National Green Economy Barometer

Scoping the 'Status of the Transition'

green economy coalition

Development Alternatives

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About Development Alternatives (DA)

Development Alternatives (DA), the world's first social enterprise dedicated to sustainable development, is a research and action organisation striving to deliver socially equitable, environmentally sound and economically scalable development outcomes. DA's green technology innovations for habitat, water, energy and waste management, which deliver basic needs and generate sustainable livelihoods, have reduced poverty and rejuvenated natural ecosystems in the most backward regions of India.

Introduction

The Indian economy is seen as a bright spot in the global landscape. It is one of the **fastest growing emerging market economies** in the world.[1] As the world looks toward India as the new engine of growth, the Indian economy holds the responsibility to meet the development needs of its billion-plus population, within its environmental boundaries.

The Economic Survey 2013 has cautioned that by 2020, India could face 16.7 million '**missing jobs**'[2]. India also has a long way to go before it achieves **basic living standards for all**. India had 20.6 per cent share of world's poorest in 2011[3]. India stands low in rank (135 among 187 countries) on the Human Development Index with 58% of the population lacking the means to meet essential needs.

Further, a growing population and increasing urbanisation have led to a huge increase in consumption demands. This poses a serious threat to the sustainability of this impressive economic growth. According to the Living Planet report, if India continues its current trajectory of natural resource overuse, its consumption levels would rise to the combined consumption of all the 34 OECD countries in just 14 years[4].

With an ecological footprint that's double its bio-capacity, it is clear that with a business as usual approach, India will not be able to sustain the well-being of its people or natural capital. Hence the need of the hour is to bring about **economic reforms** that steer India in the direction of green, fair, and inclusive economies.

The **transition** to green and inclusive economies has been long initiated and deliberated both at national and global level; however, the current domestic and international landscape has created an opportune moment to accelerate it. India has recently made two major global commitments: the 2030 Global Development Agenda (popularly known as the Sustainable Development Goals) and the ratification of the Paris Agreement, which aims for holistic well-being of all, today and in the future; without surpassing the natural boundary limits of environment. India has also made some landmark changes to its approach of development. Some of these include fiscal federalism, and moving from a five year planning model to a fifteen year development planning model at the national level.

Exploring economic choices that can lead us to the path of sustainable development is often identified in both the global agendas as well as in national development debates.

In this era on reflections, promises and commitments related to sustainable development, climate change; the **green economy concept is an exciting approach** that interlinks economic growth with human development and environmental sustainability. Such an economy is based on principles of sustainability, justice, dignity, inclusion, good governance & accountability, resilience, efficiency & sufficiency, inter-generational equality and remaining within ecological boundaries.

[1] (IMF, 2017)
[2] (Mathew, 2014)
[3] (Donnan, 2014)
[4] (The Hindu Businessline, 2016)

Broad Status of Transition
Progress Score: 2

A broad macro level scoping reveals that the transition is indeed underway in India. However, the transition is moving slowly, and the progress made is insufficient compared to its need.

In 2016, India ranked a very low **68 out of 80 countries**, in terms of performance ranking, analyzed in the Global Green Economy Index (GGEI), which is a data driven analysis of national green economy performance. India ranked amongst the last in the Environment Dimension and Leadership and Climate Change; and Efficiency Sectors dimension. It however performed well in the Markets & Investment dimension, falling near the top twenty. Interestingly, India achieved a relatively high perception rank of 19, (citizens' assessment of their countries performance)[5].

Government:

- India's 12th Five Year plan (2012-17) for the first time made environmental sustainability a central pillar of India's development strategy. Henceforth, India has scrapped Five Year Plans, and will instead develop long term **15-year plan**. The 15 year vision aims at inclusive development and poverty reduction, and is co-terminus with the period to achieve SDGs[2].

- **Political parties** are increasingly taking up key issues around sustainability and inclusivity during elections. Populous issues around fairness and equity are often mainstreamed at both national and local levels. On the other hand environmental sustainability issues are usually given ornamental importance at the national level and highlighted in the natural resource dependent geographies.

In the 2017 elections in the state of Goa, adverse balance between environment and development became a major issue in elections. Citizens outraged over the state government decision to classify coconut palms as grass and allow their commercial cutting[6].

Business:

- Mounting pressures from various stakeholders are impelling businesses to take proactive steps to ensure sustainability in their operations. However, the progress is not very appealing in case of big businesses.

2 Indian companies were ranked in the top 200 and 10 in the top 500 Green Companies in the world in 2016. [7]

- The current government has put a lot of emphasis on privately owned small businesses. The Make in India initiative aims to change the employment landscape of the country through boosting manufacturing sector. FDI inflows are highest in the manufacturing sector from 50 per cent in 2012 to 62 per cent in 2014.

Skill development programmes are being conducted for the entire value chain of manufacturing, starting from village industries to state-of-the-art manufacturing sectors, such as engineering and auto components, among several others. Government of India has set a target of training 15 million youth by 2022.[8]

- **The trend** of businesses adopting sustainability practices is increasing through the impetus of initiatives adopted by industry organizations and government regulations. This trend is expected to rapidly increase as businesses become more informed.

[5] (The Global Green Economy Index, 2016)

[6] *(Devadas, 2017)*

[4] (Newseek Green Ranking , 2016)

[8] (Business Today, 2016)

Civil Society

- **India's vibrant civil society** has a long history of showing alternative visions of sustainable development and green economy. However, within civil society, there is a wide disparity about what a green economy means, what its key principles and objectives are and how it can be achieved.

- But by 2025, the **'affluent' consumer segment** will become the largest, accounting for about 40% of all Indian consumption, up from about 26% in 2015.[9] A huge shift is underway in India society from spending on necessities such as food and clothing to choice-based spending on categories such as household appliances and restaurants. Households that can afford discretionary consumption will grow from 8 million today to 94 million by 2025.[10]

- **Digital India** is one of the biggest distortions in the recent India's trajectory. The total number of Indians with access to a cellphone is already close to a billion. The number of people in the country today with Internet access is already 300+ million, expected to rise to 800+ million over the next decade. This digital democratization will have a profound impact on how Indians see, select, study, spend, save, socialize and sell. Digital technologies will fundamentally change the nature of these interactions. [11]

- **Affluent Indian consumers**, over the last two decades have recognized the need to make more sustainable choices and have become more environmentally conscious. They are increasingly demanding organic and eco-friendly products and driving manufacturers to produce them. The country's number are said to triple to around 89 million households by 202512

The domestic market for organic products is growing at 25-30% and is projected to reach USD 1.36 billion by 2020[13].

- **Indian media** abundantly covers social issues. Coverage on environmental issues has been visibly increasing, however it is insufficient and usually event based. This type of coverage is especially lacking at a regional and local level. Coverage on the concept of greening the country's economy is sparse and not when reported lacks a holistic approach.

A quantitative assessment of articles on environmental issues in English language India dailies shows environment acquiring a centre stage in English dailies. Among all the topics covered under environment, climate change and global warming got the highest priority with 75% of the total coverage dedicated to these themes. [14]

Key Blockages

- The larger perception in India among businesses and policy makers remains that environmental protection comes at the cost of economic growth and development.
- Sustainability issues are still viewed as a fad for the rich rather than survival for the poor.
- The thinking that India cannot afford to 'pollute now, clean later' has still not gained mainstream acceptance.
- Greening the economy is not fully recognized as a tool to achieve social prosperity and environmental sustainability.
- There is an inescapable trade-off between environmental sustainability and economic progress

[9] Livemint, 2016
[10] McKinsey, 2007
[11] Livemint, 2016

[12] (consultancy.uk, 2017)
[5] (Economic Times, 2015)
[14] Datta, Garg, Bhatt, 2013

A Closer Look at the Transition...

Measuring what Matters

Progress Score: 2

Sustainable Development Goals (SDGs)

- India has ranked a low 110 out of 149 nations assessed on where they stand with regard to achieving the SDG[15]. While this indicates that India has a long journey ahead, India is off to a good start. The general perception is that SDGs offer a huge opportunity to achieve holistic development in the country and increasingly gaining momentum.

- At the national level nodal ministries have been assigned for each of the 17 goals and several rounds of multi-stakeholder consultations have taken place. Further, the Ministry of Statistics and Programme Implementation has identified relevant indicators, which will be released soon. An official Committee of Parliamentarians has also been formed to raise the awareness on SDGs among legislators.

- At the state level, a few states have started preparing their vision 2030 documents and taken voluntary initiatives to integrate SDGs in their mainstream planning.

A highly progressive state; Sikkim is currently working towards passing a Sustainable Development Act through which it can mandate state departments to track their progress on SDGs.

Beyond GDP

- India announced its intention to unveil its "green GDP" figures as far back as 2009. In 2013, an expert group under an eminent economist submitted their report containing a framework for green national accounts. These figures were targeted to be published from 2015 onwards, however, due to a lack of micro level data on natural capital, lack of budgets and the complexity of the exercise, the process has been put on hold.

In 2013, India suffered a loss equivalent to 8.5% of GDP as a result of air pollution [16].

- There are a few isolated cases in India where state governments have taken initiatives to go beyond GDP.

In 2016, Madhya Pradesh became the first state to set up a Happiness Department in the state[17].

Business Sustainability Reporting

While not mandatory, preparing sustainability report is a rising trend in India. The rate of reporting has grown over 20% between 1999 and 2009. About 63% of the top 100 companies and 77% of non-100 companies now prepare sustainability reports[18], majority of which use the GRI framework. Over time, the quality of these reports is improving.

[15] (Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN), 2016)

[16] (The World Bank & Institute for Health Metrics and Evaluation, 2016)

[17] (The Hindu, 2016)

[18] (GRI & TCS, 2015)

Moving the Money
Progress Score: 2

Government

- India has **decreased subsidies** and **increased taxes** in the form of excise duty on petrol and diesel, even as global oil prices have collapsed.

Excise duty rate on aviation turbine fuel has increased from 8% to 14%. This has acted as an implicit carbon tax [19].

- Some public sector entities and government departments have started internalizing environmental and energy efficiency criteria in their **procurement** decisions. Public procurement expenditure in India accounts for 20 to 30 percent of the country's GDP[20]. However, action on ground is disparate and in silos, with many PSUs like BHEL, NTPC and IOL internalizing energy efficiency and related criteria in their public procurement policies, but without replication across other areas.[21]

The Ministry of Railways has introduced energy efficient lighting for homes in railway colonies resulting in direct energy savings of 112500 MWh per annum.[22]

- **Revamp Public sector banks:** Government has launched *Indradhanush* program to improve the state of public sector bank.

Private Sector

- **Green Bonds** are gaining popularity as an innovative mechanism to raise capital, attracting foreign investments and inducing momentum in the market. Green bond issuance in the country witnessed a 30 per cent year-on-year increase in 2016, cumulatively amounting to about INR 180 billion and making India the seventh largest green bond market globally. [23]

In 2016, Hero Future Energies issued Climate Bonds certified green bonds of INR 3 billion.[24]

- **Social Impact Investment** in India has made significant strides in the past 6 years seeing over USD 4.1 billion worth of investments with strong returns. The pace of investment is growing at 15 percent annually and is expected to reach USD 6-8 billion by 2025.[25]

- Since 2008, at least 4 **sustainability indices** have been introduced in India to guide responsible investment.

In 2012, the Bombay Stock Exchange introduced 2 such indices: S&P BSE Greenex, S&P BSE Carbonex. Investments using these indices achieve higher returns in 2 out of 3 cases. [26]

- India is the first country in the world to legally mandate a 2 per cent **Corporate Social Responsibility** (CSR) spending for companies with a net profit of INR 50 million or more or net worth of INR 5 billion or more or a turnover of INR 50 billion or more in any financial year.

Indian companies spent over INR 250 Billion on CSR in 2015[27].

[19] (Chaudhry, Dhingra , Roy, sharan, & robins, 2016)
[20] (Khan, 2016)
[21] (TERI, 2013)
[22] (OECD, 2016)
[23] (The Hindu , 2017)
[24] (Cliamte Bonds Initiaitve , 2016)
[25] (Livemint, 2016)
[26] (Livemint, 2016)
[27] (The Time of India)

Greening High-Impact Sectors

Progress Score: 3

Five high-impact sectors key to the Green Economy transition in India are Agriculture; Construction; Energy; Manufacturing; and Transportation.

Agriculture

- **The organic farming sector** in India has been undergoing a transformation over the past few years as a result of many new ventures that have disrupted the market. Organic farming was given emphasis in the 2017 Union budget.[28]

In 2015, Sikkim was named the first fully organic state in the country. This is inspires many other state governments to move in the same direction.

- Agriculture is **becoming unattractive as livelihood sector.** Average loan amount outstanding for a farm household in India today is INR 47,000, which is an extremely heavy burden[29]. Disparities of growth in comparison to other sectors are appalling. In 1970, the minimum support price (MSP) for wheat given to farmers was INR 76 per quintal. By 2015, the MSP for wheat had increased a mere 19 times, to INR 1,450 per quintal. In the same period, the basic salary (plus dearness allowance) of government employees has increased by as much as 150 times, for college teachers and university professors by as much as 170 times, for school teachers by up to 320 times and for top corporate executives by a whopping 1,000 times[30].

- Several measures have been taken by the government recently to **improve and support farmers' livelihoods,** especially small farmers (85 per cent of the total farmers in India are small and marginal). These include, raising Minimum support Prices (MSP), improving access to credit, development of climate resilient seeds as well as some technological interventions like providing Soil Health Card (SHC) so farmers can judge the state of their soils.

The government has set a target to double farmer income by 2020.

Construction

- The construction sector is particularly resource intensive: it represents 30% of Indian electricity consumption, & high material footprint.

- **About 2 to 3% of all construction in India is green**, which is comparable to the United States.[31] **Fly ash utilisation in the construction sector** has witnessed a steady upward trend. According to Ministry of Environment, Forests, and Climate Change, fly ash utilisation in the country was 57.63% in 2014 against 13.51% in 1999[32].

Many private companies are coming up with innovative solutions. Wipro saves 40% energy worth INR 10 million on a 175,000 square feet building every year. Godrej saves 63% energy worth INR 0.9 million energy worth rupees on a 20,000 square feet building every year.

- **Model Building Bye-Laws- 2016** mandates that all buildings on various plot sizes above 100 square metre shall comply with the green norms.

[28](Assocham & TechSci Research, 2015)
[29] (Shrinivasan, 2015)
[30] (Sharma, 2016)

[31](LiveMint, 2010)
[32](Center for Science & Environemnt , 2016)

Energy

- **According to a report by the UN Environment Program (UNEP)** India was ranked seventh in the world in terms of investment in sustainable energy. Under the National Solar Mission, the Government plans to generate 20,000 MW of solar power by 2022 in three phases, with 2000 MW capacity equivalent off–grid solar applications[33]

In 2016, the world's largest solar plant was unveiled in Tamil Nadu with a capacity of 648 MW[34]

Manufacturing

- **Green manufacturing in India is still at the take–off stage.** While there has been significant policy development and adoption by the manufacturing industry in the area of green energy, there is substantial scope on both the policy front and its adoption in the areas of green products and green processes.

- **The Indian manufacturing sector has a long way to go**. Even the more advanced amongst the Indian steel producers consume more than 20% higher gigajoules per ton of hot metal in the iron making stage as compared to their advanced Chinese counterparts, and over 70% more gigajoules per ton compared to advanced western European producer. However, although the country's manufacturing exports are growing, its manufacturing sector generates just 16 percent of India's GDP—much less than the 55 percent from services.[35] Realized at its full potential, manufacturing could generate 25 to 30 percent of GDP by 2025 and create 60 million to 90 million new jobs in the country.[36]

Transportation

- **A growing trend in India's transportation sector today** is the growth of on-demand transportation and carpooling platforms. These are particularly popular in urban areas and are expected to grow exponentially as Internet penetration improves. Given the low ownership of personal cars in India, this trend might not reverse the trend of rising car ownership however; it will ensure improved utilization and create new jobs.

Since 2016, UberPOOL has reported saved over 32 million km of vehicle traffic, over 1.5 million litres of fuel and reduced emissions worth 3.5 million kg [37].

- **The current patterns and trends of transportation in our cities are extremely energy intensive and highly unsustainable.** According to a 2011 study conducted by the Central Pollution Control Board (CPCB) for six cities— Delhi, Kanpur, Bengaluru, Pune, Chennai, and Mumbai, the road transport sector is responsible for a majority of NOX and 30% to 50% of PM emissions in these cities. Another study by TERI brings forward that the road transport sector contributes about 15% to 50% of the PM2.5 emissions in cities and is a dominant contributor to NOx emissions[38].

However, compressed natural gas–powered vehicles in India also increased 30 percent over 2009, to reach 1 million in 2010.

[33] New article: National Solar Mission cleared; to generate 20,000 MW by 2022 – Economic Times (November 19, 2009)
[34] (Indian Express , 2016)
[35] (McKinsey and Company)
[36] (McKinsey and Company)
[37] (Sify, 2015)
[38] http://www.teriin.org/projects/green/pdf/National-Transport.pdf

Is Green Fair?
Progress Score: 3

There is a need to internalize parameters such as equality of opportunity, outcomes, and, access, as well as, basic needs fulfillment in terms of jobs and minimum wages in the current economic models. Some of the latest action-trends in this area are:

Government initiatives

- **Focus on basic needs fulfillment**: There has been a shift from entitlement model to empowerment model of delivering basic welfare schemes, with a shift towards direct benefits through cash transfers.

One of the government's flagship projects is Swachh Bharat Mission (SBM), which targets eradicating open defecation in India by 2019.[39]

- **Shift towards skilled employment:** Since the last two years, the government launched various skilling initiatives, such as the Skill India Mission, the creation of the National Skill Development Corporation and the push given to handicrafts sector.

Government sets target to provide skill training to 400 million people by 2022

- **Addressing inequity:** There has been momentum to address the social and caste-based discrimination, with the new programmes like Stand Up India, as a dedicated part of Start Up India.

Stand Up India seeks to leverage institutional credit structure to reach out to 0.25 million underserved section of people -Scheduled Caste, Scheduled Tribes and women entrepreneurs to enable them to participate in the economy. [40]

- **Enhancing citizen participation:** The NITI Aayog proposes to launch a programme involving citizens of India for the key challenges facing the country through the Atal Grand Challenge Awards with the objective of developing novel disruptive technologies / solutions that are ultra-low cost, low maintenance, durable and customized to the local conditions of India.

- **Financial inclusion** has always been at the forefront in current Government's agenda; the last decade has seen a strategic shift from credit focus to a more holistic approach such as opening bank accounts or getting access to add-on products like insurance.

Over 220 million bank accounts have been opened under the Pradhan Mantri Jan-Dhan Yojanan since 2014[41].

Businesses

Changing CSR landscape: India's CSR landscape is witnessing improvements, with. There has also been a change in terms of companies choosing to opt for sustainable supply chains, with the number of companies committing to procuring raw material at a fair price going up from 4 in 2015 to 9 in 2016.

The number of firms committing to human rights policies going up from 40 in 2015 to 54 in 2016. Also, in 2015, 60 firms did not have a policy on giving priority to local suppliers; this number has gone down to 39.[42]

[39] (Aiyar, 2017)
[40] (ET Bureau, 2016)
[41] (Time of India , 2016)
[42] (Manku, 2017)

Economics for Nature
Progress Score: 2

The use of economic tools to internalize environmental externalities in decision-making is still in a nascent stage in India. However, it is slowly gaining recognition and application.

Government

- The Indian government started commissioning **research** institutes to carry out integrated economic and environmental accounts as early as 1992. Since then several such studies have been undertaken and published[43].

The Government launched The Economics of Ecosystems and Biodiversity TEEB-India Initiative in 2011, starting with 12 pilot projects across three ecosystems.[1]

- Many a time, the Government has integrated economic instruments for environmental protection into **legislation**.

Under the Forest Act 1980, project developers have to pay for compensatory afforestation and the Net Present Value when forestland is diverted for industrial use. Over INR 400 Billion was currently been accrued from this sources. [44]

- There are several instances of both Central and State governments adopting **fiscal instruments** like Piguvian fees on different polluting substances and activities.

The government has doubled the Clean Environment Cess on coal production from INR 200 per tonne to INR 400 per tonne in the 2016-17 budgets. Over INR 530 billion has accrued from this source since 2010.[45]

- While there is no carbon market in India, the government has established several **market-based trading schemes** especially in the energy sector such as the Renewable Energy Certificate (REC) and The Perform Achieve Trade (PAT).

Businesses

- Natural capital valuations is gaining traction among Indian business and has become a topic of conversation in many business-biodiversity consortiums such as The India Business Biodiversity Initiative (26 members) and Leaders for Nature India Forum (10 members).

Three TATA companies (TATA Power, TATA Chemical & TATA Steel) have recently piloted the Natural Capital Protocol[46].

- A few Indian businesses have gone a step further to integrate the value of nature into investment decisions.

Mahindra & Mahindra have introduced an internal Carbon Price of $10 per ton of carbon emitted. [47]

Communities

- Payment for Ecosystem Services (PES) is still a relatively new concept in India; there are several small examples of grassroots communities adopting this tool.

A downstream village (Kuhan in the state of Himachal Pradesh) has agreed to pay an upstream village (Ooch) to cease grazing that cause soil erosion to preserve a small dam.[48]

[43] (MoEFCC & GIZ, 2014)
[44] (Sridhar, 2012)
[45] (Economics Times , 2017)
[46] (TATA Sustainanilty Group, 2016)
[47] (Mahindra, 2016)
[48] (Singh, 2008)

Wrap Up

While progress has been made there is still a long road to be tread before the transformation is complete. In order to accelerate the transition the following recommendation are made:

- Refine and put into practice green national accounting system.
- Adopt fiscal and monetary policy instruments to that incentivize green economic activity
- Use public procurement practices to create high-volume and long-term demand for green goods and services to encourage firms to innovate and get the advantages of economies of scale
- Redirect investment into nature through promotion of livelihood models that maintain and enhance natural resources like land and water systems
- Provide support in the form of incentives, risk coverage, regulatory framework, technology, and infrastructure to promote green businesses especially in the MSME sector.
- Encourage the application of clean and sustainable mechanisms for basic need provisions such as climate smart agriculture for food, renewable energy for electrification, and green construction materials for housing.
- Promote decentralized service models and local enterprises that service all, especially the poor to access basic services.
- Build enabling conditions of affordable supply, appropriate credit, and responsive products/services that promote informed choices and uptake of basic needs like education, health and hygiene.
- Adopt new innovative systems for basic education and skill development as well as improve learning outcomes that are necessary for livelihoods and entrepreneurship.
- Invest in capacities of the marginalised, especially women.
- Ensure valuation of ecosystem services through adoption of full cost accounting systems

Bringing out such a structural shift will require the concerted efforts of everyone in a position to influence social and behavioral change. While the government and business definitely play an important role, No enduring economic, cultural or political transformation has ever been achieved without a solid constituency demanding and enabling that change – changing the narrative, changing the power base. It is the job of civil society to amplify people's aspirations and necessities to decision makers at all levels. Civil society plays an important role in bringing in knowledge from the grassroots, helping test and validate transformative innovations on ground and reaching out to communities for large scale behavior change and public accountability. But most importantly they are link to foster cooperation among businesses, governments and communities.

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