ISSN: 2582-8118 ***Volume 2, Issue 2; March 2022***

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYSIS IN SCIENCE AND ENGINEERING

Web: https://www.iarj.in/index.php/ijrase/index

7. Diagnosing Green Growth in India

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ABSTRACT:

In recent decades, the concept of green economy has been discussed in order to achieve sustainability in inclusive growth and development of respective areas of countries around the world. In recent years, the discussion of sustainability has emerged as a critical component of the global agenda and plan. This is because the most recent and current scientific studies, combined with our direct experiences of environmental damage and climate change, demonstrate that the current economic development model must change.

KEYWORDS

Green Growth, Green Economic, Green Sustainable, Green Growth strategy, Green Growth Potential Assessments.

1. Introduction:

However, India's remarkable growth record has been hampered by a deteriorating environment and a growing scarcity of natural resources. Environmental risks are diverse, reflecting the size and diversity of its economy, and are influenced by both prosperity and poverty. In a recent survey of 178 countries, India ranked 155th overall and nearly last in terms of air pollution exposure. According to the survey, India's environmental quality is far below that of the other BRIC countries [China (118), Brazil (77), Russia (73), and South Africa (72). In addition, 13 of the 20 most polluted cities in the G-20 economies are in India, according to a recent WHO survey. Poverty is both a cause and a result of resource degradation: agricultural yields on degraded lands are lower, and forests and grasslands are depleted as livelihood resources decline. To survive, the poor are forced to mine and overuse the limited resources at their disposal, resulting in a downward spiral of poverty and environmental degradation. [1]

Green growth is defined by GGGI as a development strategy that aims to deliver economic growth that is both environmentally sustainable and socially inclusive. Countries that follow the green growth model seek low-carbon and climate-resilient economic growth opportunities, as well as opportunities to prevent or remediate pollution, maintain healthy

and productive ecosystems, create green jobs, reduce poverty, and improve social inclusion. While global awareness and commitment to green growth are increasing, the concept is broad, encompassing not only different economic sectors but also different levels of intervention. Furthermore, what green growth means in individual countries and how it can be translated into specific actions are determined by a variety of factors, including an economy's stage of development, natural asset endowment, and social characteristics. As a result, there is a need to define green growth in the context of each country, identify priorities, and assess those priorities systematically. GGGI created the Green Growth Potential Assessment for this purpose. [2-3]

GGPAs have been successfully concluded in nine countries over the last four years: Cambodia, Colombia, Lao PDR, Mozambique, Myanmar, Nepal, Papua New Guinea, Peru, and Qatar. While the past four years have demonstrated the GGPA's utility, those experiences have also prompted a slew of changes to the initial assessment process. These modifications affect all three stages of the assessment process: preliminary assessment, consultation, and final analysis.

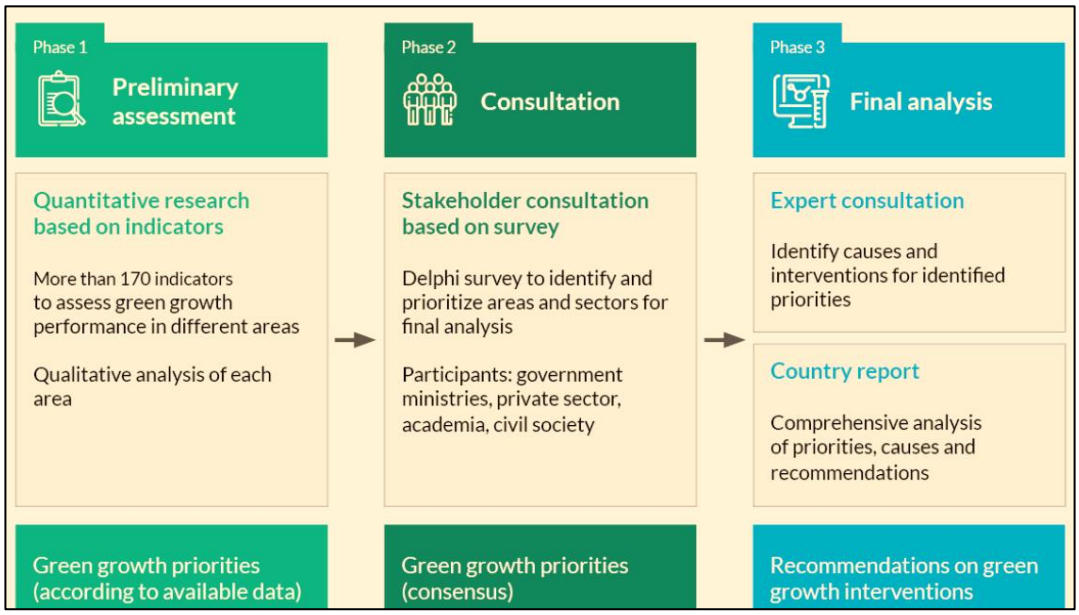

Figure 1: Overview of the GGPA Process

The preliminary assessment has undergone two major revisions. First, the analytical framework has been expanded to include the social inclusion dimension. Second, the set of indicators has been significantly expanded from 48 individual indicators to more than 170 indicators, allowing for more granular assessment. [4-5]

India's Green Growth Strategy:

Green growth was one of the seven main priorities announced in the latest budget, ranging from green credits to green energy to green mobility to green farming. [6-7]

The three pillars of Indian green growth and energy transmission are as follows:

1. Increasing renewable energy production
2. Reducing the economy's reliance on fossil fuels
3. The country is rapidly transitioning to a gas-based economy.

Since 2014, India has been the fastest growing major economy in terms of renewable energy capacity addition.

- India met the target of 40% non-fossil fuel contributions to installed electricity capacity nine years ahead of schedule.
- India met the target of 10% ethanol blending in petrol five months ahead of schedule and stated that the country aims to achieve 20% ethanol blending in petrol by 2025-26 rather than 2030.
- By 2030, a capacity of 500 GW will be achieved.
- The introduction of E20 fuel and the emphasis on biofuels have created new opportunities for investors.
- Priority is being given to the development of waterways in India in order to encourage water-based transportation and greener cargo handling.

In the next 6-7 years, India must increase its battery storage capacity to 125 gigatonnes.

- Viability Gap Funding (VGF) has also been initiated for Battery Energy Storage Systems with a capacity of 4,000 MWH.
- The VGF support and increased emphasis on pumped hydro are critical in assisting India in meeting the Energy Storage Obligation targets.
- To promote green mobility, the import of capital goods and machinery needed to manufacture lithium-ion cells for batteries used in electric vehicles will be duty-free.

Review of Literature:

The former is promoted by the OECD and the World Bank, whereas the latter is promoted by business and the Global Green Growth Forum. According to Bass (2011), there is a third viewpoint that acknowledges growth limits and emphasises the transformation and repurposing of growth towards equity and wellbeing. This point of view has not been well represented in recent policy debates, but it has a long history outside of the mainstream (Victor, 2008). [8]

The OECD (2013) defines Green Growth as an approach to economic growth that prioritises human development while ensuring that natural assets continue to provide the resources and environmental services required for long-term development.

Green Growth policies, in general, entail incorporating environmental factors into economic decision making by incorporating resource efficiency considerations, transforming energy systems, valuing natural capital in the economic calculus, and pricing environmental externalities (Jouvet et al., 2013). Some authors emphasise the importance of Green Growth equitability, emphasising the link between social development and environmental sustainability (Smith et al., 2012; World Bank, 2012). Most countries have development

goals that are compatible with Green Growth approaches (UNEP, 2013), though the specific Green Growth strategy varies by country (World Bank, 2012).

Objectives:

1. To study the theoretical issues relating to the concept of a green economy;
2. To examine the nature and extent of a green growth achieved by the India;
3. To suggest the appropriate suggestions for attaining green growth in respect to India

Research Methodology:

GGGI published a report outlining the organization's revised methodology for conducting country assessments, known as Green Growth Potential Assessments (GGPA). The GGPA is a diagnostic tool that uses data analysis and stakeholder consultation to identify and prioritise a country's opportunities for green growth. The report provides a detailed overview of the assessment methodology in its current form, as well as the significant changes made since the first GGPA in 2015.

Result and Discussion:

India’s Green Growth Challenges:

India is emerging as one of the world's fastest growing economies, and it is currently Asia's third largest economy by GDP.1 In 2014-15, India's gross national income was 105.27 trillion, with an annual growth rate of 7.4% (Economic Survey 2014-15).2

The services sector accounts for 57% of India's total GDP (in 2013), followed by the industrial sector at 25% and agriculture at the remaining 18%.3 In 2014, India's total population was 1.29 billion, with a 17.84% share of the global population.

Global economic growth appears to have picked up in the last year, and it is expected to improve further in 2015-16. Table 1 shows key development indicators for India and a few other countries. India's economy must continue to grow in order for it to meet its development goals.

However, for a country like India, where development is a must, the environmental consequences can be severe, putting severe 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 be determined by its ability to reduce the amount of resources required to support economic growth that leads to increased social equity and job creation over time.

Green growth has the potential to help balance these priorities. However, managing fiscal deficits and public debts are two major policy challenges that may make technological change required for green growth more difficult.

Fiscal and trade balance considerations will also continue to be important drivers in shaping India's macroeconomic policy. As a result, it is critical to understand and maximise the development benefits of green growth interventions across all key sectors, such as income, energy access, and trade. [9-10]

Table 1: Key development indicators for India and select countries.

	GDP in billion (constant 2005 US$)[a]	GDP per capita (constant 2005 US$)[a]	CO_2 emissions (MT)[b]	CO_2 emissions (metric tons per capita)[b]	Energy use (kilograms of oil equivalent per capita)[c]	International Trade Balance in Goods[a]	Cash surplus/deficit (% 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	_
European 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 Federation	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	34649.483	4.94	1897.95	_	-4.94

Source: World Development Indicators (data.worldbank.org); Column on International Trade from OECD.stat

as income, energy access, and trade, of green growth interventions across all key sectors.

Table 1 shows an overview of progress of key aspects related to environment and energy. [11-12]

The study examines long-term sustainability challenges in India and concludes that green growth strategies yield multiple development benefits but necessitate coordinated policy action and interventions. To promote green growth and development in India, the following key interventions are recommended:

Inclusion in decision-making processes: Climate-resilient green growth strategies must be viewed as a multifaceted issue requiring policy coherence and interdepartmental coordination. To further integrate environmental sustainability into decision-making processes, the government can implement green budgeting for India, in which all departments prepare environmental budget statements highlighting key 'green' activities carried out in their respective departments.

Addressing data gaps: To facilitate the development of strategies and the evaluation of existing policy initiatives, existing and new data must be collected and synthesised. Other parameters' data can be gathered using existing management information systems. Financing is essential for the implementation of climate-resilient green growth interventions. Aside from public finance, the private sector, banking institutions, and development agencies all play a role.

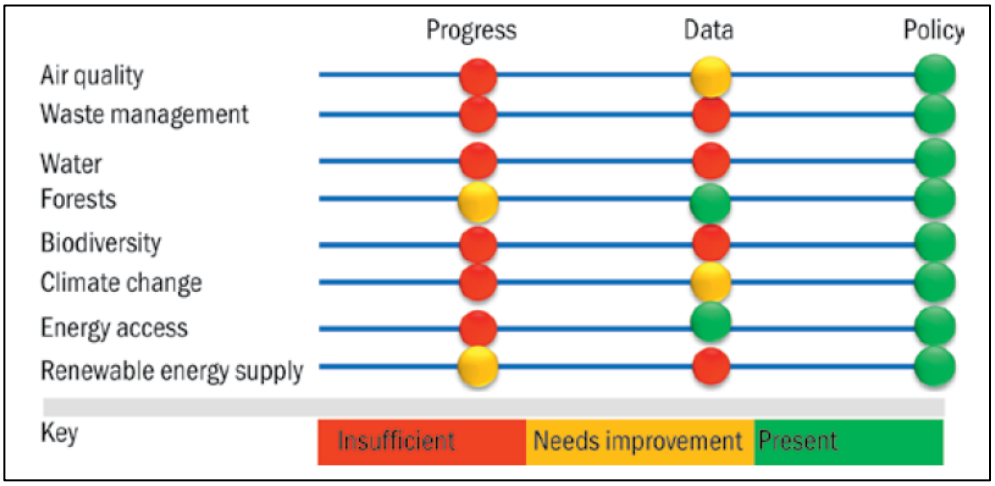

Figure 2: Overview of Progress on Aspects Related to Environment and Energy

Updated Indicator Framework:

The new indicators were validated and confirmed by 110 experts from 54 countries (11 from Africa, 16 from Asia, 10 from the Americas, 13 from Europe, and 4 from Oceania), with representation from the GGGI, international expert group, scientific community, policymakers, and non-governmental organisations (NGOs) (Figure 2). [13]

According to the US Green Building Council, India ranks third in the world in terms of green buildings, trailing only Mainland China and Canada, and the number is steadily increasing. According to the GCB-India LEED (Leadership in Energy & Environmental Design) survey, Maharashtra leads the list of green building leaders in India, followed by Karnataka, Haryana, Tamil Nadu, and Uttar Pradesh. [14]

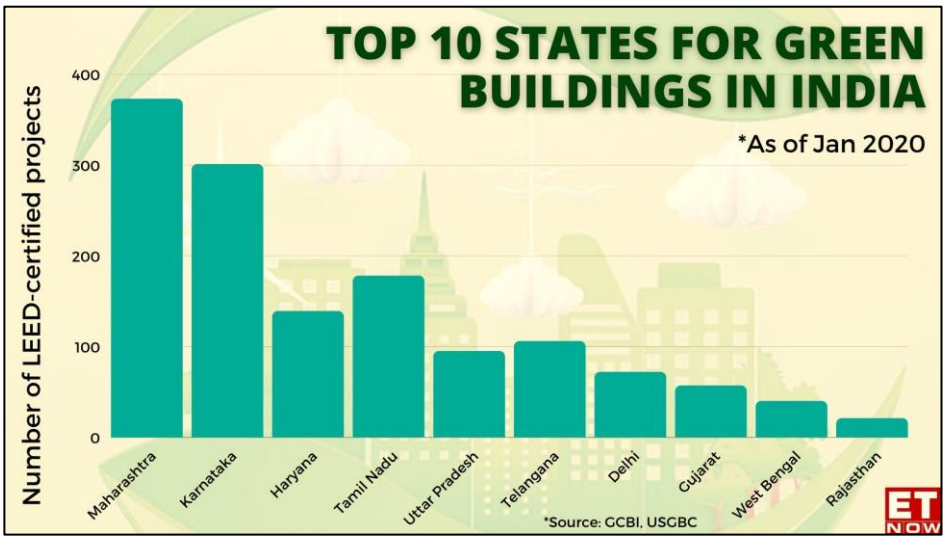

Figure 3: Top 10 states for Green Buildings in India

Findings:

This review reveals three noteworthy findings: First, as India continues on its projected growth path, environmental sustainability could become the next major challenge. Second, a greening of the economy that is low-emission and resource-efficient should be possible at a very low cost in terms of GDP growth. While a more aggressive low-emission strategy will cost the economy slightly more, it will provide greater benefits. Third, in order to inform policy and decision-making and ensure an environmentally sustainable future, India must value its natural resources and ecosystem services.

Conclusion:

Higher resource prices may disproportionately affect countries with limited resources and low resource efficiency. Converging economic, resource, and environmental challenges will most likely be most pronounced in these countries.

This will disproportionately affect the most vulnerable people and impede progress towards the Millennium Development Goals (MDGs). These concerns are growing in the face of ongoing environmental degradation, rising waste and pollution burdens, natural resource depletion, and climate change.

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