

Road to Green Economy in India- Measures, Challenges & Opportunities

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ABSTRACT

Over the past decade, the green economy has emerged as an important policy for sustainable development in both developed and developing countries. A green economy is the one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In a green economy, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. The concept of a 'green economy' does not replace sustainable development, but there is a growing recognition that achieving sustainability rests almost entirely on getting the economy right. The transition to green and inclusive economies has been long deliberated both at national and global level. A broad macro level scoping reveals that the green economy transition has high potential to grow in India. However, the transition is moving slowly, and the progress made is insufficient compared to what is needed. Several definitions focus on the aspirational 'transformational green economy'. To enable and to track this 'transformation', economic and environmental measurement is essential. Current approaches are still in development, lack available data or show inconsistencies with proposed definitions, and thus may neither support effective decision-making nor efforts to transform economies. This paper aims to identify the challenges, short-comings and measures to achieve green economy in India.

KEY WORDS – green economy-inclusive economy-transformational green economy-sustainable development.

1. INTRODUCTION

The concept of a green economy has become a center of policy debates in recent years. The term green economy was first coined in a pioneering 1989 report for the Government of the United Kingdom by a group of leading environmental economists, entitled Blueprint for a Green Economy. In 2008, the term was revived in the context of discussions on the policy responses to global crises. In the context of financial crises and concerns of a global recession, UNEP championed the ideas of "green stimulus packages" and identified specific areas where large scale public investment could kick start a green economy. It inspired several governments to implement significant green stimulus packages as a part of their economic recovery efforts.

2. OBJECTIVES OF THE STUDY

- To identify the challenges in achieving the green economy in India

- To examine the how green economy is measured.

3. METHODOLOGY

The research paper depends on secondary data provided by World Bank, UNEP. The study also considers the indicators of equity, environment relating to green economy of India.

CONCEPT OF GREEN ECONOMY

We use the conventional macroeconomic indicators of GDP to understand overall economic position of a country, but GDP does not account for social and environmental cost and benefit. It is difficult to achieve sustainable decision making. The concept of Green Growth spans much beyond climate mitigation and adaptation and aims at achieving economic growth that is socially inclusive and environmentally sustainable. There are many definitions of green economy but the basic ideas are pertaining to sustainable development. It is also defined as an economy that aims at reducing environmental risks and ecological scarcities, and that aims for sustainable development without degrading the environment. According to UNEP, a green economy achieves human well being and societal equity with less environmental risks (UNEP, 2010). The green economy is the economic growth and development while conserving natural resources for present and future (OECD (2011). The green economy advocates green policies which are not detrimental to economic growth and development.

GREEN GROWTH IN INDIAN CONTEXT

The Constitution of India contains specific provisions for the protection and improvement of environmental quality. Article 48-A of the Constitution says that “the state shall Endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.” Article 51-A (g) says that “It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures.” These provisions highlight the national conscience on the importance of environment protection. The National Environment Policy of the Ministry of Environment, Forests, and Climate Change highlights important principles around sustainable development such as social justice, polluter pays, and entities of incomparable value.

The National Action Plan on Climate Change (NAPCC) along with the State Action Plan on Climate Change are important milestones for mainstreaming climate in development processes at the national and state levels. NAPCC has eight national missions that outline priorities for both mitigation and adaptation to combat climate change. The current eight missions are on the areas of solar energy, energy efficiency, sustainable habitat, sustainable agriculture, Green India, water, Himalayan ecosystem, and strategic knowledge.

Under the Copenhagen Accord, India communicated its domestic mitigation action as an endeavour to reduce the emissions intensity of its GDP by 20–25% by 2020 in comparison to the 2005 level. More recently in its Intended Nationally Determined Contributions (INDCs), India has announced to reduce the emissions intensity of its GDP by 33–35% by 2030 in comparison to the 2005 level.

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Ministry of Environment, Forest, and Climate Change recognized green growth in its vision, wherein ‘poverty eradication’ along with green growth is seen to be central. The Finance Commission of India articulated green growth as involving “rethinking growth strategies with

Regard to their impact on environmental sustainability and the environmental resources available to poor and vulnerable groups.” It is clear from the articulation by the Finance Commission as well as the Ministry of Environment, Forests, and Climate Change that inclusivity is central to green growth in India.

The Fourteenth Finance Commission has introduced a forward-looking incentive-based grant rewarding the states with quality forest cover measured by moderate and very dense forest cover. The Government of India has an ambitious renewable capacity target of 175 GW by 2022. In the last 15 months, the government quadrupled the coal cess from `50 per tonne to `200 per tonne, the proceeds of which will go towards the National Clean Energy Fund. The Smart Cities Mission of the Government of India aims to promote cities that provide not just infrastructure but also give a good quality of life to its citizens, a clean and sustainable environment through application of ‘smart’ solutions.

PRINCIPLES OF GREEN ECONOMY

THE EARTH INTEGRITY PRINCIPLE

Every human has the duty to protect the earth and its ecosystems. The polluter pays principle: polluters are responsible for the environmental damage they have caused.
The dignity principle: every human has the right to livelihood.

THE JUSTICE PRINCIPLE

Benefits and burdens should be shared fairly among all stakeholders. The resilience principle: diversity and diversification are preconditions for sustainability as well as quality of life.

THE GOVERNANCE PRINCIPLE

Establishment of policies, rules and regulations requires a transparent and participatory process that includes all affected people.

INDIA’S GREEN GROWTH CHALLENGES

India is emerging as the one of the fastest growing economies in the world and is currently Asia’s third largest economy by GDP. For India to achieve development objectives, its economy should continue to grow. But for a country like India, where development is an imperative, environmental consequences can be substantial as it will place serious constraints on natural resources such as land, water, minerals, and fossil fuels, driving up energy and commodity prices. The extent to which its economy will “grow green” will depend on its ability to reduce the quantity of resources required over time to support economic growth that leads to enhancement of social equity and job creation. Green growth could play an important role in balancing these priorities. However, managing fiscal deficits and public debts are two key challenges for national policy making, which could make technological change required for green growth more difficult. Fiscal considerations

and trade balance will also continue to be important drivers for shaping India's macro-economic policy. Hence, it becomes essential to understand and maximize the development benefits, such as on such as income, energy access, and trade, of green growth interventions across all key sectors.

KEY DEVELOPMENT INDICATORS FOR INDIA AND SELECT COUNTRIES

	GDP IN BILLIO N (CON- STANT 2005 US\$)^A	GDP PER CAPIT A (CON- STANT 2005 US\$)^A	CO₂ EMIS- SIONS (MT)^B	CO₂ EMIS- SIONS (MET- RIC TONS PER CAPITA)^B	ENERGY USE (KILOGRA MS OF OIL EQUIVALE NT PER CAPITA)^C	INTERNATI ON- AL TRADE BALANCE IN GOODS^A	CASH SUR- PLUS/DEFI CIT (% OF GDP)^C
Brazil	1206	5853	439.41	2.19	1391.90	-4.13	-1.84
China	5274	3866	9019.52	6.71	2142.81	370.02	-
Europea n Union	15372	30241	3574.10	7.07	3253.82	134.78	-3.63
India	1600	1235	2074.34	1.66	623.72	-139.88	-3.81
Japan	4780	37595	1187.66	9.29	3545.60	-120.64	-7.97
Russian Federati on	1000	6844	1808.07	12.65	5283.41	188.04	2.67
United States	14797	46405	5305.57	17.02	6814.82	-727.15	-7.56
South Africa	329	6086	477.24	9.26	2674.82	-18.1	-4.47
World	58055	7996	34649.4 83	4.94	1897.95	-	-4.94
Note: Data for various years: ^a 2014, ^b 2011, ^c 2012 Source: World Development Indicators (data.worldbank.org); Column on International Trade from OECD.stat							

TABLE NO 1

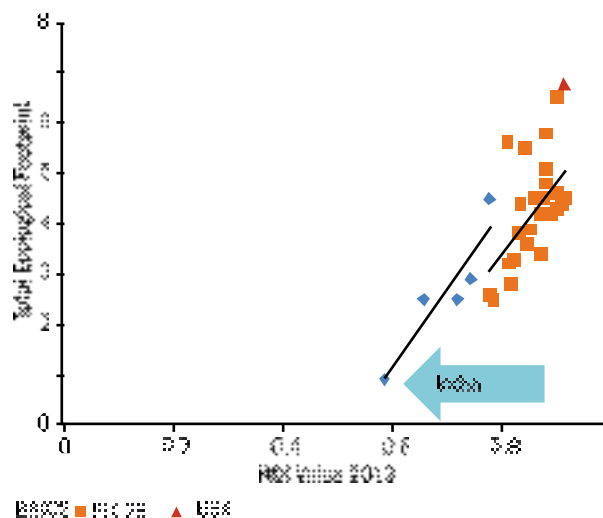


FIG NO 1

It is observed that countries with higher human development have a higher ecological development. Therefore as India accelerates its development journey to lift the millions of people out of poverty, the challenge before it is provide improved quality of life to their citizens within the ecological space and constrain. Major challenges Air and Water Pollution-Concentration of the pollutants monitored show that respirable suspended particulate matter

Concentrations violate the National Ambient Air Quality Standards for most cities Forest-According to the Forest Survey of India, forest and tree cover spreads across 78.92 million hectares and constitutes 24.01% of the geographical area of the country. There has been an increase in forest cover by 5,871 sq. km compared to 2011 assessment by Forest Survey of India; but there has been slight decline in moderately dense, and increase in open forest category. There has been a decline in growing stock of the country by 389 cu. m between 2011 and 2013, which suggests a decline in quality of forest despite the increase in overall increase in forest and tree cover.

Water- India is moving towards perennial water shortage. The National Institute of Hydrology estimates water availability for India to be 938 cubic meter per capita per year. A country with less than 1,700 cubic meter per capita per year is considered as water stressed. Irrigation is the heaviest user of surface and ground water presently and is projected to be so even in 2025 and 2050. Additional water demand will come from the domestic and industrial sectors. There is an urgent need for water efficiency measures in all sectors but especially irrigation.

CLIMATE CHANGE

Past observations indicate that the annual mean temperature of India has showed significant warming trend of 0.51°C per 100 year, during the period 1901–2007 with increased warming during 1971–2007. Projections for 2030 also indicate a warming trend for the Indian sub-continent. The ecological impacts anticipated with even 2°C of warming are quite intense in itself and the situation could be much worse at higher temperature rise.

ENERGY

Energy supply in India is heavily dependent on fossil fuels with coal and petroleum products together accounting for about 88% of the total primary energy supply. Most of the oil consumed in the country is imported, posing serious challenges for long-term energy security.

URBANIZATION

Cities contribute to almost two-thirds of India's Gross Domestic Product and will assume even greater role as India embarks on higher economic growth. At the same time, Indian cities face severe challenges related to quality and availability of infrastructure, such as power, telecom, roads, water supply, and mass transportation, which could pose serious constraints to economic growth if left unaddressed. It is difficult to decide the discount rate at which the economic decisions can be made for future generation. Equally it becomes difficult to make decisions on saving and investment today for tomorrow. The vague analysis suffers from the obscurity of reality. The environmental degradation occurs in sum total of exploitation and it is impossible to quantify environmental degradation on each exploitation. Thus the green economy policy lacks

Accuracy. It is a challenge to policy makers of green economic policies. It is report in the UNEP Green Economic Report that the investment towards green economy may slower down the economic growth.

RISKS ASSOCIATED WITH GREEN ECONOMY

There are several risks associated with the green economy transition. One of them is the tradeoffs between the economic growth and environment. Such tradeoffs may be varying in stages of policy implementations. There dimensions of development are economic, social and environmental focusing on the inter-generational equity. The national policies of each country vary on their priorities like eradication poverty. This is the second risk. No nation will plead environment at the cost of elimination of poverty. The green economy approaches individual sectors of economy and hence the policies are not uniform. This is the third risk. The principle of common but differentiated responsibilities is practically posing more problems to resolve that the implementation of green economy. This is the fourth risk. The conditionality's imposed on developing nations to implement green economy policies are becoming obstructions to the implementation of national priorities. This is the fifth risk.

STRATEGIES TO ACHIEVE GREEN ECONOMY

There are two important strategies to shift to green economy. One of them is the investment to achieve sustainable development followed by new development of technologies free from environmental degradation and social development without loss of natural wealth. The second strategy is transitional green shift of gradual environmental friendly development.

OPPORTUNITIES

In the long run the investments on green economy policies will yield results of faster growth rate of economy. It will reduce the potential climate change. The green economy will remove the adversity

of energy shocks, water scarcity and loss of ecosystem slowly but firmly. The green economy investments generate more employment and agricultural productivity leading to poverty reduction. There will be good returns on the green economy investments. Higher investments bring new technology and higher productivity. There will be better incentives to long term investors. As result of the long-term growth demand driven green economy will emerge with higher income and employment and new public and private investment will be the added value of green economy. More investment will be possible on infrastructure development and welfare measures. Therefore the investments of green economy will be integrated into the principles of sustainable development.

FINDINGS OF THE STUDY

Green growth is necessary- With cost of environmental degradation increasing rapidly , environment would be a major constraint in sustaining future economic growth.

Green growth is measurable – Conventional measures of growth does not adequately measure environmental costs. Therefore more importance must be given to green GDP.

Green growth is affordable-policies such as environmental taxes could be used to yield positive net environmental and health benefits.

4. CONCLUSION AND RECOMMENDATIONS

The success of green economy has certain prerequisites. The national economic policies shall be formulated and implemented in continuity. If there is unforeseen economic crisis or national crisis the casualty is the green economy because the benefit is visible in the long run. In the absence of short term returns the priority will be shifted from green economy to real economy. The study provides a review of long-term sustainability challenges in India and concludes that implementation of green growth strategies yields multiple development benefits but requires concerted policy action and interventions.

Following key interventions are recommended to foster green growth and development in India:

MAINSTREAMING IN DECISION-MAKING PROCESSES

Climate-resilient green growth strategies need to be looked at as a cross-cutting issue that requires policy coherence and interdepartmental coordination. For further mainstreaming of environmental sustainability in decision-making processes, the government can adopt green budgeting for India wherein all departments can prepare environmental budget statements highlighting key ‘green’ activities undertaken in their respective departments.

ADDRESSING DATA GAPS

Collecting and synthesizing existing and new data is needed to facilitate preparation of strategies as well as evaluation of existing policy initiatives. Data for other parameters can be collected using existing management information systems.

MOBILIZING FINANCE

Financing is critical to the implementation of climate-resilient green growth interventions. In addition to public finance, private sector, banking institutions, and development agencies also becomes important.

COMMISSIONING PILOTS AND TECHNOLOGY DEMONSTRATION

Pilots need to be commissioned in opportunity areas. Technology demonstration should be encouraged in areas of RE, waste management, RE for cold storage applications, and natural resource management. This will help in up-scaling of technologies.

5. REFERENCES

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