



The Green Economy Barometer 2018

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Introduction

For the first time, new research has quantified the opportunities of the green economy in India. Legislative commitment and investment in sustainable, inclusive economic practice could have a transformative effect by 2030. But is the country ready to make the commitment to a sustainable future?

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 towards India as a new engine of growth, the Indian economy holds the responsibility to meet the development needs of its billion-plus population, without exceeding its environmental boundaries.

However, not everyone has shared wealth equally in India, with 96% adult population having wealth below USD 10,000. On the other

extreme 0.3% adults have a net worth over USD 100,000. Piketty and Chancel noticed increased inequality over the years, the top earners capture less than 21% of the total income in the late 1930s, which dropped to 6% in early 1980s and rose to 22% in 2015. In the period 1980-2015 the top 0.1% capturing a higher share of growth as compared to the bottom 50%.²

There were sharp gaps between the population groups after 1994. The bottom 40% in urban areas had the slowest increase between

1994 and 2012, while the top 20% in urban areas had the fastest at 98%. the growth rate of urban MPCE was higher in both of the periods 1993-94 to 2004-05 and 2004-05 to 2011-12.

Inequality, as measured by the Gini of consumption expenditure, declined between 1983 and 1993-94 but has seen a rising trend since 1993-94. India added 17 new billionaires last year, raising the number to 101 billionaires. Indian billionaires' wealth increased by INR 4891 billion —from INR 15,778 billion to over INR 20,676 billion.

1 IMF, 2017

2 Chancel & Piketty, July 2017





The Economic Survey 2013 has cautioned that by 2020, India could face 16.7 million 'missing jobs'.³ India also has a long way to go before it achieves basic living standards for all. India had 20.6% of world's poorest in 2011.⁴ India with score of 0.634, ranks 131 out of 187 countries on Human Development Index, where the score falls 27% due to regional disparities in education, health and living standards within the country.⁵

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.⁶

With an ecological footprint that is 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 country urgently needs to bring about economic reforms that steer India in the direction of green, fair, and inclusive economies.

3 Matthew, 2014

4 Donnan, 2014

5 Roche, 2017

6 The Hindu Businessline, 2016

“ The Indian economy must meet the development needs of its billion-plus population, without exceeding its environmental boundaries.

The transition to green and inclusive economies has been long deliberated both at national and global level; fortunately, 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.

The introduction of new tax regime with putting Goods and Services tax in place is another

landmark change in the country. GST combines a large number of Central and State taxes into a single tax, which gives way to a common national market.

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.

The Green Economy concept is an exciting approach that links economic growth with human development and environmental sustainability, and holds much promise for India.

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.

“ With a business-as-usual approach, India will not be able to sustain the wellbeing of its people.



Broad status of the transition

A broad macro level scoping reveals that the green economy transition has high potential to grow in India. However, the transition is moving slowly, and the progress made is insufficient compared to what is needed.

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.¹

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).

1 The Global Green Economy Index, 2016)

Government

India's 12th Five Year plan (2012-17) for the first time made environmental sustainability a central pillar of India's development strategy. Since then, India has scrapped Five-Year Plans, and has instead developed a long term 15-year plan. In addition to that, a 7-year strategy from 2017 to 2024 and a 3-year action agenda for 2017 to 2020 is also proposed. The 15 year vision aims at inclusive development and poverty reduction, and is co-terminus with the period to achieve SDGs.

Some political parties have taken up key issues around sustainability and inclusivity during elections; however environmental sustainability issues are usually given only 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.²

Business

Concerns to business sustainability due to resource constraints, climate change; along with 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. Two Indian companies were ranked in the top 200 and 10 in the top 500 Green Companies in the world in 2016.³

2 Devadas, 2016

3 Newsweek Green Ranking, 2016





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.

28 months after the launch of Make in India, it can count relaxed FDI Norms, improved investor perception, and a surge in automotive and electronics manufacturing among its successes. Ultimately, however, Make in India has not resolved all the issues that it set out to do.

According to a report, Future of Jobs in India by EY and NASSCOM, highlighted India's two challenges: the 17 million new entrants into the workforce year-on-year against the 5.5 million jobs created. According to a recent data published by Centre for Monitoring Indian Economy (CMIE), the unemployment rate has doubled between July 2017 and April 2018. It also states that the number of jobs in the country in the last financial year 2017-18 has also fallen from 406.7 million to 406 million.

The FDI inflow grew by 20 percent each in 2014-15 and 2015-16. However, in 2016-17, the country attracted the highest ever FDI inflow of USD 60 billion. 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. The government of India



“ The green economic transition is moving slowly, and the progress made is insufficient compared to what is needed.

has set a target of training 15 million youth by 2022.⁴

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.

Civil society

India's vibrant civil society has a long history of showing alternative vision of sustainable development and green economy. Within civil society, there is a wide disparity

about what green economy means and what its key principles and objectives are and how it can be achieved. This is primarily because of multiple global definitions of the term.

Civil society groups in the country have been very active in the recent times, especially on themes of environment and social compromises in the current development paradigm.

Citizen groups, such as in Delhi where the proposal to cut 16,500 trees for development project was opposed, around thousand people turned up demanding that the government should come up with an alternative plan.

⁴ Business Today, 2016



Civil society groups have also been engaging with the Central and State Governments to provide knowledge and insights on planning and development, on themes related to green economy; although the space for civil society is considered to be shrinking, given the tighter financing norms; and limited scope of engagement.

Ministry of Environment, Forest and Climate Change has set up and Indian Resource Panel with representations from Government, Businesses and Civil Society to build a strategy and action plan for Resource efficiency in India.

Key Barriers

- The larger perception in India among businesses and policy makers remains that environmental protection comes at the cost of economic growth and development.
- Financial markets for green investments are at a nascent stage and systems to direct funding towards green and responsible investments are inadequate.
- Green technology is generally thought of as unreliable and not cost-competitive.
- The thinking that India cannot afford to 'pollute now, clean up later' has still not gained mainstream acceptance.
- Greening the economy is not fully recognized as a tool to achieve social prosperity and environmental sustainability.

“ Within civil society, there is a wide disparity about what green economy means and what its key principles and objectives are and how it can be achieved.

In another case, raising serious environmental concerns over the bullet train project, a coalition of organisations has highlighted the fact that about 80,000 trees in reserved forests and mangroves will be cut down to make way for the high-speed corridor. Terming this a “clear climate-negative action” on the part of the government, the civil society group has questioned its economic viability and sought the rollback of the project.

Farmers' Protests in India witnessed a steep rise in the year 2017 - 2018. Thousands of farmers, belonging to Bhartiya Kisan Union (BKU) had began their protest – Kisan Kranti March – in Haridwar on September 23 2018. Pressing for a series of demands including the

low minimum support prices (MSP), high fuel rates, the farmers had planned to culminate the yatra at in Delhi on Gandhi Jayanti. Similar protest was uptaken by farmers in Maharashtra, who marched to the State Capital Mumbai. They marched overnight into Mumbai to avoid obstruction of traffic during the day.

This gesture has got them sympathy from many Mumbaikers. The main demands of the farmers are a complete waiver of farm loan and of power bills, better prices for crops, pension scheme for farmers, implementation of the Swaminathan Commission recommendations on minimum support price and proper implementation of laws governing forest produce.



Measuring what matters

Sustainable Development Goals

India has ranked a low 110 out of 149 nations assessed on where they stand with regard to achieving the SDGs.¹ 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 multistakeholder consultations have taken place. The Ministry of Statistics and Programme Implementation released national framework for monitoring Sustainable Development Goals; to guide the National Ministries of tracking associated targets. An official Committee of Parliamentarians has also been formed to raise the awareness on SDGs among legislators.

At the state level, a few states like Assam, Mizoram, Haryana have released 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.



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

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.² 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.

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, the majority of which use the GRI framework. Over time, the quality of these reports is improving.

¹ Bertelsmann Stiftung and Sustainable Development Solutions Network, 2016

² The World Bank & Institute for Health Metrics and Evaluation, 2016



Reforming Finance



The government has planned to phase out incandescent bulbs by 2020, as they consume 80% more electricity in comparison to the LED lamps. The CFL production has decreased from 450 million in 2013 to 394 million in 2015, due to reduction in prices of LED lamps.

In addition, the Government has launched the *Indradhanush* program to improve the state of public sector banking.

India expanded its solar capacity 8 times from 02.6 GW in 2014 to 20.0 GW in January 2018.

The solar market is growing at 9.1 % CAGR with heavy investments from domestic and international investors. This is the result of substantial push from government through schemes and enabling ecosystem for investment. More than USD 42 billion has been invested in India's renewable energy sector since 2014.

The Government of India has announced plans to implement a US\$ 238 million National Mission on advanced ultra-supercritical technologies for cleaner coal utilisation. The Ministry of New and Renewable Energy (MNRE) has

Government

Excise duty rate on aviation turbine fuel has increased from 8% to 14%. This has acted as an implicit carbon tax.¹

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.²

However, action on ground is disparate and siloed, 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.³

The Ministry of Railways has introduced energy efficient lighting for homes in railway colonies resulting in direct energy savings of 112500 MWh per annum.⁴

1 Chaudhry, Dhingra, Roy & Robins, 2016
2 Khan, 2016

3 The Energy and Resources Institute Environmental Survey, 2013
4 OECD, 2016

decided to provide custom and excise duty benefits to the solar rooftop sector, which in turn will lower the cost of setting up as well as generate power, thus boosting growth.

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.

In 2016, Hero Future Energies issued Climate Bonds certified green bonds of INR 3 billion.⁵

Social Impact Investment in India

5 Climate Bonds Initiative, 2016

Indian companies spent over INR 250 Billion on corporate social responsibility (CSR) in 2015.

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.

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.

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 2015.⁶

Indian corporates have upped their corporate social responsibility, spending has seen an increase of 14% over the last two fiscals according to the analysis of 1,186 companies, listed by Crisil Foundation. the amount spent on CSR by eligible listed companies rose nearly 7% on-year to just shy of Rs 9,000 crore in fiscal 2017.⁷

6 Times of India, May 2016

7 The Economic Times, 2018





Greening economic sectors



and marginal farmer household was INR 79,779 in 2015-16, large farmers with landholding above 10 Ha earned around 87% more than these farmers. While a medium and semi-medium farmer earned 15% more than a small and marginal farmer.

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 also set a target to double farmer incomes by 2020.

Construction

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

India ranks third in the top Ten Countries for LEED (Leadership for energy and environmental design). Further green buildings is projected to grow 20% in the country by 2018. Fly ash utilisation in the construction sector has witnessed a steady upward trend. According to Ministry of Environment, For-

Five high-impact sectors key to the Green Economy transition in India are Agriculture, Construction, Power, Manufacturing, Transport and Tourism.

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.¹

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

85% of all farmers in India are small-scale and marginal.

Agriculture is becoming unattractive as a livelihood option for many people. The average amount of outstanding debt for indebted agricultural households is INR 1,04,602 according to NABARD survey reference year 2015-16, this is just INR 2500 less than the average annual income which is INR 1.07 lakhs.²

Disparities of wage growth in comparison to other sectors are appalling. According to the Committee on Doubling of Farmers' Income, the average annual earning of a small

¹ ASSOCHAM & TechSci Research, 2015

² Hindu, 2018



ests, and Climate Change, fly ash utilisation in the country was 57% in 2014 against 13% in 1999.³

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.

The Model Building Bye-Laws of 2016 mandate that all buildings on various plot sizes above 100 square metres shall comply with the green norms.

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. The Ministry of New and Renewable energy targets to set up renewable energy capacities to the tune of 175 GW by 2022 of which about 100 GW is planned for solar, 60 for wind and other for hydro, bio energy. Total installed renewable energy capacity (including large hydro projects) in India touched 114.43 GW as of May 2018, which is around 33 per cent of total energy capacity of the country.

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

Manufacturing

Green manufacturing in India is still at the take-off stage. While there

“ The current patterns and trends of transportation in our cities are extremely energy intensive and highly unsustainable.

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. 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.⁴

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.

The Ministry of Road Transport and Highways signed a pact with Transport for London to revamp the public transportation in India. The ministry would act as a facilitator for states to reform public transportation with learning from experiences of public transport agencies. The pact envisages adoption of best practices for policy reforms in the transport sector.

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.

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.

³ Centre for Science and Environment, 2016

⁴ McKinsey & Co, 2016



Green must be fair



Photo: Sashita Nayra, Ujjain, India

In order to ensure that the benefits of the future economic prosperity are equitably divided amongst rich and poor, any future green economy must also be a fair economy.

India has significant work to do in this area. 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 an entitlement model to an 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 2019.¹

¹ Aiya, 2017

“The government has set a target to provide skills training to 400 million people by 2022.



“ Over 220 million bank accounts have been opened under the Pradhan Mantri Jan Dhan Yojana since 2014.

So far, 16 states have been declared open defecation free. The initiative is a part of health and sanitation programme of the country. Critiques of the programme highlight an inappropriate focus on building toilets; without enough emphasis on its use, water availability and other important aspects of health and hygiene.

The Forest Rights Act of 2006 recognises the rights of traditional forest dwellers, and includes the responsibility and authority for sustainable use, conservation of biodiversity and maintenance of ecological balance. Pradhan Mantri Ujjwala Yojana (PMUY) aims to provide clean cooking fuel- LPG so that health is not compromised due gases released by burning of firewood, coal, dung-cake etc.

“ There has been momentum to address the social and caste-based discrimination.

A sum of Rs 2,000 crore was allotted, this was said to benefit 1 crore 50 lakh household below the poverty line in 2016-17². In two years India’s Pradhan Mantri Ujjwala Yojana Scheme provided 37 million women living below the poverty line with free LPG connections.³

Shift towards skilled employment: For the last two years, the government has launched various skilling

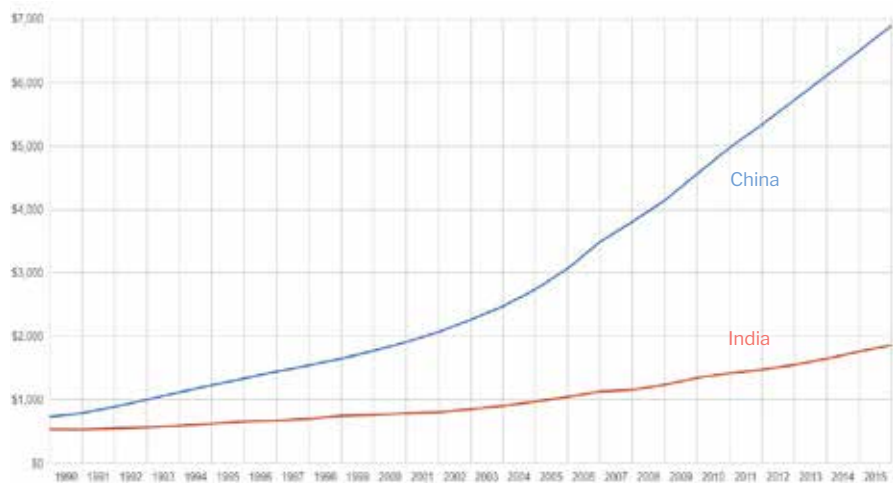
2 PTI, 2016
3 Tandon, 2018

Table 2: Indian GDP growth rate 1990 - 2015



Source: World Bank World Development Indicators, 2015

Table 3: Indian GDP per capita 1990 - 2015, constant 2000 USD



Source: World Bank World Development Indicators, 2015

initiatives, such as the Skill India Mission, the creation of the National Skill Development Corporation and the push given to handicrafts sector.

The government has set a target to provide skill training to 400 million people by 2022.

“ Fiscal inclusion has always been at the forefront of the Government’s agenda.



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 JanDhan Yojanan since 2014.⁵

Businesses

Changing CSR landscape: India's CSR landscape is witnessing improvements.

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 is 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 39.⁶

⁵ The Times of India, June 2016

⁶ Manku 2017

““ The number of firms committing to human rights policies is going up from 40 in 2015 to 54 in 2016.

““ Over 220 million bank accounts have been opened under the Pradhan Mantri JanDhan Yojanan since 2014.

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.⁴

⁴ ET Bureau, 2016

Enhancing citizen participation: The NITI Aayog has launched Atal New India Challenges to bring innovations and technologies relevant to the people. This initiative focuses toward solving problems in core areas, which would have a direct impact on improving lives of our citizens and will also generate employment.

Financial inclusion has always been at the forefront in current Government's agenda; the last decade has seen a strategic shift from credit



Valuing nature

The use of economic tools to internalize environmental externalities in decisionmaking 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.¹

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

The Government has frequently 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.²

¹ Indian Ministry of Forestry, Environment and Climate Change & GIZ, 2014

² Sridhar, 2012

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

The government has doubled the Clean Environment Cess on coal production from INR 200 per tonne

“ The use of economic tools to internalize environmental externalities in decision-making is still in a nascent stage in India.

to INR 400 per tonne in the 2016-17 budgets. Over INR 530 billion has accrued from this source since 2010.³

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

³ Economic Times of India, 2017

consortiums such as The India Business Biodiversity Initiative (26 members) and Leaders for Nature India Forum (10 members).

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.⁴

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.

For example, the downstream village of 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.

⁴ Mahindra, 2016





Conclusion: Where does India stand on green economy?

While progress has been made there is still a long road to be travelled before the transformation is complete.

In order to accelerate the transition the following recommendations are made:

Measuring What Matters

- Refine and put into practice a green national accounting system.

Reforming Finance

- 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

Greening High-Impact Sectors

- 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.

Investing in People

- 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.

Valuing Nature

- 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 the link to foster cooperation among businesses, governments and communities.

“ No enduring transformation has ever been achieved without a solid public constituency demanding and enabling that change.



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