

## **GREEN ECONOMY IN INDIA: OPPORTUNITIES AND CHALLENGES**

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### **Abstract**

India the seventh largest country by area and the second most populous country with over 1.2 billion people is the most populous democracy in the world. Currently, India one of the fastest growing major economies, faces many environmental problems and issues. Hence, there is an urgent need for developing an alternative model of development for achieving sustainability in inclusive growth and development. This concept of green economy is based on current scientific studies and focuses on direct experiences of environmental damage and climate change which shows the need to change the current economic development model. As a result, to celebrate the 20th anniversary of the first Rio Earth Summit in 1992, the UN General Assembly decided to hold a summit in Rio de Janeiro in 2012. The main focus of the summit was on "Green economy in the context of Sustainable Development and Poverty Eradication" This paper looks at the challenges faced and opportunities available for green economy in India.

*Key Words: Green Economy, Rio Earth Summit, Indian economy, Ecological Sustainability, Economic Development, Challenges and Opportunities.*

### **Introduction**

The introduction of modern technologies in the mid-1800s ushered in an era of the industrial revolution which extended the boundaries of human development by improving living standards for a ever burgeoning world population. Economic and social development increased the availability of social benefits include improved access to food, water, energy, transportation, housing, health and education services etc. However, with ever development lead to increased use of fossil fuel and natural resource consumption which was required to accelerate and spread the benefits of technological revolution, and such rampant development has pushed the planet as a whole past the limits of environmental stability.

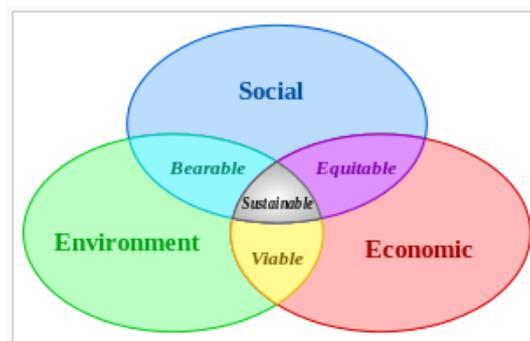
Certainly economic growth to reach higher levels of world output is required both to meet the consumption needs of a growing population and to create jobs and reduce poverty for the world's poor. Nevertheless, simply raising current production methods to support continued economic growth is not feasible as it would significantly deplete natural resource endowments, deteriorate natural ecosystems and accelerate global climate change. It is thus imperative that the fossil fuel energy intensity, and natural resource intensity, of economic growth be substantially reduced in order to sustainably manage natural and environmental systems. At the same time, it is important to take into account the current and historical contribution to environmental degradation and high levels of natural resource use of various countries.

In December 2009 the United Nations General Assembly adopted Resolution 64/236 to organize the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012. This Conference was to provide an opportunity to reaffirm the positive links between trade and the environment, and allow developed and developing countries alike to define and shape a green economy that supports sustainable development objectives while generating new investments, income sources and jobs among countries of varied levels of development.

A key thrust of the green economy concerns unlocking technological progress, to stabilize natural and environmental systems so that economic and social objectives can continue to be advanced. It aims to identify and promote new approaches to stimulate and diffuse technological progress to steer the economy towards an economically, socially and environmentally sustainable trajectory. Green economy focuses on hard technologies – the equipment and hardware used to produce goods and services – but also about the soft technologies – the institutional arrangements, production processes and consumption patterns adopted in the economies and lifestyles.

**Definition of Green Economy:**

Green economy is defined as an economy that aims at reducing environmental risks and ecological scarcities, and that aims for sustainable development without degrading the environment. The International Chamber of Commerce (ICC) representing global business defines green economy as “an economy in which economic growth and environmental responsibility work together in a mutually reinforcing fashion while supporting progress on social development”.<sup>1</sup> Sustainability is most often defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. There are three main pillars: economic, environmental and social. These three pillars are also informally referred to as people, planet and profits.



The three pillars of sustainability

Karl Burkart defines a green economy as based on six main sectors:<sup>2</sup>

- Renewable energy: energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy often provides energy in four important

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<sup>1</sup>[http://www.uncsd2012.org/content/documents/528Green%20Economy%20Guidebook\\_100912\\_FINAL.pdf](http://www.uncsd2012.org/content/documents/528Green%20Economy%20Guidebook_100912_FINAL.pdf)

<sup>2</sup> Burkart, K. (2017, June 05). How do you define the 'green' economy? Retrieved September 03, 2017, from <https://www.mnn.com/green-tech/research-innovations/blogs/how-do-you-define-the-green-economy>

areas: electricity generation, air and water heating/cooling, transportation, and rural (off-grid) energy services.

- Green buildings: also known as green construction or sustainable building refers to both a structure and the application of processes that are environmentally responsible and resource-efficient throughout a building's life-cycle: from planning to design, construction, operation, maintenance, renovation, and demolition. This requires close cooperation of the contractor, the architects, the engineers, and the client at all project stages.
- Sustainable transport: refers to the broad subject of transport that is sustainable in the senses of social, environmental and climate impacts and the ability to, in the global scope, supply the source energy indefinitely.
- Water resource management: is the activity of planning, developing, distributing and managing the optimum use of water resources. It is a sub-set of water cycle management. Ideally, water resource management planning has regard to all the competing demands for water and seeks to allocate water on an equitable basis to satisfy all uses and demands.
- Waste management: or waste disposal are all the activities and actions required to manage waste from its inception to its final disposal. This includes amongst other things collection, transport, treatment and disposal of waste together with monitoring and regulation.
- Land management: is the process of managing the use and development (in both urban and rural settings) of land resources. Land resources are used for a variety of purposes which may include organic agriculture, reforestation, water resource management and eco-tourism projects.

### **Background and Context**

India's remarkable growth record in past decades, however, has been clouded by a degrading environment and growing scarcity of natural resources. Over the last decade, India's strong growth has increased employment opportunities and allowed millions to emerge from poverty. In a recent survey of 178 countries whose environments were surveyed, India ranked 155<sup>th</sup> 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)].

According to "Diagnostic Assessment of select Environmental Challenges in India", a World Bank Report, India can make green growth a reality by putting in place strategies to reduce environmental degradation at the minimal cost of 0.02% to 0.04% of average annual GDP growth rate. This will allow India to maintain a high pace of economic growth without jeopardizing future environmental sustainability.<sup>3</sup> According to the report, the annual cost of environmental degradation in India amounts to about Rs. 3.75 trillion (\$80 billion) equivalent to 5.7% of GDP. It focuses on particle pollution from the burning of fossil fuels, which has serious health consequences amounting to up to 3% of India's GDP along with losses due to lack of access to clean

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<sup>3</sup>India: Green growth is necessary and affordable for India, says new World Bank Report. (n.d.). Retrieved September 03, 2017, from <http://www.worldbank.org/en/news/press-release/2013/07/17/india-green-growth-necessary-and-affordable-for-india-says-new-world-bank-report>

water supply, sanitation and hygiene and natural resources depletion.

Also according to the report, green growth is affordable to India, 10 % particulate emission reduction by 2030 will lower GDP modestly, representing a loss of merely 0.3% to the GDP compared to business as usual, on the other hand, a 30% particulate emission reduction lowers GDP about \$ 97 billion, or 0.7% with very little impact on the growth rate. There are significant health benefits, the savings from reduced health damage range from \$ 105 billion in the 30% case to \$ 24 billion with a 10% reduction. This, to a large extent, compensates for the projected GDP loss. The report also emphasized that green growth is measurable and important as India is a hotspot of unique biodiversity and ecosystems.

#### Green Economy: Environmental Challenges for the Indian Economy

Although, the past decade of rapid economic growth has brought many benefits to India, the environment has suffered, exposing the population to serious air and water pollution. The environmental issues in India has become more serious every day like that falling fertility of agricultural land, declining water level in earth, mass deforestation, land degradation, excess use of fertilizers and chemical in food production, lack of environmental education, as well as river contamination and pollution.

First, water scarcity or drought is very dangerous situation faced by many in India because most of area covered by natural calamity of drought due to inadequate or lack of access to vital fresh water resources to common people of country. Furthermore, Indian economy in large scale depends on agriculture and allied sector. Therefore, economy is directly influenced by impact of drought.

Second, deforestation is one of the important ecological issues in India caused by over-grazing, indiscriminate falling of forest tree and over exploitation of land resources. The devastating effects of deforestation in India have caused tremendous land erosion, loss of valuable alluvial top soil, and landslides.

Third, increasing levels of water, soil and air pollution is a matter of serious concern as it has tremendous health costs. The higher costs for outdoor/indoor air pollution are primarily driven by an elevated exposure of the young and productive urban population to particulate matter pollution, that results in a substantial cardio pulmonary and chronic obstructive pulmonary disease mortality load among adults. A significant portion of diseases caused by poor water supply, sanitation and hygiene is borne by children under 5.

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.

Apart from these issues, Indian cities are plagued by poor basic services for growing urban

population and consequent problems of waste management; inadequacy in access to modern energy services leads to loss of employment opportunities, negative health effects, negative effect on vulnerable groups of society; waste management and recycling may be proved to be difficult for the developing countries like India to handle this in the initial stage as they lack comparative advantages and need capacity building in this area. Studies show misallocation of capital in the unsustainable sectors in India – property, fossil fuels, and structured financial assets but low investment in renewable energy, energy efficiency, public transportation, sustainable agriculture, and land and water conservation causing increased ecological risks and further perpetuation of the damage.

### **Green Economy: Opportunities for the Indian Economy**

The global market for environmental services is substantial and growing, driven partly by increasing environmental regulation and by changing consumer preferences. Transparent technical and financial support for developing countries, including India, will play a key role in helping them to capture opportunities arising from a green economy and to increase trade in environmental goods relative to conventional merchandise trade.

Green growth strategies are needed to promote sustainable growth and to break the pattern of environmental degradation and natural resource depletion.

### **Employment Generation**

As India moves on the path of high development and growth, it will create more infrastructures, services and jobs and thus the choices of Indian business will determine the level of sustainable outlook of the country. A more sustainable and cleaner environment in India will see generation of more downstream jobs to make it a low-carbon green economy, increasing the growth of global carbon markets which will further increase jobs.

### **Sustainable Agricultural Practices**

One of the most serious potential effects of global warming will be the lower productivity of agriculture in developing countries. Sustainable farming practices lead to greening of the small farms which is the most effective way to increase food availability and food security, reduce poverty, increase carbon sequestration and water efficiency, building natural capital stocks and link marginalized farmers with international supply chains.

As a result of sustainable farming practices will increase food availability and food security, reduce poverty.

Thus, poor rural communities will also be among the main beneficiaries of the green economy.

### **Potential Benefits of Green Economy Measures**

The green economy is more than just environmental in scope; it is also about development and sustainable growth of the economy. A green economy should maintain as well as should enhance the value that the poor in developing countries derive from agriculture, fisheries and forest harvest – all activities that depend fundamentally on a sound environment. It should help reduce energy poverty through the provision of low-cost distributed renewable energy systems, as well as should help to reduce the vulnerability of the poor to the impacts of unchecked climate change, desertification ocean degradation and loss of biodiversity, along with the impacts of local air, soil

and water pollution. Severe shortages of electricity supply and high urbanization rates demand more energy efficient public transportation systems in cities of India. Energy has become central to the country's chronic trade imbalance and alternative green energy sources and reforms can help to reduce unnecessary existing inefficiencies and waste in energy use. Along with these opportunities, positive externalities in production of energy and resource efficient for international green trade will be available for India.

Public policy interventions like regulatory and pricing policies, taxes and subsidies to limit pollution and over-exploitation of natural resources are required for improvement of income distribution, as the market forces left alone would continue to produce according to the existing demand pattern which in turn is shaped by the existing income distribution with unsustainable consequences. The government should adopt important roles in making prices better reflect environmental values, veering all the sectors towards a sustainable development pathway, whilst protecting the access of the poor to essential goods and services to promote a green and more inclusive economy. Since inclusive economic growth is an imperative for India, it will require a high level international investment, support and solidarity to boost finance, technology and institutional capacity for lowering the carbon content of economic activity and build resilience to unavoidable climate changes.

### **Conclusions**

At the UN Conference on Sustainable Development, 2012 (Rio+20 Conference), the green economy approach was endorsed as an important tool for sustainable development and poverty eradication. These twin goals would infuse all three main pillars of sustainable development: economic, environmental and social. The new concept sets aside the common misconception of trade-off between economic development and environmental stewardship, because all human activity depends on the existence of a responsible framework for using environmental assets. This is especially more true about the poorest populations as they depend disproportionately on the environment for both for livelihoods and for consumption. India should ensure that the implementation and monitoring of green economy schemes are democratically controlled, transparent, and inclusive. Achieving the necessary paradigm shift towards a sustainable development model through green economy measures will require active civil society participation. India can provide interest incentive for the green industries or some of the existing loan mechanism can be tagged with green initiatives.

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