

9. The Green Wave: India's Eco-Friendly Startups Driving Sustainable Growth

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Abstract:

Sustainable development is a pivotal principle in environmental law, endeavouring to harmonize technological advancement with environmental conservation. An important idea in environmental law is sustainable development, which aims to reconcile technological advancement with environmental conservation. Environmental deterioration cannot be tolerated at the price of economic growth. In order to address the pressing issues of climate change, a number of summits and conferences have adopted a sustainable development framework for their action plans. These frameworks aim to achieve the 2030 Sustainable Development Goals, a collection of 17 objectives that will strive to preserve the equilibrium between environmental, social, and economic sustainability. The chapter seeks to shed light on the current status of green startups paving India's path for sustainable development. Indian businesses are using technology and ingenuity to create solutions that reduce environmental damage and boost the nation's economy, ranging from waste management to renewable energy to eco-friendly transportation

Keywords: Sustainable Growth, Green Startups, Green Finance, Entrepreneurship.

9.1 Introduction:

The commercial landscape in India is being transformed by a growing ecosystem of entrepreneurs that prioritize sustainability. India is still ranked 40th in the Global Innovation Index (GII) 2023, a considerable improvement above its ranking of 81 in 2015. In terms of income, India topped the 37 lower-middle-income countries and is currently in the lead among the 10 countries in Central and Southern Asia. Governments all around the world now rely on the GII as a trustworthy tool to evaluate social and economic growth driven by innovation. India's journey to this accomplishment has been fueled by strong intellectual capital, a vibrant start-up environment, and the conscientious efforts of public and private research organizations. India has become a national innovation hub thanks in large part to the contributions of government agencies from a variety of industries.

Chart no. 1

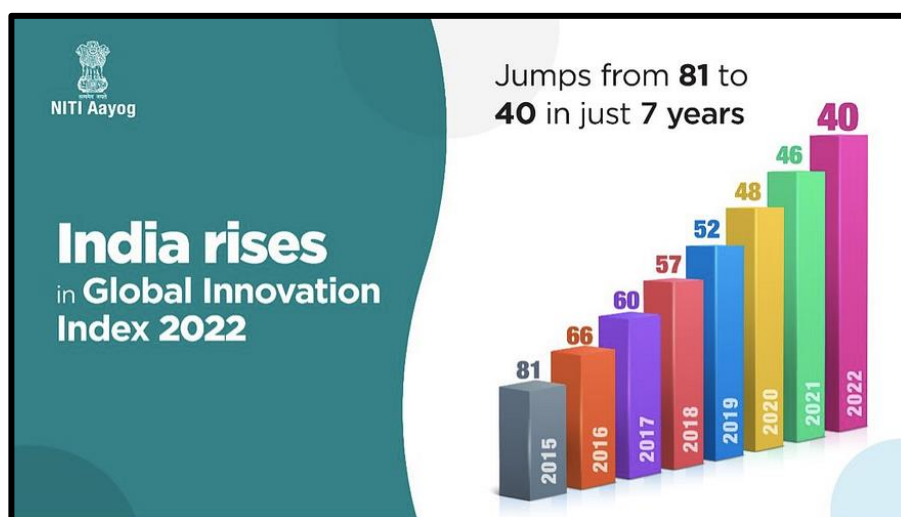


Figure 9.1: The Global Innovation Index Source: Niti Aayog on X

The evolution is being prompted not only by moral concerns but also by the realization that sustainability has the potential to be an important driver of innovation and economic expansion.

With a growing awareness of the need for environmental responsibility, the Indian startup ecosystem is blooming and pulsating with energy and creativity. Green startups that focus on different facets of sustainability have become increasingly prevalent in India's startup scene. Green finance is becoming more and more necessary as the need for sustainable solutions increases.

9.2 Important Concepts Attached with Green Startups:

Green Startups: Startups in the green sector are businesses initiated by entrepreneurs who introduce eco-friendly solutions to organizations or companies aiming to minimize their environmental impact.

Green Entrepreneurship: The term "green entrepreneurship" is used to describe the approach of these startups that embrace sustainable and environmentally friendly practices, providing effective solutions for social or environmental issues.

Green finance: Green finance involves loans or investments that support activities with positive environmental impacts, such as the procurement of eco-friendly products and services or the development of sustainable infrastructure.

Sustainable Growth: Sustainability and social responsibility encompass business strategies aimed at creating a positive influence on society and the environment, contributing to sustainable growth.

9.2.1 India's Path to a Green Economy:

Numerous reasons have contributed to the explosive growth of green start-ups in India. The most important is a growing consciousness of environmental problems and climate change. India is experiencing extreme pollution and resource constraints, which has inspired the people and government to embrace environmentally friendly projects. The increased awareness of environmental issues has led to a rise in the sustainable goods and services market. Due to this kind of circumstance, India's new-age start-up businesses have recently put more of an emphasis on environmental consciousness and are moving beyond the promotion of paper- or plastic-free workplaces. Leading initiatives focused on responsibility toward sustainability is the newest agenda item. To lessen their carbon footprint—which is defined as the quantity of greenhouse gases generated by a single organization and is expressed in tons of CO₂ released annually—nearly all businesses have started implementing greener practices. The above sustainable startup maps of India which include companies growing in different states with the sustainable initiative approach:

Chart no 2



Figure 9.2: India's Path to a Green Economy Source: TheBetterIndia

9.2.2 Waste Management: A Biggest Problem in India:

The shift towards eco-friendly practices in India is largely attributed to millennials, who are driving awareness and change in the country. In India, over 75% of waste generated is recyclable, but only about 30% of it is recycled. Waste management is becoming a pressing issue that cannot be ignored any longer. According to recent estimates, India will need multiple landfills the size of Bengaluru by 2030 to dispose of all the waste generated at the present level of recycling. The Central Pollution Control Board reports that less than 15% of the country's generated municipal solid waste is processed or treated. Effective waste management in India is hampered by a number of problems, including inadequate planning by authorities, inadequate garbage collection and treatment infrastructure, and low public understanding of waste segregation. Even though there have been many attempts to raise public and private stakeholder awareness of waste segregation, the impact has been small because these efforts have only been made in a few areas.

9.3 Green Startups Holding Sustainable Growth through Green Entrepreneurship:

9.3.1 Phool.Co:

Founded in 2017 by Ankit Agarwal and Prateek Kumar, Phool.co is an Indian biomaterials firm that gathers waste from temple flowers that are discarded in Kanpur's rivers. It uses flowers from Indian temples to make practical goods like vermicompost and rose incense cones.

Since it was established in 2017, Kanpur Flowercycling Pvt. Ltd. has recycled 11,060 metric tonnes of temple debris under the Phool brand. The company recently got split into HelpUsGreen and Phool. The idea to recycle flowers came to Ankit Agarwal and Prateek Kumar when they visited the Ganga Ghats and saw how unsafe it was that temple flowers included pesticides and insecticides. They planned to present the temple waste management department with their suggestion for recycling flowers. Products such as vermicompost and incense cones were released following a year and a half of research. Ankit Agarwal was also given the Unilever Young Entrepreneur Award in recognition of his inventiveness.

9.3.2 Sutrikaar Creations:

Neerja Palisetty started a project called Sutrikaar Creations, which provides solutions for recycling paper trash with a zero-waste foundation. The startup is giving many unemployed women a way of life by creating an environmentally friendly method of recycling paper into textiles. It makes yarn out of paper waste by weaving old newspapers and other types of paper trash. Encouraging sustainable livelihoods while also preserving the environment is the aim.

9.3.3 Zun Roof:

ZunRoof is a home technology startup that gives homeowners options for clean and smarter energy. The company uses underutilized rooftop space to assist in the production of electricity through solar energy. The Gurugram-based start-up, which was founded in 2016 by Pranesh Chaudhary and Sushant Sachan, wants to become into India's biggest supplier of solar rooftop systems. It states that it has evaluated more than 150,000 dwellings, designed 17,000 homes, and put solar roofs on more than 5000 homes.

9.3.4 Geeli Mitti Foundation:

Shagun Singh founded the Geeli Mitti Foundation, which uses cow dung, bamboo, clay, and lime to construct solid, cool homes in rural areas. The organization upholds sustainability by designing environments and architectural elements that complement the most basic form of life. The project is to raise awareness about recycling waste materials for beneficial purposes and provide alternative housing options in villages. Singh, an environmentalist who was formerly a marketing professional, incorporates scientific knowledge into her architectural designs. The earth bag method is extremely important. It is especially helpful in earthquake-prone spots. In one area, during the Nepal earthquake, only one building survived while the others crumbled. It was as a result of the earth-bag construction method used.

9.3.5 GPS Renewables:

Waste-to-energy company, GPS Renewables is credited with developing the first economical, clean biowaste treatment solution. In the process, it generates high methane-containing biogas and compressed natural gas (CNG). These fuels can be used to cook with and generate electricity. Mainak Chakraborty and Sree Krishna Sankar, both IIM-B graduates, formed this start-up in 2012. The company offers prefabricated, small biogas units that require little room and installation work. The company is utilizing IoT technology to ensure minimal downtime for clients while installing biogas units in urban enterprises. To maintain and manage smell and operational efficiency, the company uses its patented remote monitoring technology. These 40 units have a combined trash handling capacity of 30–50 tons per day, avoiding thousands of tonnes of greenhouse gas emissions.

9.3.6 Apro Green Tech:

Apro Green Tech was established in Mumbai by Abhijeet Sirkar to assist companies and governmental organizations with environmentally friendly technology and CSR initiatives. The firm also assists clients with infrastructure integration of green technologies and planning initiatives related to rural and urban growth. It has earned recognition for creating creative ways to recycle discarded plastic. The "SUSLOO" model, a sustainable sanitation

Sustainable Development

solution for public spaces, is one of its primary achievements. It constructs specialty toilets without the use of natural wood by utilizing recycled milk and juice cartons, plastic and glass bottles, and Apro's exclusive "Bottle Brick Innovation" technology. Bio-toilets, dual-flush systems, eco-blocks, water tap sensors in basins to cut down on water use, and repurposing basin-used water for toilet flushes are some more advances in sustainable sanitation. The startup has already received another patent for "Hemptech." A biocomposite called Hempcrete, made from the inner woody core of the hemp plant, is produced using a method called Hemptech. This results in a lightweight insulating substance that weighs around a sixth or eighth of concrete. Hempcrete offers a more environmentally friendly substitute for cement concrete, a building material that is known to produce significant amounts of greenhouse gas emissions.

9.3.7 This for That:

This For That is a female-only peer-to-peer mobile app marketplace for fashion swapping. Among the first of its kind, this start-up advocated for using wallets to cut down on fashion waste. Their message of cost savings, free shopping through the use of a barter system, and environmental friendliness resonated with a wide range of people. Company's business strategy relies on customers' desire to update their wardrobes on a frequent basis without having to spend money. Through the app, buyers may post products from their closet for a credit value and trade them with other swap community members for another item of a similar credit value. The aggregator platform makes sure that all quality control systems are operating efficiently to guarantee seamless transactions and excellent customer support. More than 10% of garbage in landfills is made up of textile waste; This for That aims to address this issue by offering a substitute for clothing. They intend to extend the shelf life of every article of clothing through their efforts.

9.3.8 Eco Right:

EcoRight, a company founded in Ahmedabad, provides eco-friendly bags that emphasize elegance to attract customers. Founded in 2017 by Udit Sood and Nikita Barmecha, who used Amazon to launch the business in the US and India, the start-up has now grown into Europe, Australia, and Canada. The startup encourages environmental consciousness in the workplace and sells sustainable jute bags. The business works exclusively on solar energy and harvests rainwater in its offices. It divides the everyday waste into two categories: dry and wet. The factory sends the extra fabric used in its goods to be recycled. In addition, the office is equipped with reusable utensils to discourage staff from using the throwaway flatware that is given with meal orders. The company wants to eliminate plastic from India. Each EcoRight bag is supposed to replace the usage of 50100 plastic bags. EcoRight has stopped the usage of around 5,000,000 plastic bags by selling more than one lakh eco-friendly bags.

9.4 Government Initiatives Providing Thrust to Green Entrepreneurship:

India is advancing its sustainability goal through corporate initiatives and government policies. The driving force for expansion has been the government's backing, articulated in laws and pledges to expand the use of renewable energy resources and advance clean energy technologies. India is now home to the world's third-largest startup ecosystem, which supports the development and implementation of audacious ideas and goals. The Indian government has launched a number of efforts to assist these emerging start-ups and inspire young entrepreneurs to pursue these endeavors. Start-ups are a significant contributor to the GDP of the Indian economy. India's success in the international startup sector is being fuelled by innovative programs like the Atal Innovation Mission and the Startup India Initiative. The digitization and simplification of the company establishment process have been the cornerstones of government initiatives encouraging entrepreneurs. A SPICe is the result of the combination of the Tax Deduction & Collection Account Number (TAN), the Permanent Account Number (PAN), and the Director Identification Number (DIN). Startups can quickly register their company on SPICe+, a single web form. For firms with funding up to INR 15 Lakh, there is no incorporation charge.

9.4.1 Innovation Funding:

- The German Development Bank has granted a soft credit of Rs. 75.26 billion (US\$ 1.05 billion) to the "Green Energy Corridor Project" in India. Enhancing the sector framework and conditions for grid integration of renewable energy sources with traditional power networks is the goal of this project. Forty percent of intrastate and seventy percent of interstate transmission schemes will be funded by this soft loan.
- The Startup India Initiative provides a number of programs to help entrepreneurs with infrastructure and financial support. Through qualified incubators, the Startup India Seed Fund Scheme offers financial support to companies for product trials, market entry, proof of concept, prototype development, and commercialization. As of December 31, 2023, 217 incubators were selected under the Scheme, with authorized investment amounting to about INR 841.8 Cr.
- Since its founding in 2016, the National Science and Technology Entrepreneurship Development Board (NSTEDB)-initiated National Initiative for Developing and Harnessing Innovations (NIDHI) has produced over 170 Technology Business Incubators (TBIs). Each TBI funds ten innovators annually with a grant of INR 220 Lakh.
- The Ministry of Electronics & Information Technology has announced an expanded TIDE 2.0 program that provides financial and technological support to startups working on cutting-edge technologies such as the Internet of Things, Blockchain, Artificial Intelligence (AI), Robotics, and more. The program intends to provide funding to 2000 tech businesses that have been created in 51 Indian incubators.

9.4.2 Green Finance:

- The Indian government has loosened its regulations for foreign direct investment (FDI) to permit 100% FDI in the purchase and production of satellite systems. Furthermore, entrepreneurs recognized by DPIIT will not be subject to angel tax as part of an adjustment to the tax exemption under Section 56 of the Income Tax Act.
- The Remission of levies and Taxes on Exported Products (RoDTEP) plan remits taxes and levies on exports in order to encourage international exposure and exports for startups. The RoDTEP Scheme has been allotted INR 15,070 Cr for the current fiscal year, with an extra 10% increment for 2024–2025.
- SIDBI Fund of Funds, which is part of Startup India, has assisted up-and-coming businesses by giving 131 Agricultural Investment Funds access to venture capital funds totaling about INR 10,284 crore. The Credit Guarantee Scheme for businesses, which is a component of Startup India, additionally offers credit guarantees up to INR 10 Cr for loans granted to eligible businesses by participating institutions.
- An AI-powered platform called Startup India Investor Connect pairs up entrepreneurs and investors to create investment opportunities. 5,969 businesses and 120 investors have registered on the platform since its launch.

9.4.3 Regulatory Reforms for Startups:

- The Indian startup ecosystem has benefited from 53 regulatory improvements implemented since 2016. The most recent recognizes any organization or company that has been in operation for ten years and has less than INR 100 Cr in revenue as a startup.
- If a startup is incorporated before March 31, 2024, it can receive tax rebates on profits for three of the ten years, as long as its annual turnover stays under INR 100 Cr. Young companies can now self-certify their compliance with nine labor regulations and three environmental rules for a period of three to five years after incorporation, which lessens the burden of compliance.
- In addition, Indian startups might receive a 50% trademark filing rebate and an 80% patent filing rebate in comparison to other enterprises.

9.5 Conclusion:

India's startup scene is leading the way in promoting change and innovation in the direction of a more sustainable and greener future. With a wide variety of companies tackling environmental issues in different fields, the nation is well-positioned to lead the world in sustainable growth. A thriving ecosystem has been established by the international environment, public assistance, and private investments for start-ups to explore and produce solutions appropriate for India. Many industries are feeling the pressure to go green as businesses become more aware of the environmental impact of their operations.

There appears to be a common effort by businesses and start-ups in India to safeguard the environment and stop climate change, ranging from employing recycled or renewable resources to cutting back on energy use and waste.

In order to create a cleaner, healthier, and wealthier country for future generations, India can fully realize the potential of its startup ecosystem through promoting entrepreneurship, collaborating with others, and utilizing technology and innovation. India's startups are influencing good change globally and reshaping the nation's future through their shared dedication to sustainability.

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