

## **ECONOMIC DEVELOPMENT VERSUS GREEN ECONOMY: A TOOL FOR SUSTAINABLE DEVELOPMENT**

**Dr. Ambili M Thampi**

*Assistant Professor*

*Department of Economics*

*K.P.B. Hinduja College of Commerce*

*315, New Charni Road*

*Mumbai- 400004*

### **Abstract**

*In spite of the several benefits achieved as a result of its rapid economic growth by India, the environment has suffered, divulging the population to serious air and water pollution. Environmental degradation is gravely affecting India. Green growth strategies are required d to stimulate sustainable growth and to stop the pattern of environmental degradation and depletion of natural resources. The research paper tries to look into the aspects of Economic development and Green Economy and various attributes of green economy.*

***Key Terms: Global Green Economy Index, Economic Development, Sustainable Development, Green Economy, OECD, Fossil fuels.***

### **INTRODUCTION**

The Green economy has over the past few years become a significant concept on the global sustainable development programme. The concept was first cited in a British government-commissioned sustainable development report of 1989. But, it was only during the late 2000's global economic crisis that the concept of green economy was brought to international notice as an economic rescue strategy focused on creating "green jobs" and dealing with climate change and generating real investments. Over the last decade, India's robust growth has augmented employment prospects and allowed millions to get out of poverty. However, India's astonishing growth record has been clouded by a damaging environment and mounting dearth of natural resources. Reflecting the size and diversity of its economy, environmental perils are extensive and are driven by both prosperity and poverty.

### **Statement of the Problem**

Economic development is very crucial for a country. While pursuing growth, knowingly or unknowingly they contributed environmental problems in the form of disintegration and degeneration of natural resources and harming the useful eco system. The problem faced by the developed countries that are still on the path of progress is to achieve growth by conserving and preserving resources while protecting the environment from harmful carbon dioxide emissions.

The countries while following economic development should need to think about the future generation while striving towards progress. Green economy is the solution to these problems as it aims at development while safeguarding the environment so that it can attain sustainable development.

### **Objectives**

1. To look into GDP of selected countries in terms of certain variables.
2. To identify the CO<sub>2</sub> emissions across non-OECD countries and factors contributing to this.
3. To understand the concept of green economy and its importance.
4. To know Global Green Economy Index and its relevance
5. To suggest measures for promoting green economy and sustainable development in key sectors.

### **Methodology**

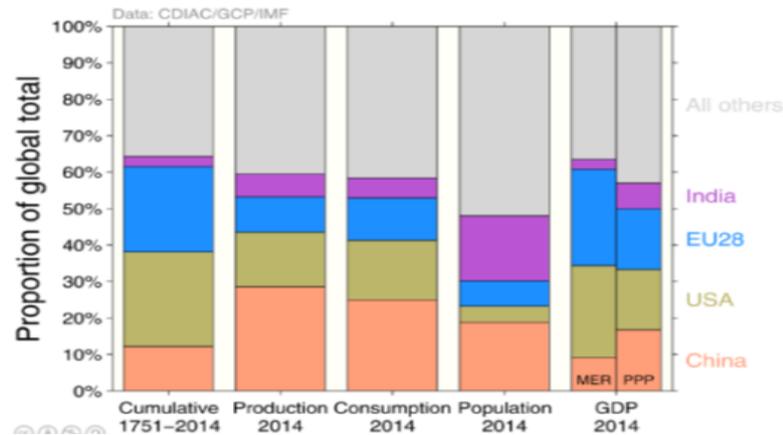
The study has been based on secondary data available from sources like Economic Survey, United Nations, Internet and various other print and electronic media are used. Simple methods like GDP, Global Green Economy Index etc. were used to arrive at the conclusion.

### **ECONOMIC DEVELOPMENT AND GDP**

Economic development requires improved competitiveness and employment creation across many sectors of the economy. It is the sustained increase in income of all members of society. One of the several challenges is to achieve development in an interdependent world in which goods, services, knowledge, people and capital flow relatively easily across national borders with large net benefits to economies (Trevor Manuel, 2 December 2004, University of Sussex). Economic environment can influence the speed of economic development as well as growth rate of the economy. This economic environment is influenced by several economic factors like population and manpower resources, natural resources and its utilization, capital formation and accumulation, capital output ratio, occupational structure, external resources, extent of the market, investing pattern, technological advancement, development planning, infrastructural facilities, suitable industrial relations etc.

Economic factors alone are not adequate enough in determining the process of economic development of a country. To accomplish economic development, along with economic factors, non-economic factors like proper social and political climate, spread of education, change in social and institutional framework, maintenance of law and order, suitable natural environment etc. are crucial. Under-developed countries confront various socio-political obstacles in the path of economic development which need to be overhauled to achieve the path of economic progress. Comparative economic development among selected countries in terms of selected variables is shown in the following diagram.

**Figure: 1 Gross Domestic Product in Market Exchange Rate and Purchasing Power Parity**



Source: CDIAC; United Nations; Le Quere et.al 2016; Global Carbon Budget 2016

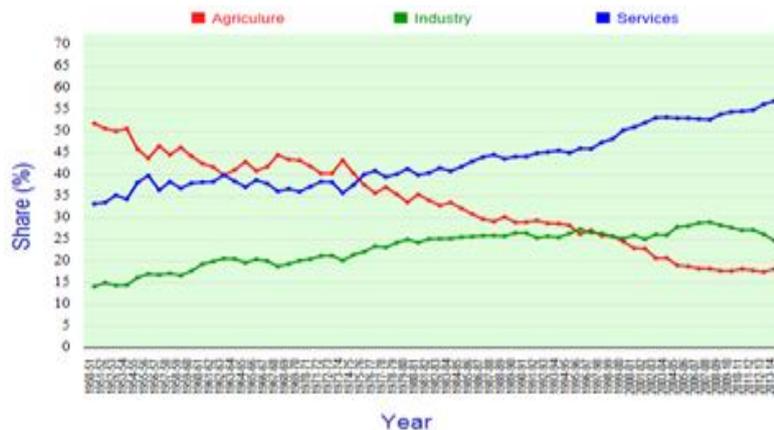
### Sector Wise GDP Growth in India

The 1991 economic reforms played a vital role in the economic development of India. Economic development should be sustainable for a beneficial future growth. Sustainable Economic Development implies continuous and progressive growth accompanied by taking into account the welfare of future generations. Of the several indicators of economic development, Gross Domestic Product is very significant. GDP is one of the most important indicators showing the performance of an economy.

Indian economy is broadly classified into three sectors — Agriculture and allied, Industry and Services. The composition of Agriculture & allied, Industry, and Services sector was 51.81%, 14.16%, and 33.25%, respectively at current prices in 1950-51. Share of Agriculture & allied sector has declined at 18.20% in 2013-14.

Share of Services sector has improved to 57.03% whereas that of Industrial sector increased to 24.77%. India being the second largest producer of agriculture product accounts for 7.68 per cent of total global agricultural output. Agriculture sector in Indian economy contributed much higher than world's average (6.1%). Contribution of Industry and Services sector is lower than world's average -30.5% for Industry sector and 63.5% for Services sector. (Planning Commission, Government of India, 2013-14)

**Figure: 2. Sector wise contribution of GDP of India (1950-2014)**



Source: Planning Commission, Govt. of India,  
Ministry of statistics and Programme Implementation

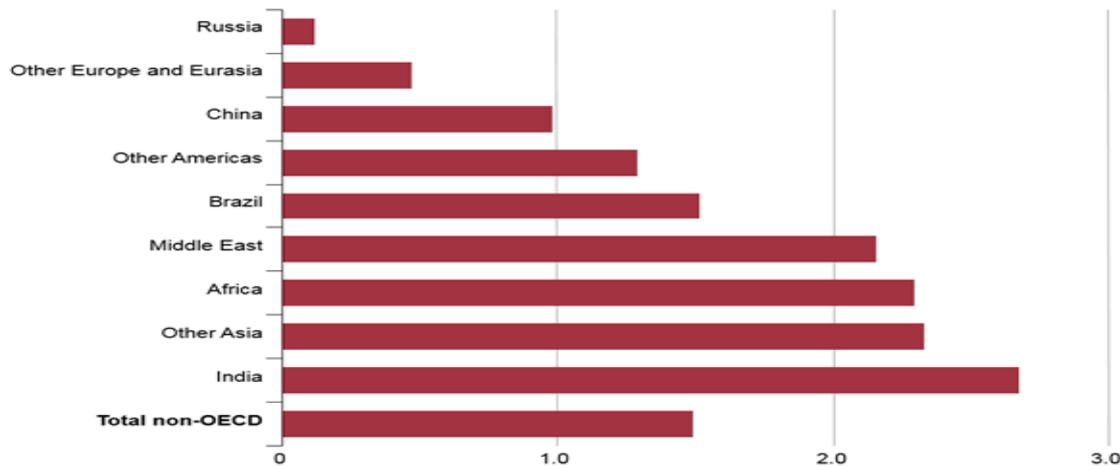
In a recent environmental survey<sup>1</sup> of 178 countries, India ranked 155th in terms of Environmental Performance Index overall and nearly last in air pollution exposure. The survey also established that India's environmental quality is far lower than all BRIC countries [China (118), Brazil (77), Russia (73), and South Africa (72)]. The survey identified poverty as one of the main cause and outcome of resource degradation since agricultural yields are lower on degraded lands, and forests and grasslands are depleted due to the decline in livelihood resources. In order to survive, the poor are forced to overuse the limited resources available to them augmenting environmental depletion and degradation. Also the continuous use of coal and fossil fuels has resulted in huge emissions of carbon dioxide causing global warming. The following graph gives us an idea about the emission of carbon dioxide in non-OECD countries.

---

<sup>1</sup> Environmental Performance Index: Full Report and Analysis (2014): Yale Centre for Environment, Law and Policy, Yale University; Centre for International Earth Science Information Network, Columbia University ([www.epi.yale.edu](http://www.epi.yale.edu))

**Figure 3**

**Average annual growth of energy related carbon dioxide emissions in non-OECD economies, 2012-40 (in per cent per year).**



Source: <https://www.eia.gov/outlooks/ieo/emissions.php>

Non-OECD Asia accounts for about 59% of the growth in world CO<sub>2</sub> emissions from 2012 to 2040. China's emissions grow by an average of only 1.0% per year (Figure: 3), but they still account for 41% of the total increase in non-OECD Asia's emissions. India's CO<sub>2</sub> emissions increase by 2.7% per year, and emissions in the rest of non-OECD Asia increase by an average of 2.3% per year, accounting for 30% and 29% respectively.

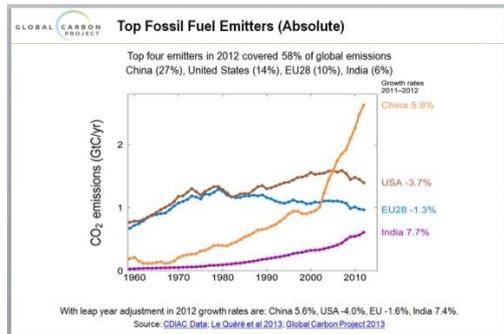
### Factors Influencing CO<sub>2</sub> Emissions

Several factors influence a country's level of CO<sub>2</sub> emissions. Two vital measures provide useful insights regarding the analysis of trends in energy-related emissions:

- The carbon intensity of energy consumption is a measure of the amount of CO<sub>2</sub> related with each unit of energy used. Carbon emissions vary by energy source, with coal being the most carbon-intensive major fuel, followed by oil and natural gas. Nuclear power and some renewable energy sources (i.e., solar and wind) do not directly generate CO<sub>2</sub> emissions. A decline in carbon intensity can denote a shift away from fossil fuels, a shift towards less carbon-intensive fossil fuels, or both (See figures 4 & 5).
- The energy intensity of economic activity is a measure of energy consumption per unit of economic activity, as measured by GDP. Increased energy use and economic growth generally occur together although the degree of nexus varies across regions, stages of economic development, and the mix of products produced.

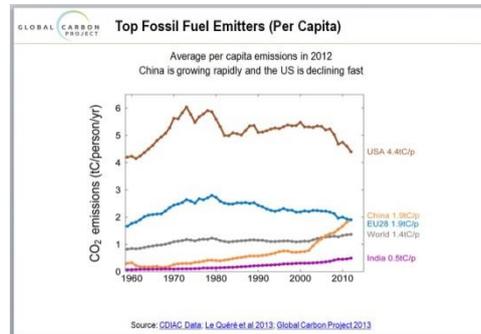
**Figure: 4**

**Top Fossil Fuel Emitters (Absolute)**



**Figure: 5**

**Top Fossil Fuel Emitters (Per Capita)**



**IMPORTANCE OF GREEN ECONOMY**

Many economic development and growth policies encouraged swift accumulation of physical, financial and human capital, but at the cost of excessive depletion and degradation of natural capital like natural resources and ecosystems. This depletion of stock of natural wealth had adverse impact on the wellbeing of present generations and contribute to tremendous risks and challenges for the future generations as well.

Natural assets such as forests, lakes, wetlands and river basins are essential components of an ecosystem. They are vital in ensuring the stability of the water cycle, providing benefits to agriculture, households, soil fertility, safe habitat, etc. which are all essential constituents of green economy.

Transition to green economy can help in overcoming the influence of population growth on the depletion of scarce natural resources. The world's least developed countries (LDCs) are intensely affected by environmental degradation than most other developing countries (UNCTAD 2010a), and therefore have much to benefit from transition to a green economy. In addition, varying spatial distributions of populations due to rural to urban migration and urban growth aggravate environmental impacts and vulnerabilities. In this context, a transition to a green economy becomes increasingly important.

**Green economy and Sustainable Development**

UNEP defines a green economy as one that results in “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP 2010). Green economy in simplest form is one with low-carbon, resource efficient, and socially inclusive. The growth of green economy is driven by public and private investments which diminish carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. This is especially important for poor people whose are mainly dependent on nature for their livelihoods.

The key aim for a transition to a green economy is to facilitate economic growth and investment while improving the environmental quality and social inclusiveness. In addition, the main indicators of economic performance, such as growth in Gross Domestic Product (GDP) need to be adjusted to account for pollution, resource depletion, weakening ecosystem, and consequences of natural capital loss to the poor.

A major challenge is resolving the conflicting economic development aspirations of rich and poor countries in the wake of increasing climate change, energy insecurity and ecological scarcity. A green economy can encounter this challenge by providing a development path that reduces carbon dependency, promotes resource and energy efficiency and reduces environmental degradation. As economic growth and investments become less dependent on eliminating environmental assets and sacrificing environmental quality, both rich and poor countries can attain more sustainable economic development.

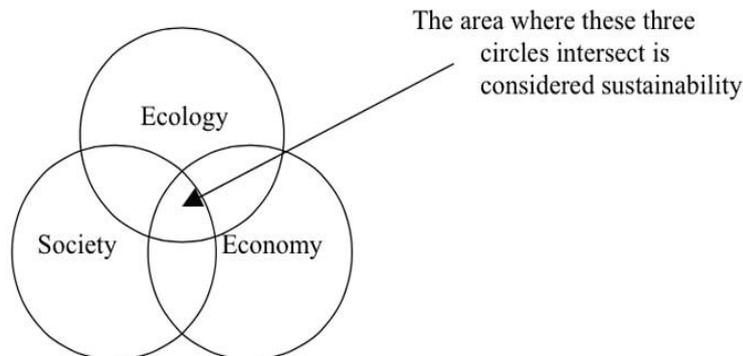
“To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.” Rio Declaration, Principle 8 (UN 1992).

The concept of a green economy cannot replace sustainable development; but achieving sustainability depends on the development of the economy by reducing environmental depletion and degradation. Decades of economic development achieved through a “brown economy” model based on fossil fuels have not substantially addressed social marginalisation, environmental degradation and resource depletion.

### **Green Economy: Key Issues and Innovations**

The green economy is driven by a cleaner economy and is based on reasonable use of environmental resources, promotes development of technology that is less harmful to the environment, with a lower carbon footprint, greater social inclusion, using the *triple bottom line approach*. It covers the social, environmental and economic dimensions as pointed out in IDB (2012). Figure: 6 demonstrate the triple bottom line and its dimensions.

**Figure 6- Triple Bottom Line**



Source: <http://www.csrambassadors.com>

The above model is called the green economy, meaning the pursuit of economic growth that produces wealth, generates new green jobs and promotes sustainable development through its three pillars: economic viability, accountability and social justice. Dispelling the environment as a limiter to economic growth and viewing it as a trajectory of sustainable development are fundamental components of such a view (OLIVEIRA & SAMPAIO, 2011).

#### **Wrong Perceptions about Green Economy.**

1. There is trade-off between environmental sustainability and economic progress. There is substantial evidence that the greening of economies neither inhibits wealth creation nor employment opportunities. But at the same time, many green sectors provide significant opportunities for investment, growth and jobs.
2. Green economy is a luxury only wealthy countries can afford, or worse, a ruse to restrain development and perpetuate poverty in developing countries.

#### **Global Green Economy Index for India**

GGEI has provided a data-driven analysis of national green economic performance. The Global Green Economy Index is a practical instrument to assess the environmental performance. The Green Index was built through collaborative efforts between various organizations and individuals that participate in the European Microfinance Platform's Microfinance and Environmental Action Group. It shows not only how countries are performing today, but also the progress (or lack thereof) being made towards greener growth models.

**Table: 1 Ranking of Countries in terms of Global Green Economy Index for the year 2016**

Perception Rank	Country	Score	Performance Rank	Country	Score
1	Germany	97.74	1	Sweden	77.61
2	United States	94.70	2	Norway	69.11
3	Denmark	93.84	3	Finland	67.83
4	Sweden	93.65	4	Switzerland	67.63
5	Norway	88.95	5	Germany	66.01
6	Canada	85.59	6	Austria	65.23
7	United Kingdom	82.73	7	Iceland	63.68
8	Netherlands	77.58	8	Zambia	62.00
9	Japan	75.94	9	Denmark	61.84
10	Finland	74.47	10	Brazil	60.29
11	France	72.66	11	Costa Rica	58.69
12	China	72.10	12	Canada	58.00
13	Costa Rica	69.79	13	France	56.76
14	Switzerland	69.55	14	Ethiopia	56.46
15	New Zealand	69.24	15	Italy	56.21
16	Australia	62.82	16	Portugal	55.86
17	Iceland	61.76	17	Netherlands	55.61
18	Brazil	59.66	18	Colombia	55.00
19	India	58.03	19	Uruguay	54.70
20	South Africa	53.18	20	Cambodia	54.10
21	Austria	51.80	21	Spain	53.88
22	Spain	51.36	22	Slovenia	53.76
23	South Korea	49.62	23	Rwanda	53.18
24	Israel	47.55	24	New Zealand	53.03
25	Kenya	45.88	25	United Kingdom	52.96
26	Ireland	41.81	26	Hungary	52.75
27	Colombia	41.65	27	Philippines	52.60
28	UAE	41.57	28	Luxembourg	52.18
29	Italy	41.33	29	Peru	51.60
30	Chile	41.31	30	United States	51.53
31	Mexico	38.82	31	Kenya	51.25
32	Belgium	38.20	32	Chile	51.11
33	Peru	37.01	33	Ireland	50.93
34	Indonesia	36.97	34	Japan	50.60
35	Morocco	36.77	35	Morocco	50.35
36	Mauritius	36.42	36	Croatia	50.32
37	Portugal	36.22	37	Belgium	50.23
38	Thailand	36.14	38	Thailand	49.89
39	Ghana	35.71	39	Panama	49.65
40	Philippines	35.13	40	Turkey	49.63
41	Senegal	34.96	41	Lithuania	49.62
42	Malaysia	34.77	42	Greece	49.47
43	Bangladesh	34.61	43	Nigeria	48.76
44	Slovenia	34.33	44	Mexico	48.63
45	Burkina Faso	34.19	45	UAE	48.50
46	Tanzania	34.18	46	South Korea	48.41
47	Rwanda	33.94	47	Taiwan	48.37
48	Argentina	33.42	48	Latvia	47.45
49	Nigeria	33.37	49	Mozambique	47.14
50	Jordan	32.72	50	Malta	46.64
51	Russian Federation	32.59	51	Burkina Faso	46.43
52	Uruguay	32.57	52	Bulgaria	45.78
53	Ethiopia	32.56	53	Tanzania	45.75
54	Turkey	32.28	54	Senegal	44.36
55	Greece	32.14	55	Australia	44.28
56	Poland	32.13	56	Israel	44.20
57	Qatar	31.79	57	Azerbaijan	43.73
58	Luxembourg	31.77	58	Ghana	43.28
59	Slovak Republic	31.72	59	South Africa	42.86
60	Mozambique	31.28	60	Jordan	42.59
61	Taiwan	31.23	61	Czech Republic	42.39
62	Saudi Arabia	31.20	62	Slovak Republic	42.11
63	Vietnam	31.08	63	Cyprus	41.99
64	Cambodia	30.90	64	China	41.77
65	Oman	30.63	65	Malaysia	41.31
66	Panama	30.58	66	Vietnam	41.30
67	Mongolia	30.57	67	Mauritius	40.51
68	Croatia	30.29	68	India	40.43
69	Malta	30.22	69	Romania	40.04
70	Estonia	30.17	70	Poland	39.35
71	Czech Republic	30.13	71	Argentina	39.23
72	Kuwait	30.07	72	Oman	39.19
73	Hungary	29.82	73	Bangladesh	39.09
74	Lithuania	29.78	74	Russian Federation	38.08
75	Latvia	29.66	75	Indonesia	37.73
76	Azerbaijan	29.25	76	Estonia	37.09
77	Bulgaria	28.88	77	Kuwait	36.45
78	Romania	28.87	78	Qatar	36.33
79	Zambia	28.84	79	Mongolia	35.01
80	Cyprus	28.50	80	Saudi Arabia	31.34

Source: Global Green Economy Index 2016

Except Cambodia, no other Asian country ranks well for performance on this new GGEI, with the exception of **Cambodia, China, India, Indonesia, Japan** and **South Korea** do better in terms of perception compared to the performance side of the GGEI. Many of the countries with high annual GDP growth today rank poorly in terms of GGEI emphasizing the limits of GDP as a growth indicator. These countries are mostly in Asia (**Malaysia, Thailand, Philippines**) and Africa (**Nigeria, Tanzania**).

Countries with a high dependence on fossil fuel extraction and export them generally perform poorly on the GGEI, with a few exceptions. Rapidly growing economies, like **China** and **India** continue to show performance weakness on the GGEI Markets & Investment dimension. Given the large investment required to achieve their climate targets- green investment promotion, clean tech innovation, and corporate sustainability should be developed further.

### **Suggestions for Green Economy and sustainable development in Key Sectors**

➤ Sustainable economic development

Conservation of natural resources and pro-environment curricula should be included in vocational training; sustainable value chains and products should be promoted along with corporate social responsibility (CSR).

➤ Clean and resource-efficient production

Profitable environmental management (PREMA), sustainable development of industrial zones, strategies to reduce greenhouse gas emissions and improve resource efficiency in various sectors should be resorted.

➤ Sustainable agriculture

Sustainable use of natural resources in agriculture including adaptation to climate change and greenhouse gas mitigation should be followed.

➤ Biodiversity and forestry

Sustainable forestry, preserving biodiversity, payment for environmental services (PES), access and benefit sharing (ABS), sustainable tourism as an incentive to conserve ecosystems and biodiversity should be encouraged.

➤ Sustainable energy and transport systems

Prepare suitable framework and legislation with respect to Renewable energies energy efficiency, sustainable mobility etc.

➤ Water, sanitation, waste

Efficient water usage strategies, reuse and recycling of solid waste and waste water, avoiding waste and waste water, recovering secondary raw materials should be adhered to.

➤ 'Green cities'

Resource-efficient, environmentally sound, low-carbon and climate-resilient development of urban areas, green buildings and green cooling (climate-friendly cooling systems) should be

abided by.

## **CONCLUSION**

Environmental sustainability could be a major challenge as India surges along its projected growth path. A country needs a suitable natural support which includes suitable climate, balanced wealthier, suitable natural environment while it progresses towards growth and development. Moreover, the conservation of eco- friendly, atmosphere is also quite vital for the promotion of developmental activities in an economy. Such development activities should be carried out protecting the natural environment and resources keeping in mind the future generations. For an environmentally sustainable future, India needs to value its natural resources, and ecosystem services to enhance policy making decisions.

## **BIBLIOGRAPHY**

Environmental Performance Index: Full Report and Analysis (2014): Yale Centre for Environment, Law and Policy, Yale University; Centre for International Earth Science Information Network, Columbia University ([www.epi.yale.edu](http://www.epi.yale.edu)).

Government of India. 2014. Economic Survey, Planning Commission, New Delhi.

Government of India (various years). Ministry of statistics and Programme Implementation, New Delhi.

Le Quere et.al 2016. Global Carbon Budget 2016, CDIAC; United Nations;

Manuel, T.A. 2004. Africa's economic renaissance: development and interdependence. MP Minister of Finance Republic of South Africa. Paper delivered at the University of Sussex. 2 December 2004.

Oliveira, Carina Costa; Sampaio, Romulus Silveira da Rocha.(2011).The green economy in the context of sustainable development: governance of public and private actors. FGV Law River.

Tamanini. J. 2014. The Global Green Economy Index (GGEI) 2014: Measuring National Performance in the Green Economy, Fourth (Ed) October 2014, Dual Citizen, LLC.

UNCTAD. (2010a). The Least Developed Countries Report 2010: Towards a New International Development Architecture for LDCs, Geneva and New York.

UNEP. 2010. Green Economy Developing Countries Success Stories. UNEP, Geneva.

UN. (1992). Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, Annex I: Rio Declaration on Environment and Development, A/CONF.151/26 (Vol. I),12 August 1992, New York.

<http://www.csrambassadors.com> accessed on 24<sup>th</sup> August 2017

<http://www.eia.gov/outlooks/ieo/emissions.php> accessed on 23<sup>rd</sup> August 2017.