Sustainable initiatives for climate change

What is the issue?

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India stands to suffer most from climate change and its transition to a low carbon economy has to be accompanied with changes within the country.

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What are the revealing facts?

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- The world has already warmed 1°C since pre-industrial times and it is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.
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- It was clear that the Paris Agreement on climate change would not be enough to avoid global warming of 1.5°C over pre-industrial temperatures.
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- Early analyses have also revealed that the collective effect of Nationally Determined Contributions (NDCs) would result in 3-5° C of warming.
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- The Intergovernmental Panel on Climate Change (IPCC) report on 1.5° C has come at a time when there are multiple alarms for India.
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- In its endorsement of the latest IPCC report, India has said it will bear a disproportionate burden of climate change.
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- Another study in Nature Climate Change identifies India as the country with the most expected damage from rising levels of carbon dioxide.
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- Hence, India is under pressure to mitigate climate change by controlling emission growth.
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- It will also need to adapt to increased water scarcity, droughts, floods, cyclones and other natural disasters within its borders.
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What are the challenges?

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- India has two complex and inter-related problems.
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- The first is to bring a vast population out of poverty and into decent lives.
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- India still has 364 million living in multidimensional poverty.
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- Nearly a third (27.5%) are multi dimensionally poor and about a fifth (19.1%) are vulnerable to becoming poor.
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- Almost half the country is therefore at high risk from events such as loss of a job or ill health of a family member.
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- Combined with damage from a severe cyclone, flood or drought, each subsequent shock will have a multiplier effect on hundreds of millions, potentially pushing them deeper into poverty.
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- The current rural distress and the large youth unemployment in the country add to the woes.
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- The second is to do this while dealing responsibly with the global carbon challenge and building resilience to climate change.
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- Hence, it is clear that past development frameworks have not improved well-being across social strata.
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- Instead, evidence indicates that economic growth has gone hand-in-hand with rising inequality and the creation of a small but powerful class of the super-rich.
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How should India respond?

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- The most sensible way to deal with these complex challenges is to deepen and expand India’s commitment to the Sustainable Development Goals (SDGs).

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- Local and institutional innovation may be more appropriate for a country of India’s size and ecological diversity.
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- India has a large number of successful examples of transformative innovation around energy production and access, land, livelihoods and climate resilience.
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- **Energy** – The Bureau of Energy Efficiency showed how government nudges are made effective through appliance labelling and large-scale procurement of efficient devices.
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- India expects to reach its ambitious solar target of 100 GW capacity by 2022 primarily through large centralised solar power plants.
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- But these require significant amounts of land, water and evacuation infrastructure and support from mega-corporations.
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- Instead, as some States have shown, renewable-based micro grids can become an important feature of electricity policy.
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- Jharkhand, which has 249 remote villages powered by solar micro grids, is now considering their use even in villages that are already grid connected.
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- In the near future, entrepreneurs could make use of rapidly lowering storage costs to build decentralised, neighbourhood-scale micro-utilities, managed by locally owned enterprises and cooperatives.
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- With modern power electronics and innovations in hybrid waste to energy, water recycling and community gardens could be integrated as standalone modules that are connected to larger grids.
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- **Land** - India has for long had strongly rooted cultural movements about living sustainably with land and its ecology that provide practical models.
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- Sustainable approaches to land are evident in cases such as forest conservation in Mendha-Lekha village in Maharashtra and community delivery of public services in Nagaland.
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- Mendha-Lekha village is being treated as a model in Maharashtra, which became the first village in the country to secure community forest rights (CFR) following the passing of the Forest Rights Act (FRA) in 2006.
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- These and several other instances are documented in initiatives such as

Vikalp Sangam.
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- **Agriculture** - Some research groups have recognised that agro-ecology methods are best suited for increasing crop yield, raising profits, trapping soil carbon, reducing dependence on fertilisers and pesticides.
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- Successful models are already effective on small scales in many States.
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- Andhra Pradesh is attempting Zero Budget Natural Farming to all its farmers by 2024 with an expected savings of 2 million tonnes of carbon dioxide per year across 8 million hectares.
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- If similar methods were used for the entire country, the savings would be substantial.
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- **Industries** – In the building and cement industry, innovation around housing and new materials, including natural fibre composites, could make far-reaching changes in infrastructure through low-carbon modular technologies.
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- Regarding transportation, the rapidly expanding city hinterland have to be designed not around cars but walking, cycling and sustainable neighbourhood vehicles.
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- Work and industry would also have to focus on the small and medium scale of about 300 employees and modest capital investments, which reduce the risk of speculation and jobless growth.
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- Energy and livelihood gains from such alternative visions could be far more significant than conventional ways of replacing fossil-fuelled infrastructure with renewables.
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- But they also involve a lot of learning-by-doing, living laboratories and innovation, practice, patience and support from government and academia.
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What more does it need?

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- The synergies of meeting SDGs, reducing greenhouse gas emissions and adapting to a changing climate can only be fully realised if transformative

and cross-scale changes are conceived, deliberated upon and tested widely.
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- The next round of state action plans on climate change(SAPCC) now being developed might begin with identifying successful development approaches overlaid with expected climate impacts in each ecological zone.
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- Thus Policymakers, with inputs from academia, community workers and the public, could work on how these would be repeated in other contexts keeping climate impacts in mind.
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- Large investments are needed to make the transitions in each sector that would take the country to a near zero-carbon economy.
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- But given the shortage of external support and the need for rapid deployment, India will not be able to rely entirely on external funds.
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- Some of this could instead be financed through a carbon tax that curbs non-essential consumption.
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- Savings can also be expected from the economic and social transformation itself.
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- India’s NDC is already ambitious and it has made decisive changes in its energy sector.
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- Hence, India needs to begin now with its enormous untapped successes, since the country cannot be pressured from outside, but need to change from within.
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Source: The Hindu

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