of green growth in the Indian economy along with product development, production and the supply chain which have potential to achieve higher levels of triple bottom line performance via green marketing.

Keywords: green growth, ecological consciousness, green marketing, corporate strategy, triple bottom line

Introduction

"Green is the prime colour of the world, and that from which its loveliness arises"

Pedro Calderon de la Barca

India is the oldest and has the most densely populated mega cities which are considered as the historically major economic growth centres. An assessment of sustainable development challenges along with triple bottom line concept and possible green growth strategies give rise to some interesting insights that simplify as well. The paper commenced with a well defined boundary for green growth in Indian economy. Using various data available from official sources results are derived to show which economic sector has how much green growth investment potential compared to a baseline. The potential assessment is based on effective and efficient technology deployment scope. However, case studies on green growth strategies focuses the impact on production process and supply chain. Moreover, the paper helps to summarize some practical issues in grabbing the opportunities for green growth along with its challenges. Firms pursue sustainability via triple bottom line perspective focused on achieving economic, relational and ecological outcomes. Beyond the environmental benefits that can accrue from green growth, several sectors of the global economy benefit from green growth. Emerging economies have potential to curb hunger and poverty by engaging in green growth. Consumer welfare can, and, similarly, corporate strategy can be enhanced by incorporating green marketing practices. Product development, production and the supply chain all have potential to achieve higher levels of triple bottom line performance via green marketing.

In a recent survey of 178 countries whose environments were surveyed, India ranked 155th overall and almost last in air pollution exposure. The survey also concluded that India's

environmental quality is far below all BRIC countries [China (118), Brazil (77), Russia (73), and South Africa (72)]. Also, according to another recent WHO survey, across the G-20 economies, 13 of the 20 most polluted cities are in India. Simultaneously, poverty remains both a cause and consequence of resource degradation: agricultural yields are lower on degraded lands, and forests and grasslands are depleted as livelihood resources decline. To subsist, the poor are compelled to mine and overuse the limited resources available to them, creating a downward spiral of impoverishment and environmental degradation. Green growth strategies are needed promote sustainable growth and to break the pattern of environmental degradation and natural resource depletion. Emission reductions can be achieved with minimal cost to GDP. India has maintained a very respectable average GDP growth rate of more than 7.5% since 2007, in spite of the recession in 2008 and slowdown in 2011. However, the growth story cannot stop here. *The challenge is to further improve it and sustain. The bigger challenge is to achieve it ensuring environmental sustainability or in other words achieve green economic growth.*

Literature Review

Towards a Green India

Abbu, Bhagavatula, Ghorpade & Korsepatil (2015) has observed that India's vibrant and rapidly growing cities offer ample opportunities to its population and are accelerating its economic growth. Considerations of equity, social inclusion and environmental conservation have ranked high in the traditional growth approach. However, the sheer pace of India's urban development has led to unplanned growth and threatens the valuable natural resources and the quality of life of our citizens.

Banerjee, Sood (2012) offers an overview of the Indian state's alternative or sustainable development trajectories as well as the more mainstream policy decisions for high-growth objectives in the global economy. Rapid economic growth in India during the last two decades has accentuated the demand for energy and natural resources related to water, land and forests. Based on a review of the current policy framework in these areas and data from fieldwork in the north-eastern region of India, this paper addresses two inter-related themes: (i) how emerging economies like India have dealt with the question of access to resources in response to the opposing demands of "inclusive growth" and more equitable development aimed at closing "social divides"; and (ii) the specific case study of two seemingly contradictory development trajectories, namely the "Green Mission" and hydroelectric power (HEP) dams on the river Teesta in India's northeastern Himalayan region. Our review of the policy agenda for water, land, forests and river dams suggests that current approaches toward growth have largely privileged a mainstream development perspective, promoted privatization and often aggravated existing social inequalities. The effectiveness of the so-called "green" or sustainable development approaches has largely been compromised due to their mainstream and increasingly neoliberal orientation conceptualized within a primarily techno-bureaucratic policy framework.

Hynes, Wang (2012) Green growth is a matter of both economic policy and sustainable development policy. It tackles two key imperatives together: the continued inclusive economic growth needed by developing countries to reduce poverty and improve wellbeing; and improved environmental management needed to tackle resource scarcities and climate change. When green growth began to be promoted through the 2008-9 economic stimulus packages, some governments approached it from a short-term growth perspective – the potential to boost jobs and incomes through increased investment in some green (notably low-carbon) technologies. Others approach green growth from an environmental perspective – the potential to internalise environmental externalities by mainstreaming sustainable development requirements into economic decision-making, notably through resource pricing and land use/infrastructure choices. A third imperative, of equity and inclusion, has more recently been expressed, especially by developing countries – the notion that green growth should serve those excluded by the current economic system. The informal economy is very large in many developing countries and its potentials and hazards need to inform any transition to green growth in order to deliver more and better jobs and resilient livelihoods for poor people. Thus there is growing convergence around the notion that the current economic system is not only unsustainable and inefficient in its resource use, but moreover is inequitable in its distribution of costs and benefits.

Gupta, Mantry, Srinivasan (2012) identifies that India has the potential to significantly increase its energy security to support continued rapid growth, while securing sustainability that exceeds current expectations. That India can do much more to reduce energy consumption and GHG emissions without compromising its prospects for growth. Based on assessments of approximately 200 commercially viable opportunities, we believe the country has the technical

potential³ to shrink its projected energy consumption by 22 percent and lower its consequent GHG emissions by an additional 30 to 50 percent. Specifically, its emission levels would only rise to between 2.8 billion and 3.6 billion metric tons of CO₂e in 2030⁴—more than 2 billion metric tons of CO₂e less than the level that might be achieved under current plans. To set a new standard for sustainability, India should focus on increasing energy efficiency in industry, vehicles, and appliances; accelerating the transformation of its power sector, promoting the adoption of clean technology; building green infrastructure for urban habitats and transportation; and establishing sustainable agriculture and forestry practices.

Objectives

The aim of the present paper is to explore in a theoretical level:

- The idea of green growth and the areas of development
- To study the various green initiatives in Indian economy which ultimately boost up the development of green growth strategy.
- To identify the challenges and take corrective measures against it.

Research Methodology

The paper is mainly a descriptive upshot based on several secondary data. Data sources include – various published articles on social and environmental in reputed journals, magazines, books and online information on research conducted on the social and environmental disclosure of the companies and other institutions. Multiple case studies have been referred on this subject to understand the development of green growth strategies.

Area of Study

Focus has been made to study how a green growth practice is shaping up in every phase of Indian economy. A few case studies along with some instances have been depicted to some of the esteemed areas of green marketing practices in India and the various practices adopted for them.

Case Studies

"While the overall policy focus should be on meeting basic needs and expanding opportunities for growth, they should not be at the expense of unsustainable environmental degradation."
Muthukumara Mani

Case 1

India: Green Growth - Overcoming Environment Challenges to Promote Development

- Although the past decade of rapid economic growth has brought many benefits to India, the environment has suffered, exposing the population serious air and water pollution.
- A new report finds that environmental degradation costs India \$80 billion per year or 5.7% of its economy.
- Green growth strategies are needed promote sustainable growth and to break the pattern of environmental degradation and natural resource depletion. Emission reductions can be achieved with minimal cost to GDP.

Background and Context

Over the last decade, India's strong growth has increased employment opportunities and allowed millions to emerge from poverty. India's remarkable growth record, however, has been clouded by a degrading environment and growing scarcity of natural resources. Mirroring the size and diversity of its economy, environmental risks are wide ranging and are driven by both prosperity and poverty. Three striking findings emerge from this review:

Firstly environmental sustainability could become the next major challenge as India surges along its projected growth trajectory.

Secondly a low-emission, resource-efficient greening of the economy should be possible at a very low cost in terms of GDP growth. While a more aggressive low-emission strategy comes at a slightly higher price tag for the economy it promises to deliver greater benefits.

Thirdly for an environmentally sustainable future, India needs to value its natural resources, and ecosystem services to better inform policy and decision-making.

Green growth is necessary. With cost of environmental degradation at US \$80 billion annually, or equivalent to 5.7% of GDP in 2009, environment could become a major constraint in sustaining future economic growth. Further, it may be impossible or prohibitively expensive to clean up later.

Green growth is affordable. Model simulations suggest that policy interventions such as environmental taxes could potentially be used to yield positive net environmental and health benefits with minimal economic costs for India.

Green growth is desirable. For an environmentally sustainable future, India needs to value its natural resources, and ecosystem services to better inform policy and decision-making especially since India is a hotspot of unique biodiversity and ecosystems.

Green growth is measurable. Conventional measures of growth do not adequately capture the environmental costs. Therefore, it is imperative to calculate green Gross Domestic Product (green GDP) as an index of economic growth.

Actions

A low-emission, resource-efficient greening of the economy should be possible at a very low cost in terms of GDP growth. Emissions reduction would have a minimal impact on GDP which would be offset by savings through improving health while substantially reducing carbon emissions.

- A 10% particulate emission reduction will lower GDP only modestly. GDP will be about \$46 billion lower in 2030 due to interventions, representing a loss of 0.3 % compared to business as usual.
- A 30% particulate emission on the other hand reduction will lower GDP by about \$97 billion, or 0.7 %.
- GDP growth rate will be negligibly reduced by about 0.02 to 0.04% in both scenarios. There will be significant health benefits under both scenarios which will compensate for the projected GDP loss.
- The savings from reduced health damages will range from \$105 billion in the 30% case and by \$24 billion with a 10% reduction.

Under the scenarios, another important benefit would be a

substantial reduction in CO₂ as a co-benefit which has a potential of being monetized.

Case 2

Karnataka becomes first state to have green growth Strategy

The study identifies financial resources and suggests investment opportunities for govt, pvt sector to encourage and enable development of sustainable practice. State became the first to get a green growth strategy which details what can be done in adapting to the climate change and how the state can play its part in reducing carbon emissions.

A consortium of institutions led by the Bangalore Climate Change Initiative – Karnataka (BCCI-K) in partnership with Seoul-based Global Green Growth Institute (GGGI) has conducted the study.

The strategy was born out of recognition of the need for policies and measures to combat growing environmental concerns while maintaining, if not accelerating, the pace of social progress and economic growth. The Green Growth Strategy aims at meeting both the short-term and long-term objectives of economic growth and environmental sustainability, he said.

“As a progressive state, Karnataka envisions job-oriented, inclusive economic growth through sustainable industrialization and livelihood diversification. Such transitions are likely to increase the demand for resources significantly and the achievement of this vision may be threatened by limits on resources such as fossil fuels, land and water, while also adversely impacting quality of life from air pollution and climate change,” Agarwal said. He said while the energy demand is estimated to go up three times the current rate of consumption by 2030, temperatures due to climate change are projected to rise between 1.5 to 2 degrees Celsius in the same time-frame.

The Chief Minister of Karnataka Siddaramaiah, who released the report, here today, said: “The government is taking conscious steps to ensure that growth is socially inclusive, and does not come at the cost of environment. The state government will examine the report and seriously consider the policy recommendations for implementation.”

The report has highlighted that major contributors to carbon emissions in Bengaluru has been the transport sector and to mitigate its impact, it has recommended for improving accessibility to mass transit (bus / metro / rail) through footpaths, pedestrian crossings, feeder services, intermediate public transport, signages and park and ride facilities. “Climate change is an emerging environmental and developmental challenge facing humanity today and Karnataka is likely to be more vulnerable to climate change than other states. Karnataka's agriculture is rain-fed to a large extent; 68 per cent of its farmland is without irrigation, droughts are frequent, a large share of electricity is generated by hydropower, some regions face severe and perennial water shortage, and so on,” Agarwal added.

Case 3

High performance Commercial Buildings in India

Orientation: The TERI retreat building, Gurgaon has been selected to show how Orientation plays an important role in

‘solar architecture’. The TERI retreat building was oriented along the east-west axis so as to have maximum exposure along north and south which is the most recommended orientation in solar passive architecture. South orientation receives maximum solar radiation during winters which is preferable as composite climate receives severe winters. The orientation ensured winter sun (while keeping the summer sun out) and adequate daylight in the building. *Building Form:* The form of the Punjab Energy Development energy [PEDA] office complex in Chandigarh is a climate-responsive building, with an innovative concept of architectural design. The building site is located on a major road intersection and lies on the edge of a residential area with other proposed office buildings on the other edge. The building form is a three-dimensional form developed in response to solar geometry, i.e. minimizing solar heat gain in the hot-dry period and maximizing solar heat gain in the cold period, the scale and form of the building on the two main roads of the intersection bears the character and scale of a office building, the building responds to the residential context on the south/south-east edges by gradually scaling down in mass and volume. (Source: Energy-efficient buildings in India, Mili Majumdar, TERI & MNRE, 2001)

Case 4

Initiative on Green Growth and Development in India

The Ministry of Environment, Forests and Climate Change recognizes poverty eradication along with green growth“ as central to India’s sustainable development narrative. This vision also embodies the cogent definition of green growth by the Thirteenth Finance Commission of India as a narrative that enables rethinking growth strategies with regard to their impact(s) on environmental sustainability and inclusiveness. The concept of green growth assumes centrality of socio-economic inclusivity to sustainable development in India. The project, Initiative on Green Growth and Development in India, aims at building evidence through which the Indian economy can move towards an inclusive green growth paradigm of development. The evaluation aims to combine the rigorous scientific and economic studies done at the national and state levels (Punjab and Himachal Pradesh). The initiative was implemented by The Energy and Resources Institute (TERI) with collaboration and support from the Global Green Growth Institute (GGGI). For Himachal Pradesh, nodal support was received from the Department of Environment, Science and Technology along with facilitation from the Directorate of Energy and the Economics and Statistics Department. For Punjab, nodal support was received from the Department of Science, Technology & Environment and Punjab State Council for Science & Technology. The overall project was guided by a steering committee which was chaired by Shri. B K Chaturvedi (Former Cabinet Secretary, Government of India). At the national level, the project uses integrated modelling framework to understand the impact of energy-related green growth interventions on future energy demand, emissions, energy access, energy security and development indicators. In addition sector background papers were developed to review of long-term sustainability challenges in India and suggests policy action and interventions. In addition, it becomes relevant to understand developmental and socio-

economic aspects through perceptions of communities. The analytical framework for the states included three models (climate modelling, Soil and Water Assessment Tool, and energy modelling), case studies from field visits and a review of sector-wise interventions in Himachal Pradesh. A greater engagement between government, research and academia, non-profit organizations, and the private sector is needed to support implementation.

Conclusion

In the conclusion it can be said that a Green Growth approach integrates economic aims such as poverty reduction, job creation and social development, with environmental goals such as sustainability, resource productivity, climate response and energy security. So “*India’s green growth needs Policy Push*” In the words of Suresh P. Prabhu it is seen that at a time when countries in the world are revolutionizing their power generation by moving towards renewable, India is still struggling to bridge the demand-supply gap to sustain the overall economic growth, feels.

However, efforts are being made by the designated green authorities to protect the environment; many from India Inc. as well as several union ministries have repeatedly complained that environmental laws and clearances are becoming a hindrance in country’s growth story whereas Ministry of Environment & Forest claims that they are just discharging the duty diligently of protecting the environment.

Major Challenges

Environmental Sustainability is the major challenge in India which is water-stressed, energy-starved and in many parts ecologically-fragile.

Poverty remains both a cause and consequence of resource degradation.

India’s remarkable growth record, has been clouded by a degrading environment and growing scarcity of natural resources.

Recommendation

As corporate social responsibility has been made obligatory in India it is suggested that Green Growth practices should be enhanced more in every sectors to curb down wastage of energy and also to attain sustainable development. Considering the wider benefit, hospitality sectors, educational institutions, corporate must adopt some sound approach in their regular programme:

- To adopt an Environmental Vision Statement for setting out what the future generations strive for and conducting an environmental survey.
- Achieving greener models of growth and development.
- To create an action plan to set pragmatic and feasible targets to improve environmental performance which is to be monitored and evaluated by the committee members.
- For an environmentally sustainable future, India needs to value its natural resources, and ecosystem services to better inform policy and decision-making especially since India is a hotspot of unique biodiversity and ecosystems. Hence Green growth is desirable.
- Conventional measures of growth do not adequately capture the environmental costs, Therefore, it is imperative

to calculate green Gross Domestic Product (green GDP) as an index of economic growth with the environmental consequences factored in. So, Green growth is measurable.

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