

## Golden Research Thoughts

# THE TRAJECTORY OF GREEN GROWTH IN DEVELOPING COUNTRIES A CASE STUDY OF INDIA (1990 – 2010)



### Abstract:-

“Green growth” proposes real opportunities for more inclusive growth in developing countries while protecting the environment. However, the concept is producing a great diversity of the political arena, from enthusiastic to cautious, reflecting a need for clarity and experience, and the different opportunities available to specific countries. This paper discusses these concerns and admits that developing countries face particular challenges in designing and implementing green growth strategies. It explores how green growth strategies can be applied, taking into account differences in natural resource endowments, levels of socioeconomic development, sources of economic growth, and institutional capacity. It outlines the key components of a green growth framework that could

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address the growth and development challenges faced by developing countries and avoid locking in inefficient, costly and environmentally damaging technology and infrastructure. This work does not just involve environmental policies, but also a broad range of economic and social policies. It will consider significant long-term investment and innovation, both technological and organizational, investments and policies to work, appropriate governance arrangements must be in place. The paper concludes by explaining how India is designing their green growth strategies through OECD indicators.

### Keywords:

Green growth, The Organization for Economic Co-operation and Development (OECD), green growth strategy (GGS), low -income countries (LICs) Global Green Growth Institute (GGGI).

## INTRODUCTION

Green growth means promoting economic growth while reducing pollution and greenhouse gas emissions, minimizing waste and inefficient use of natural resources, and maintaining biodiversity. The grave concern facing the world today are water and food supply crises, extreme instability in energy and food prices, rising greenhouse gas emissions, severe income disparity, chronic fiscal imbalances and terrorism (World Economic Forum, 2012) which either stem from environmental mismanagement or inequality, or both. Apart from the persistent fiscal imbalances that mostly concern the developed economies, developing countries are the most vulnerable to these risks as well. How can growth and poverty reduction in the developing world reconcile with environmental goals? National and international efforts have been primarily focused to promote green growth as a new approach to increase sustainable wealth. In 2009 the OECD (Organization of Economic Cooperation and Development), which promotes a all-inclusive approach for resolving interconnected global problems, launched work on green growth as a way of tackling some of the most serious challenges facing the world. In June 2009, a Ministerial Declaration on Green Growth was signed by all OECD member countries. This acknowledged that “green “and “growth “can go hand-in-hand. The countries asked the OECD to develop a green growth strategy (GGS) bringing together economic, environmental, technological, financial and development aspects into a comprehensive framework.

If we continue a “business as usual” approach to fulfill the rising global demand for food, energy and infrastructure, the world will outpace its ecological carrying capacity. Capricious commodity prices, uncontrollable pollution, severe damage to human health, and irreversible loss of biodiversity systems will be the consequence of this business-as-usual investment decisions. The concept of green growth reevaluates the conventional growth model and re-examines many of the investment decisions in fulfilling energy, agriculture, water and the resource demands of economic growth. The OECD defines green growth as a means to promote economic growth and development while ensuring that natural assets continue to supply the resources and environmental services on which our well-being relies (OECD, 2011).

Green growth in Developing countries plays a key role in achieving global green growth. Although today most developing countries contribute only a minor share to global greenhouse gas (GHG) emissions, their emissions will increase if they follow the same path of economic growth as developed countries have followed. Increasingly developing countries are becoming sources of global economic growth, but accompanied by growing emissions and more intensive use of natural resources. The potential economic and social impacts of environmental degradation are particularly serious in developing countries given their dependence on natural resources for economic growth and their vulnerability to energy, food security, water, climate change and extreme weather risks. A green growth approach is the chance for emerging and developing economies to leapfrog unsustainable and wasteful production and consumption patterns. Adequate financing and capacity would offer developing economies the opportunity to lay down the infrastructure and networks needed to support a sustainable development path, but there is no “one-size-fits-all” prescription for implementing a green growth strategy. National development strategies must be based on each country’s strengths, bottlenecks and constraints. Developed, emerging, and developing countries will face different challenges and opportunities in greening growth, as will countries with differing economic and political circumstances (OECD, 2011).

Sustainable development provides an important context for green growth. Green growth has not been conceived as a replacement for sustainable development, but rather should be considered as a means to achieve it (OECD, 2011). It is narrower in scope, entailing an operational policy agenda that can help achieve concrete, measurable progress at the interface of the economy and the environment. It provides a strong focus on fostering the necessary conditions for innovation, investment and competition that can give rise to new sources of economic growth, consistent with resilient ecosystems. Green growth strategies need to pay specific attention to many of the social issues and equity concerns that can arise as a direct result of greening the economy—both at the national and international level. To achieve this they should be implemented in parallel with initiatives centering on the broader social pillar of sustainable development.

The goal for many developing economies is to achieve diversified and sustainable growth over time, which leads to poverty reduction, increased well-being and major improvements in the quality of life of its citizens. This is achieved by taking into account the full value of natural capital and recognizing its essential role in economic growth. A green growth model promotes a cost-effective and resource efficient way of guiding sustainable production and consumption choices.

Many developing countries face different and more difficult policy choices than developed countries in defining and implementing green growth strategies. Choosing not to bring more land under cultivation because of the high environmental costs will be difficult for a country with high levels of rural poverty. However, options for increasing the productivity of existing cultivated land should be explored.

The systems to pay poor countries for ecosystem services and increase the economic and welfare benefit accruing to them and their citizens, for maintaining environmental assets will be critical to the political feasibility of green growth strategies. Emerging evidence has reiterated that green growth activities can offer both short term and longer term benefits and opportunities to developing countries. Payment for ecosystem services in Costa Rica, sustainable natural resource extraction in Azerbaijan, social enterprise to promote organic waste treatment in Bangladesh have demonstrated the economic opportunities of investing in natural resources and promoting sectoral sustainability (Figure 1.1).

### The framework of green growth



Achieving green growth requires a number of policies, and not just environmental policies. It also requires significant investment over a long period of time, taking advantage of technology innovations so that developing countries can avoid locking in inefficient and costly technology and infrastructure. For such investments and policies to work, appropriate governance arrangements must be in place.

In the short run, green growth policies are most likely to deliver local benefits in improved environmental management through sustainable waste treatment, better access to water and energy and more desirable health outcomes from controlled pollution. However, these short run benefits should be examined against the immediate costs of identifying policies. Phasing out fossil fuel subsidies will trigger higher energy price which will burden both consumers and producers; air pollution controls will affect competitiveness and the prospects of specific sectors, potentially threatening jobs; providing fewer incentives for agricultural fertilizer usage to boost soil productivity and promote sustainable agriculture could decrease the income of many small-scale poor farmers. There are certainly trade-offs in the policy implications, although the scale varies according to the nature of the economy and the implementation of the green growth measures.

In many cases the poor are the potential losers as a result of shifting to green growth. In some cases, powerful actors, including political parties, unions, and the private sector face disadvantages of shifting away from their country's current development plan (Resnick et al., 2012). In the longer run, the recognized infrastructure deficits to support economic activities are considerable, but there is potential for technology leapfrogging and climate-resilient implementation. Severe shortages of electricity supply and high urbanization rates demand more efficient energy and public transportation systems in cities. There may be a potential job creation, for instance, through sustainable management of natural resources which could on one hand release the tension of urban migration given most of these opportunities are available in rural areas; on the other hand to preserve local livelihoods from environmental impacts, in particular on climate change.

**Table 1.1- Green growth benefits for developing world**

<b>Economic benefits:-</b>	1. Increased GDP- production of green goods and services 2. Increased revenue from pricing ecosystem services (or their reduction prevented) 3. Economic diversification, i.e. improved management of economic risks and reduced vulnerability 4. Innovation, access and uptake of green technologies, i.e. improved market confidence
<b>Environmental benefits:-</b>	5. Increased productivity and efficiency of natural resource use 6. Natural capital used within ecological limits 7. Reduced adverse environmental impact and improved natural hazard/risk management
<b>Social benefits:-</b>	8. Increased livelihood opportunities, income and/or quality of life, notably of the poor 9. Decent jobs that benefit poor people created and sustained 10. Enhanced social, human and knowledge capital 11. Reduced inequality

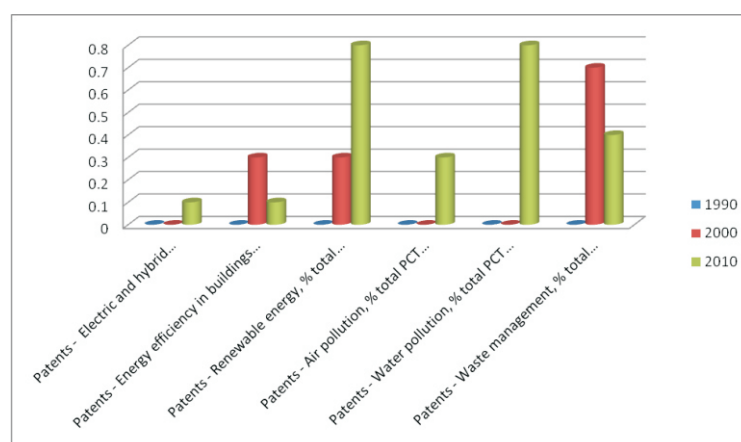
Source: OECD, 2012

## 2. OVERVIEW OF GREEN GROWTH IN INDIA

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.

In a recent survey of 178 countries whose environments were surveyed, India ranked 155th overall and almost lost 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 a 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 work in mining and overuse the limited resources available to them, creating a downward spiral of impoverishment and environmental degradation. An overview of the current policy framework in these areas and data from fieldwork in different region of India:

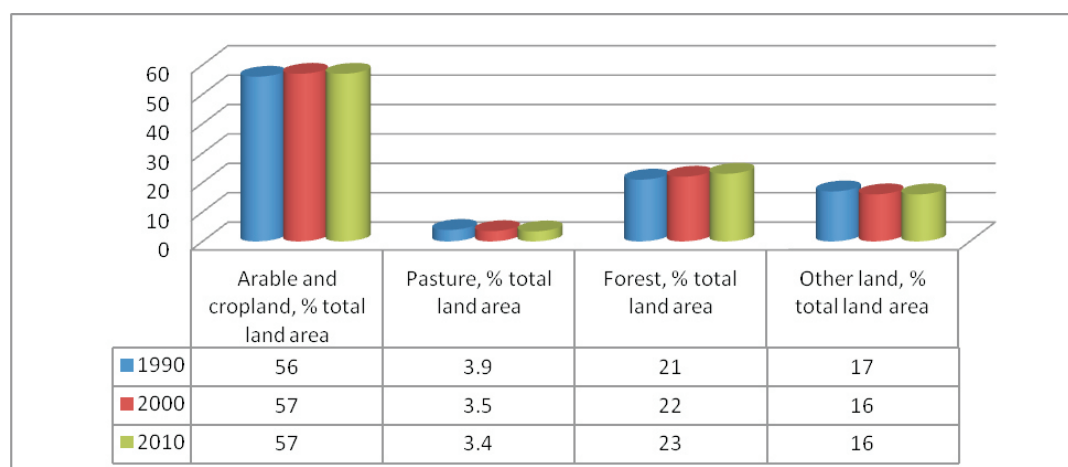
**Figure 1.2: Monitoring Economic Opportunity and Policy Response**



Source: OECD, 2012

The results of adopting the green growth measures are manifested through the graphs, where in Figure 1.2. It can be seen that the growth of electric and hybrid vehicles from 0% in year 2000 to 0.1 % in 2010. Though the growth is minimal, it would impact substantially in further development of such technologies and their adoption among the masses. Positive growth in energy efficiency in buildings and lightning in 1990-2000 has unfortunately declined to 0.1 % in the subsequent decade 2010. Similarly, waste management that observed only a 0.4 % decline in 2010 observed good growth in 2000 with 0.7% growth. Another observable point is the positive growth of renewable energy that saw an increase in green growth from 0.3% in 2000 to 0.8% in 2010. However, the situation is problematic in the case of air pollution and water pollution that have been increasing since 2000.

**Figure 1.3 Monitoring the Natural Assets Base**



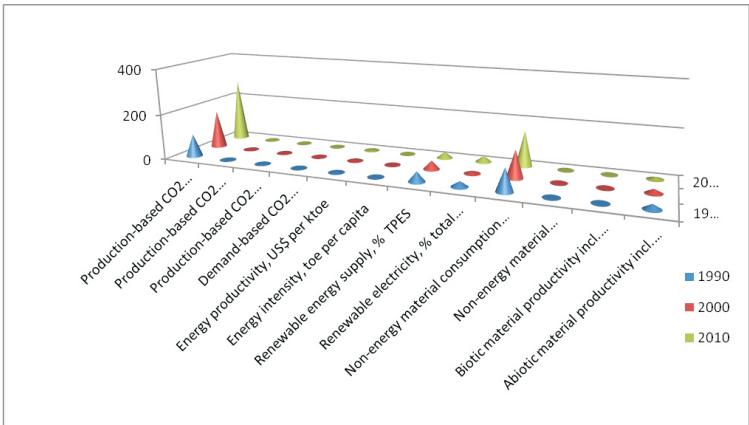
Source: OECD, 2012

Figure 1.3. Shows the changes in our natural assets like, Arable land, Pastures, Forest area, and



other land. Arable and cropland are increasing from 56% in 1990 to 57% in 2000 and 2010. The area under pastures is in decline, 3.9 % in 1990 followed by 3.5 in 2000 and 3.4 in 2010. However, positive increase in the land area under forest land is increasing by 1% in every decade, in 1990 it was 21%, in 2000 it was 22 % and in 2010 it was 23 %.

Figure 1.4 Environmental and Resource Productivity



Source: OECD, 2012

In the figure 1.4, it can be deduced that an increase in arable cropland area is due to the conversion of other waste land that reduced to 16 % in 2010 from 17% in 1990. Thus, it is required to utilize unused land in order to achieve sustainable development.

The emission of CO<sub>2</sub> based production is increasing sharply from 100 in 1990 to 279 in 2010. Three times increase within 20 years is a matter of deep concern. Another problematic thing is the high consumption rate of non-energy material while its productivity cost is increasing, i.e. 0.3\$/kg in 1990 to 0.9\$/kg in 2010. The cost in biotic material productivity is increasing from 0.4\$/kg in 1990 to 1\$/kg in 2010, while cost is decreasing in abiotic material productivity from 21\$/kg in 1990 to 11\$/kg in 2010. With a sustained effort for the development of renewable energy, the electricity production from renewable sources has increased a bit from 24% of total electricity production in 1990 to 26% in 2010.

Figure1.5 The Socio Economic Context and Characteristics of Growth



Source: OECD, 2012

In the figure 1.5. Population density is increasing from 265 in 1990 to 372 in 2010. With the technological advancement, the dependency on agriculture is declining. The share of agriculture in GDP has declined to only 17 % from 29% in 1990. On the other hand services sector contributes a greater share of 54% in 2010 from 44% in 1990. The Industry sector share is more or less same since 1990 with only 1% of growth, i.e. 26 % in 1990 to 27% in 2010 in its share of real GDP.

3. CONCLUSION

To cap it all, we the humans on this earth, must understand the gravity of the problems we have created ourselves. We, the humans, would be an extinct species, if immediate and fruitful steps are not raised. Defying all the political boundaries and differences, all the countries of the world must work together. Green growth is the answer to all the problems and it must be achieved following a proactive and

holistic approach. Developed countries, must come forward to help developing countries with their past experiences and present technology. This way, the whole world would flourish and life of ensuing generation would be safe.

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