Group

MAY
2023 EDITION

ANALYSIS REPORT
ON
National Action Plan on Climate Change

Introduction

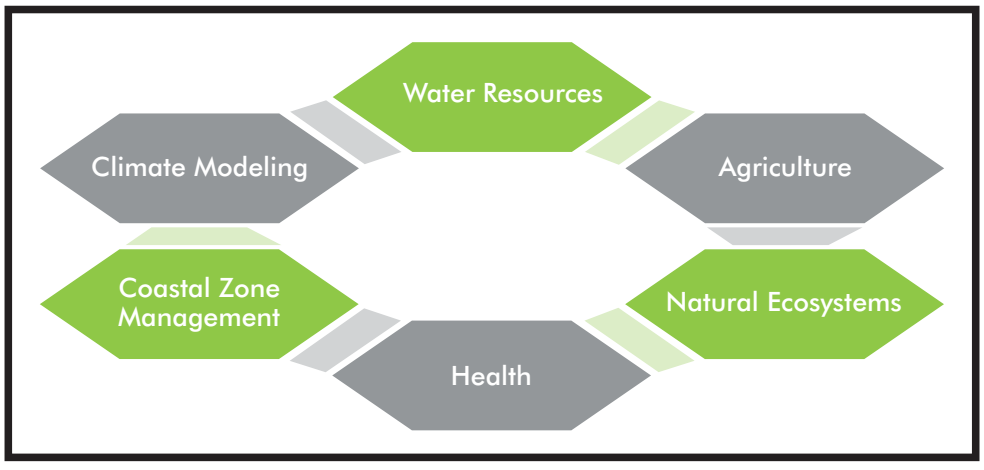
Climate change is a globally shared responsibility. This is one of the most critical challenges of this time that needs a collaborative approach to deal with where the international and national efforts have their due weight age to address the concerns and limit the impacts. To bring the various national governments on the same platform and address the rising challenges of climate change in the 21st century, the United Nations Framework Convention on Climate Change (UNFCCC) in 2015 has come up with the Paris Agreement to find the way forward through a legally binding international treaty.

This has led to the formation of voluntary Nationally Determined Contributions (NDCs) as an obligation for the parties. But way before this, the Government of India in the year 2008 took early steps to plan a comprehensive National Action Plan on Climate Change (NAPCC) based on its vulnerabilities and global negotiations related to climate change.

The increase in the frequency of climate change events such as frequent droughts, floods, etc is endangering food and energy security across the globe, and for feeding one of the largest populations of the world, the situation has a multiplier impact on India. Thus, an integrated action plan to tap the natural resources such as solar, water, etc for India's energy security was the need of the hour.

Besides this, formulating a close assessment and monitoring strategy in the areas like forests, agriculture, natural ecosystems, as well as infrastructure development needs to be a priority in mitigating the climate scenario. India's nationally determined contributions are in line with the NAPCC vision and well-equipped to accelerate India's economic growth in sustainable development. As the assessment made by the Ministry of Environment & Forests in 2007 identified major impacts in six areas.

Identified Areas by Ministry of Environment, Forest & Climate Change in 2007 Assessment

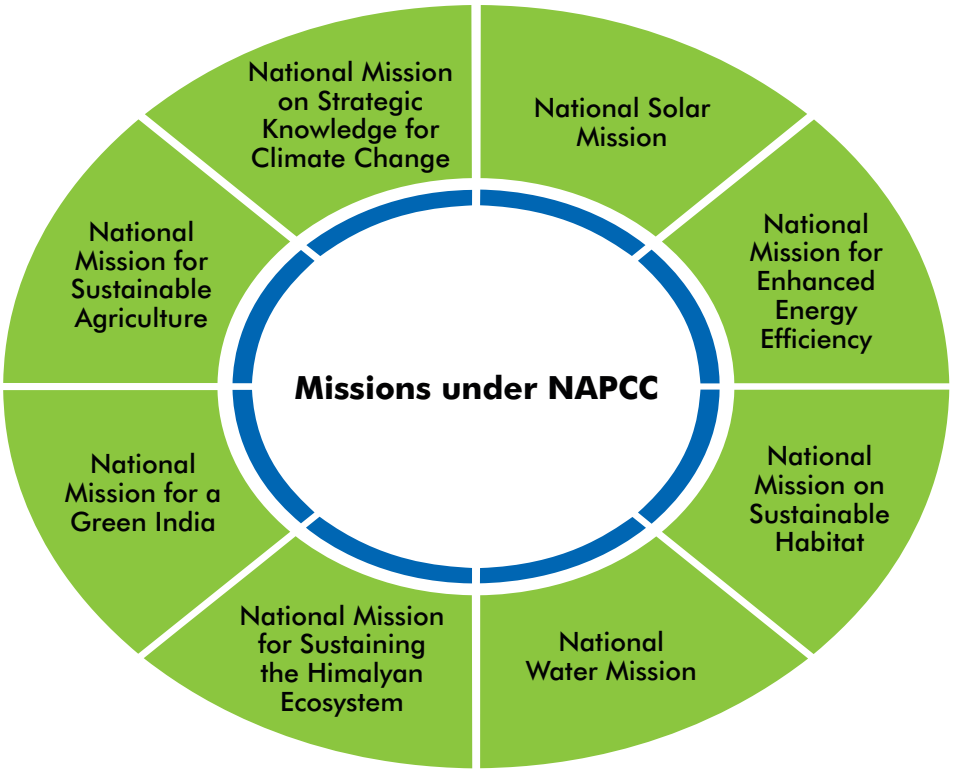


It has recognized the need for a maintenance strategy for increasing the living standards of the Indian population as one of the priorities for the high growth of the Indian economy. This has led to the formation of NAPCC focused on understanding the climate change scenario and its challenges along with adaption and mitigation plans to counter them. It will help to move towards energy efficiency, food security, and natural resource conservation for the holistic sustainable development of the country.

What is National Action Plan on Climate Change (NAPCC)?

In 2008, the Government of India with the vision of adopting a national strategy for the adaption of climate change scenarios and getting ready with mitigation plans to fuel up sustainable development growth of the country, launched the NAPCC. Nearly after 15 years, the strategy still finds its paramount relevance in India's all national commitments made at international forums regards to climate change and thus got an extension till 2025-26.

The national action plan envisaged a consortium of eight distinct missions that combinedly promotes India's climate change adaption and mitigation plan along with energy efficiency and natural resource conservation for sustainable growth.



The vulnerability of the Indian land and the severe impacts of climate change on its vast population was at the core of this national strategy. Thus, the continuous push to increase disposable income and lift their living standard got priority attention to give boost to the high growth rate of the Indian economy. The NAPCC was designed through inclusive principles where climate change adaption strategies will benefit each and everyone in the diversified geographical Indian regions.

Principles of NAPCC

- Protection of Poor through Inclusive and Sustainable Development Strategy that must be Sensitive to Climate Change
- Achieving National Growth and Poverty Alleviation Targets While Ensuring Ecological Sustainability
- Efficient and Cost-effective Strategies for End-use Demand-side Management
- Extensive and Accelerated Deployment of Appropriate Technologies for Adaption and Mitigation
- New and Innovative Market, Regulatory, and Voluntary Mechanisms for Sustainable Development
- Effective Implementation through Unique Linkages with Local Government units, Civil Society, Public-Private Partnerships

Through this strategic intervention, the Government of India has set the right tone to strengthen the fight against climate change when the world was discussing strategies to keep the global temperature within limits. This has later worked as the torch bearer for the making of India's NDC and the launch of the LiFE Mission to promote sustainable growth through the adaption of sustainable lifestyle choices and limited emission intensity.

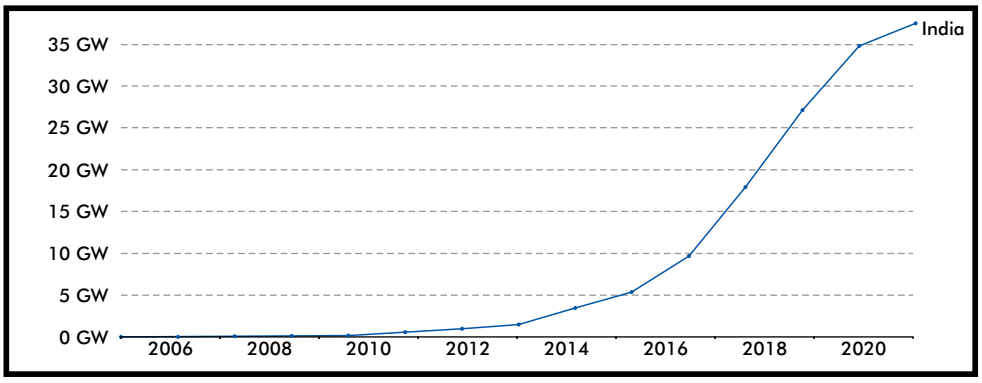
Details of Missions under NAPCC

The missions crafted under NAPCC have given due credit to each aspect of the sustainable development of the country. It encompasses all the specified areas which touch human life, ecosystem, and biodiversity to counter climate change through a comprehensive strategic action plan. The eight missions under NAPCC are well equipped to attain India's updated NDC targets such as achieving the net zero carbon emission level by 2070, 50% of total installed electric capacity through non-fossil fuel sources, etc.

The various departments along with the MoEFCC are working to enhance the capabilities to promote research, knowledge base, and capacity building including the adaption to required technological up gradation related to climate science studies at the global level to strengthen national strategy.

National Solar Mission (NSM)

The mission was launched by the Government of India in 2010 to accelerate India's growth as a global leader in the area of solar power capacity. This was meant to focus on creating an enabling environment for solar technology penetration across the country in three different phases between 2010-2022 and target to achieve a solar power capacity of 100 GW.



Source: https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/mar/doc20223321901.pdf

The 56 solar parks with a cumulative capacity of 39.28 GW across 14 states of the country is giving needed thrust to this mission to transition to green energy solutions. The coordinated efforts under the mission have led to rank India in fourth position globally in terms of solar power capacity.

Solar Rooftop Installation Progress (upto 18 November 2022)

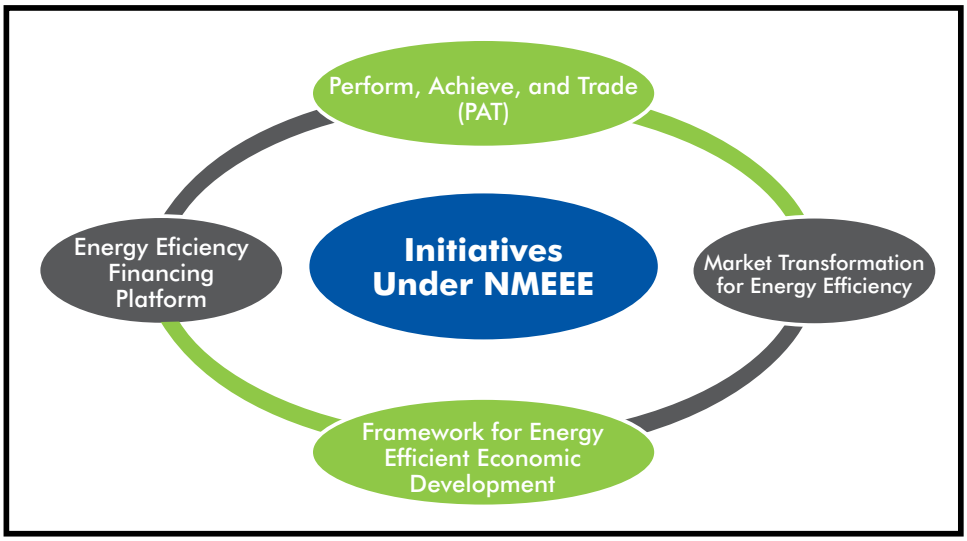
Cumulative installed capacity (with or without CFA)	7.2 GW
Estimated investment*	Rs. 35000 Crore
Capacity sanctioned for Central Financial Assistance (CFA)	Around 5.5 GW (i.e. 2.1 GW under phase I and 3.4 GW under phase II)
Capacity installed with CFA	2.838 GW (i.e, 1.350 GW under phase I and 1.488 GW under Phase II)
Amount of CFA and incentives provided	Rs. 4623.97 Crore

Source: https://pib.gov.in/PressReleasePage.aspx?PRID=1885147

The efforts are also reflected in India's instrumental role in the establishment of the International Solar Alliance (ISA) in 2015 to ease solar energy deployment across the globe through an action-oriented collaborative approach among member countries.

National Mission for Enhanced Energy Efficiency (NMEEE)

The mission was launched in 2011 to strengthen the energy efficiency market in India through the provision of supportive policy regulations that can foster innovation and promote sustainable business models in the domain. The implementation agencies for the mission are the Bureau of Energy Efficiency (BEE) and Energy Efficiency Services Limited (EESL).



The successful implementation of Unnat Jyoti by Affordable LEDs for ALL (UJALA) scheme has revolutionized the Indian energy efficiency market and has shown 140 times growth within 2 years time span. This has addressed the demand side economics of energy efficiency and conservation for energy-intensive industries in India.

Ministry of Power Government of India

BUREAU OF ENERGY EFFICIENCY (BEE) Ministry of Power Government of India, 4th Floor, Sewa Bhawan, R.K. Puram, New Delhi-110 066 Tel. : 011-26179699 (5-Lines), Fax : 011-26178352/28, Website: www.beeindia.gov.in

National Mission on Sustainable Habitat(NMSH)

The mission was launched in 2010 under the Ministry of Housing and Urban Affairs to make sustainable cities that can counter the increasing carbon footprint demands and sustain growth through energy efficiency measures, solid waste management, and modal transport systems to carry forward urban growth.

Key Deliverables of NMSH

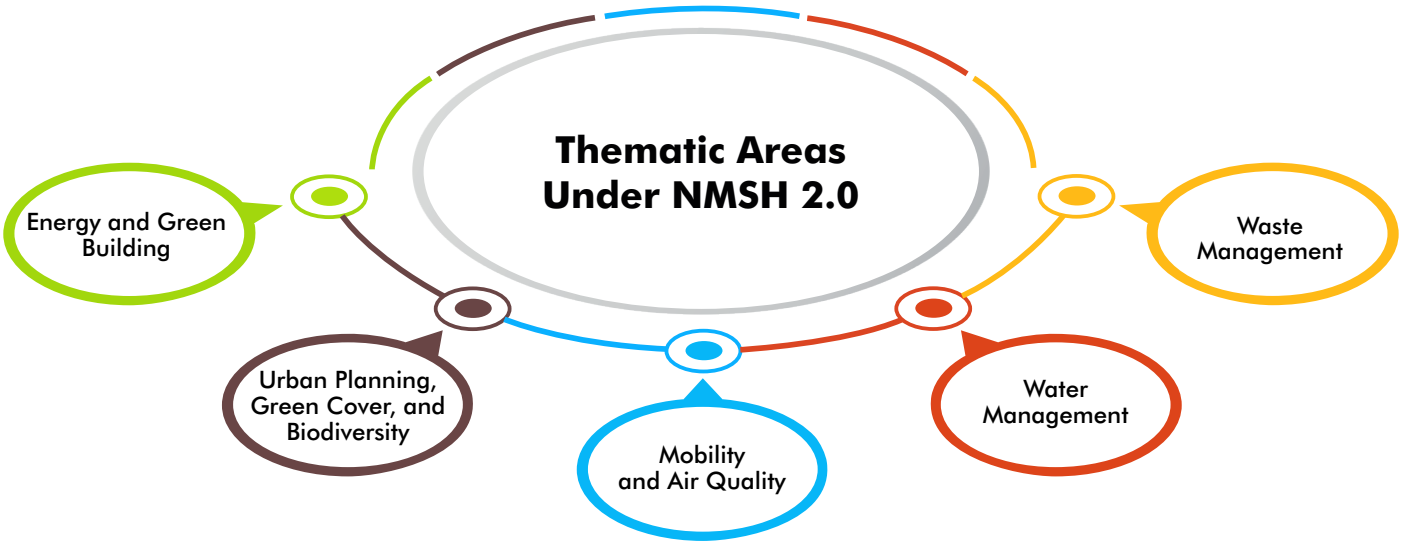
01 Development of Sustainable Habitat Standards Leading to Robust Development Strategies while Simultaneously Addressing Climate Change Related Concerns

02 Promotion of City Development Plans that Comprehensively Address Adaptation and Mitigation Concerns

03 Preparation of Comprehensive Mobility Plans that Enable Indian Cities to Undertake Long-term, Energy Efficient and Cost effective Transport Planning

04 Capacity Building for Undertaking Activities Relevant to the Mission

Cities are the engine of growth and as per Census 2011, India is witnessing rapid urbanization and contributing to around 70% of the total GHG emissions of the country. Thus, the mission is working towards achieving a balanced sustainable development of Indian cities which have diverse yet unique geo-climatic as well as socio-economic conditions including adequate livelihood opportunities with equity, inclusiveness, and disaster resilient ecosystem.



This will prepare urban India with key climate change adaption and mitigation strategies to pump up continuous economic growth with a reduction in net GHG emissions through sustainable social, economic, and environmental practices to cater the future demand.

National Water Mission (NWM)

In 2011, to address the continuously reducing per capita water availability and reducing groundwater tables due to over-exploitation, frequent droughts, and other climate change scenarios like frequent flooding, etc the Government of India launched NWM. It has aim to ensure equitable distribution of water across as well as within Indian cities and conserve water through various processes to increase water use efficiency by 20%.

Goals of NWM

- Comprehensive Water Database in Public Domain and Assessment of the Impact of Climate Change on Water Resources
- Promotion of Citizen and State Actions for Water Conservation, Augmentation, and Preservation
- Focused Attention to Vulnerable Areas including Over-exploited Areas
- Increasing Water Use Efficiency by 20%
- Promotion of Basin Level Integrated Water Resources Management

Some of the prominent initiatives under NWM are the 'Sahi Fasal' Campaign, and 'Catch the Rain' campaign along with the flagship AMRUT scheme. These are focused to scale up urbanization under a water-focused strategy to counter climate change scenarios and promotion of the value of water for the conservation of ecology, biodiversity, and human life.

National Mission for Sustaining the Himalayan Eco-system (NMSHE)

The mission has been coordinated by the Department of Science & Technology to develop the scientific capabilities to assess the vulnerability of the Himalayan Ecosystem towards climate change. It will help the policymakers in formulating developmental plans for the region to intact its health status including the social, cultural, and economic significance.

Objectives of NMSHE

01 Building Human and Institutional Capacities in the Different Existing/ New Institutions in the Himalyan Region

02 Identification of National Knowledge Institutions and Development of a Self Sustaining Knowledge Network

03 Development and Adoption of New Methods for Assessing the Health of the Himalyan Ecosystem including those of Glaciers and Create a Database of the Same

04 Assessment and Quantification of the Changes in the Himalayan Ecosystem Attributable to the Climate Change as a Result of Global Emissions and Human Activities in the Region and Model for Future Projections

05 Exploration of Linking of Traditional and Formal Knowledge Systems through Strategic Mechanism of Formalization for Mutual Benefit and Value for the Sustainability of the Himalayan Ecosystem

The mission is focused to develop national human and knowledge capacities at an institutional level that will lead to evidence-based policymaking and governance to develop a fine balance between nature and human actions. The biodiversity & wildlife conservation and protection in the region with the help of various stakeholders will be the priority while developing a sustainable growth plan to save the traditional knowledge ecosystem of Himalayan communities and their livelihood.

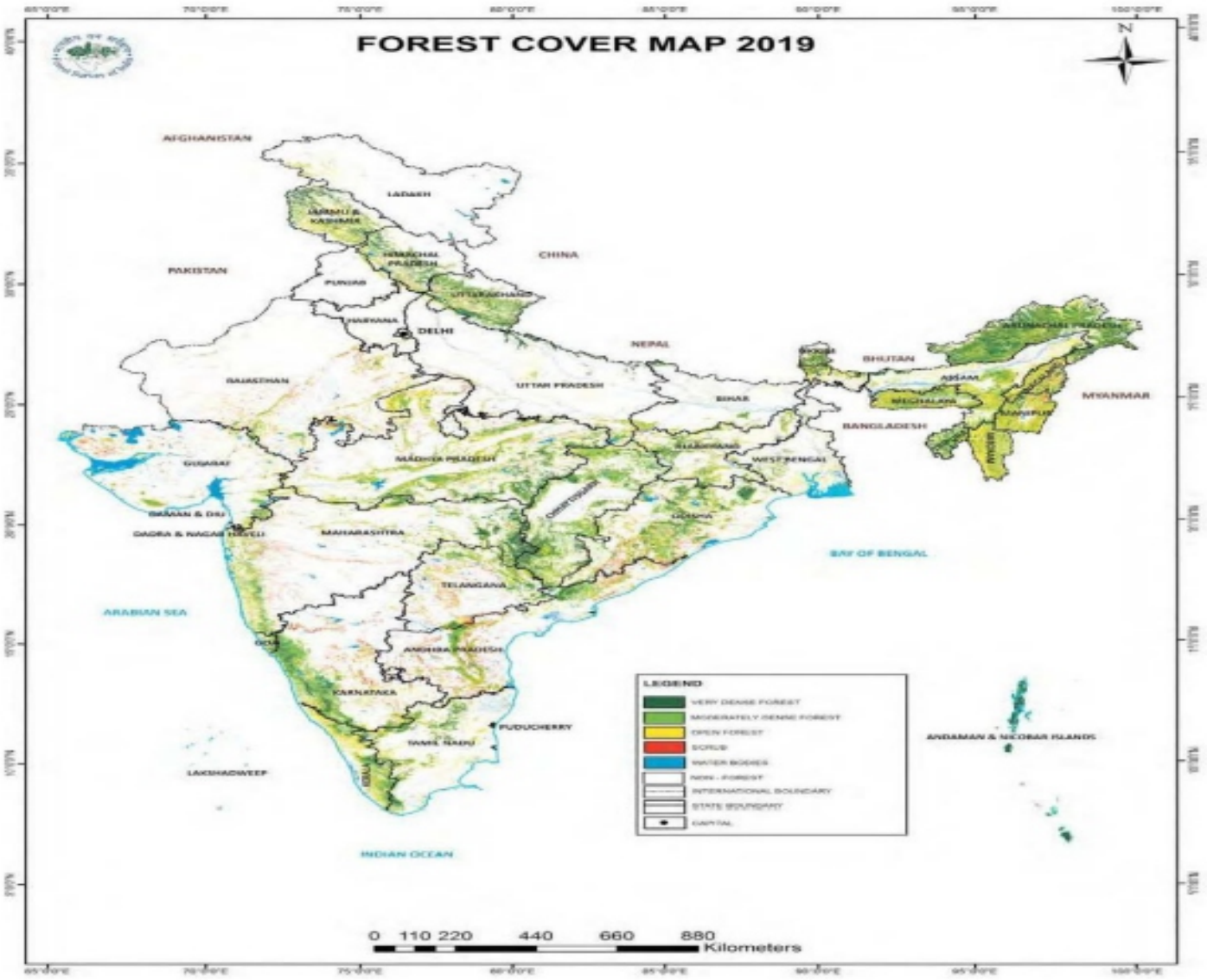
National Mission for a Green India (GIM)

GIM was launched in 2014 as one of the eight missions under NAPCC to safeguard the biological resources of the country from adverse climate change impacts. It has been creating an enabling environment to create the impact of forestry in achieving ecological sustainability and biodiversity conservation along with food and livelihood security as adaption and mitigation measures for green India.

Objectives of GIM

- Increase in Forest/ Tree cover for 5 m ha and imposed quality Forest/Tree Cover of 5m ha on Forest/ Non-forest Lands
- Improvement in Ecosystem Services Like carbon Sequestration and Storage , Hydrological Services, and Biodiversity along with the Provisional Services such as fuel, Fodder, and Timber as well as Non-timber Forest Products.
- Increased Forest-based Livelihood Income of about 3 Million Households

The continuous efforts made under the mission are aimed towards protecting, restoring, and increasing India's green cover with improvement in the quality of forest and tree cover across the country.



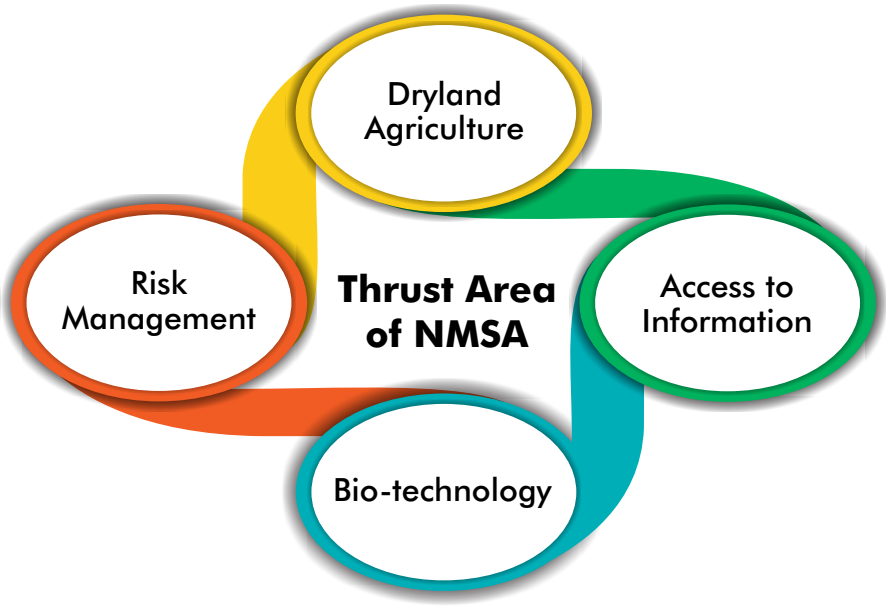
Source: https://unfccc.int/sites/default/files/resource/INDIA_%20BUR-3_20.02.2021_High.pdf

The GIM implementation has been converged through central government schemes Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the Compensatory Afforestation Fund Management and Planning Authority (CAMPA), and National Afforestation Program (NAP). The empowered local community institutions and decentralized forest governance with higher people participation over the years has helped to achieve the targets under the mission along with an increase in India's forest cover with dedicated public and private investment outlay.

National Mission for Sustainable Agriculture (NMSA)

NMSA has been operationalized in the country since 2014-15to increase the productivity, sustainability, remuneration, and climate resilience of the Indian agriculture sector. The mission will also address higher water use efficiency through main streaming rain-fed technologies while improving soil health and fertility.

Agriculture is the source of India's food security and one of the biggest employment sectors, that needs urgent attention against increasing climate vulnerabilities. The change in temperature, rainfall pattern, and other climatic parameters directly impacts the agriculture production system. NMSA thus works for the integration of India's traditional agriculture practices with effective climate-resilient strategies toward natural resource management.



Yearwise GVA Growth Rate of Agriculture and Allied Sector

Year	Food Grains (million tonne)	Horticulture crops (million tonne)	Growth rate of GVA of agriculture and allied sector (at 2011-12 prices)
2016-17	275.11	300.64	6.8
2017-18	285.01	311.70	5.9
2018-19	285.21	310.74	2.4@
2019-20	295.67*	320.48**	(3.7%)#

Source: https://unfccc.int/sites/default/files/resource/INDIA_%20BUR-3_20.02.2021_High.pdf

Under NAPCC, the NMSA made a call to action that covers both adaptions as well as mitigation measures for Indian agriculture and allied sectors such as crop management, animal husbandry, etc to develop a sustainable growth plan with changing parameters and crop patterns for rainfed agriculture.

National Mission on Strategic Knowledge for Climate Change (NMSKCC)

One of the two missions under the Department of Science & Technology, NMSKCC works on developing a vibrant and strong knowledge system to effectively respond to ecologically sustainable development in climate change scenarios to support national growth concerning varying regional and local factors.

Objectives of NMSKCC

- Formation of Knowledge Networks among the Existing Knowledge Institutions Engaged in Research and Development Relating to Climate Science and Facilitate Data Sharing and Exchange through a Suitable Policy Framework and Institutional Support
- Establishment of Global Technology Watch Groups with Institutional Capacities to Carry out Research on Risk Minimized Technology Selection for Developmental Choices
- Development of National Capacity for Modeling the Regional Impact of Climate Change on Different Ecological Zones within the Country for Different Seasons and Living Standard
- Establishing Research Networks and Encouraging Research in the Areas of Climate Change Impacts on Important Socio-economic Sectors like Agriculture, Health, Natural Ecosystem, Bio-diversity, Coastal Zones, etc
- Providing an Improved Understanding and Awareness of the Key Climate Processes and the Resultant Climate Risks and Associated Consequences
- Building Alliances and Partnerships through Global Collaboration in Research & Technology Development on Climate Change under International and Bilateral Science & Technology Cooperation Arrangements

These eight strategic missions under NAPCC formulated coordinated framework for rapid climate change adaption and mitigation strategies for sustainable development to accelerate India's socio-economic growth across the sectors. This will also help to achieve SDG targets and find climate-resilient innovative solutions to revolutionize India's quest for energy, water, and food security while addressing the challenges that arise from rising temperatures and ecological disturbance over time.

India's Climate Change Negotiations

Since the beginning of climate change talks concerning the first acceptance of the global community towards the scientific view of keeping the rise in global temperature below 2 degrees, India took the front seat for climate change negotiations. To limit the worst irreversible impacts of climate change for mankind and the earth in the Copenhagen Accord to the Paris Agreement of 2015 where the nations need to submit their NDCs to achieve the targets set under the legally binding agreement as part of Common but Differentiated Responsibilities under UNFCCC framework, India's role is always appreciated at the global forums.

India with the vision of 'Vasudhaiv Kutumbakam' means 'The World is Family' has played a pivotal in addressing the climate change paradigm along with the formulation of the green economy concept for sustainable development.

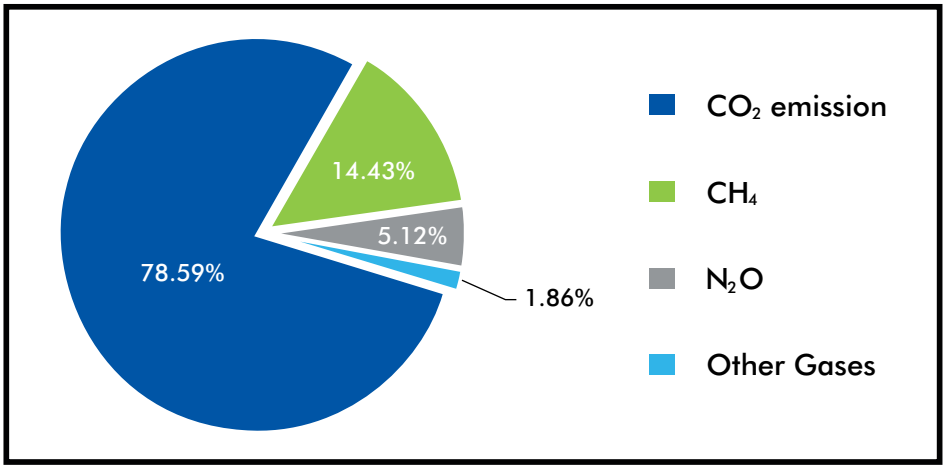
India is one of the parties in the global climate negotiations of UNFCCC in Kyoto Protocol, and Paris Agreement. It has played a lead role in the negotiations regarding the transfer of technology and finance from developed countries to developing and vulnerable countries to help address the climate challenges. India has formalized the policy framework for market-based mechanisms to counter climate change such as carbon trading, and green financing over the years.

India even not being the part of problem, is working towards fulfilling its shared responsibility for sustainable future development with its ambitious NDC targets. It has led the considerable debate on the 'fair share' of the carbon budget to counter climate change challenges and achievement of SDG targets within the time frame.

Possibilities and Challenges

The rising Green House Gas (GHG) emission level to support India's economic growth over time, has got primary attention on policy formulation. The rising temperature across the globe is a major concern, and reduction in GHG emissions is paramount to counter the burgeoning impacts of climate change. India being a developing country needs to bear its share of the responsibility to choose the cleaner path of development to sustain growth across the sectors.

Share of Different Types of Gas Emissionsin Indiafor 2016



Source: https://unfccc.int/sites/default/files/resource/INDIA_%20BUR-3_20.02.2021_High.pdf

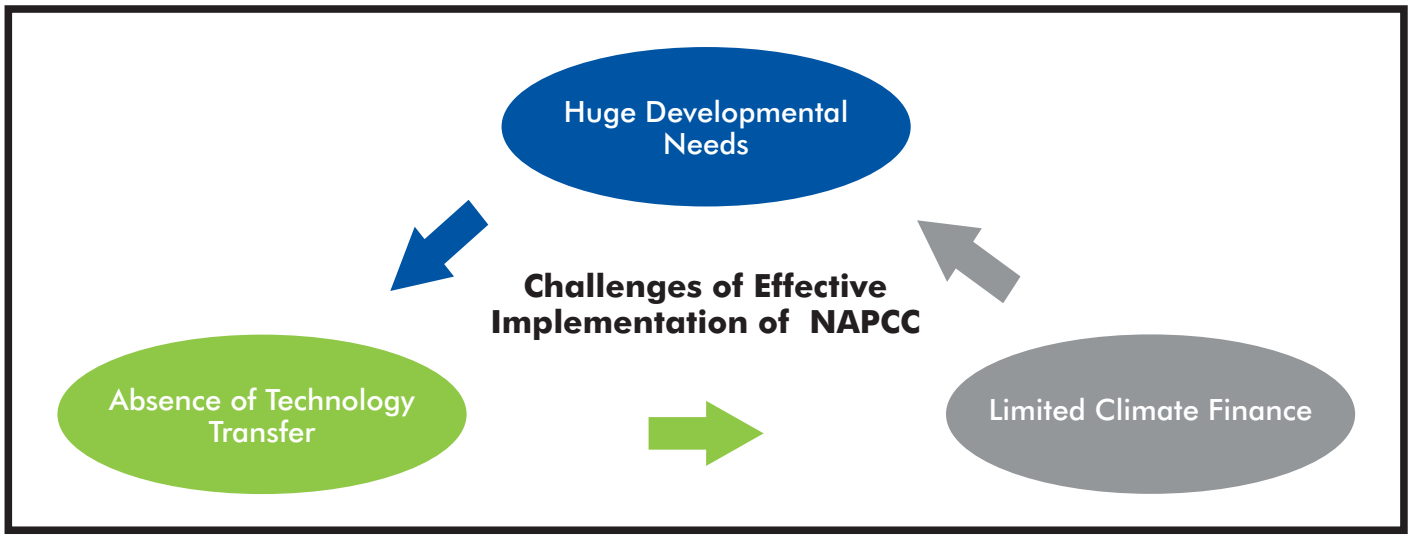
In the post2020 period, when Paris Agreement came into force, India has given its best shot to increase renewable power capacity along with the reduction in GHG emissions while setting ambitious targets in its updated NDC. This is helping India to strive fast towards a clean energy transition and deliver sustainable development through green investments and open up new avenues of possibilities under NAPCC.

Prospectsof the NAPCC Success

- India's Contribution to Global Emission (Cumulative as well as Annual Basis) is Below its Equitable Share of the Global Carbon Budget
- India's High Ambition towards Increasing Capacity of Renewable Energy
- India's Leading Multilateral Global Effort in Climate Action such as LiFE Mission, International Solar Alliance, Coalition for Disaster Resilient Infrastructure, etc
- Establishment of National Adaption Fund for Climate Change
- Research & Development Programmes to Support Climate Adaption across the Sectors including Agriculture, Energy, Horticulture, Water, Livestock Ecosystems

Collated & Summarised by "Research Team" - AG Horizon Pvt Ltd

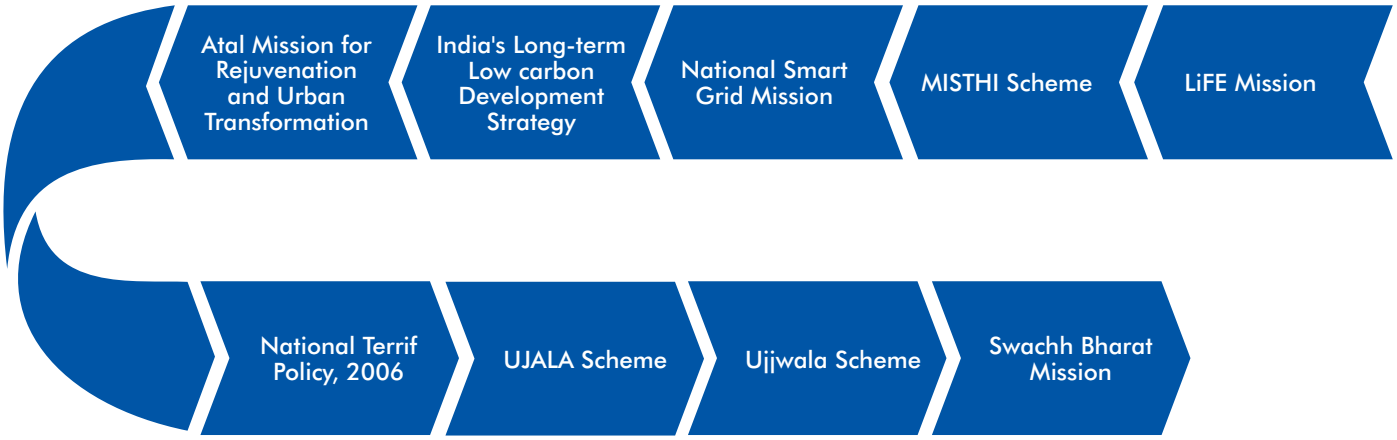
This effort in a cumulative framework, speaks volumes in terms of India's climate action plan based on its resource in the absence of climate finance and technology transfer from developed nations. Thus, the standalone effort in climate change adaption and mitigation strategies even invulnerable geographical as well as climatic scenarios is widely acknowledged through international and independent assessments globally despite several challenges.



India with major people participation is making significant changes in the Progress of NAPCC while addressing the various developmental needs across the sectors through sustainability. The policy imperatives in line with environmental sustainability have integrated climate actions with India's traditional knowledge system to bring relief to human life, livelihood, biodiversity, and the ecosystem altogether.

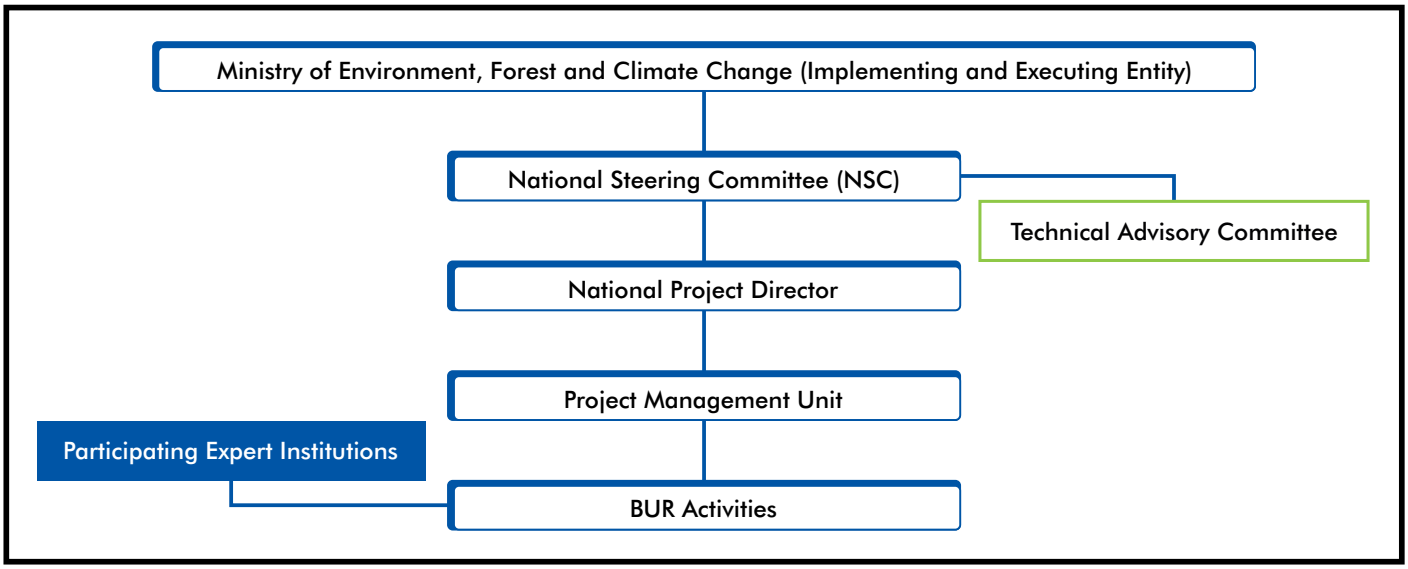
Government Policy Support to NAPCC

The Government of India under NAPCC has made major efforts to create collective impacts across the sectors like power generation, energy efficiency, renewable energy, sustainable agricultural practices, etc. This has led to India's extraordinary performance on climate change-related markers in the SDG ranking over the years. Besides this, some of the national initiatives have given due support to NAPCC over time.



Besides this, under a national communication framework, the biennial periodic assessment report for climate change scenarios including corresponding adaption and mitigation strategy through MoEFCC has also helped in close monitoring of climate-related measures through expert engagements.

Institutional Framework for Preparation of National Communication on Climate Change



Source: https://unfccc.int/sites/default/files/resource/INDIA_%20BUR-3_20.02.2021_High.pdf

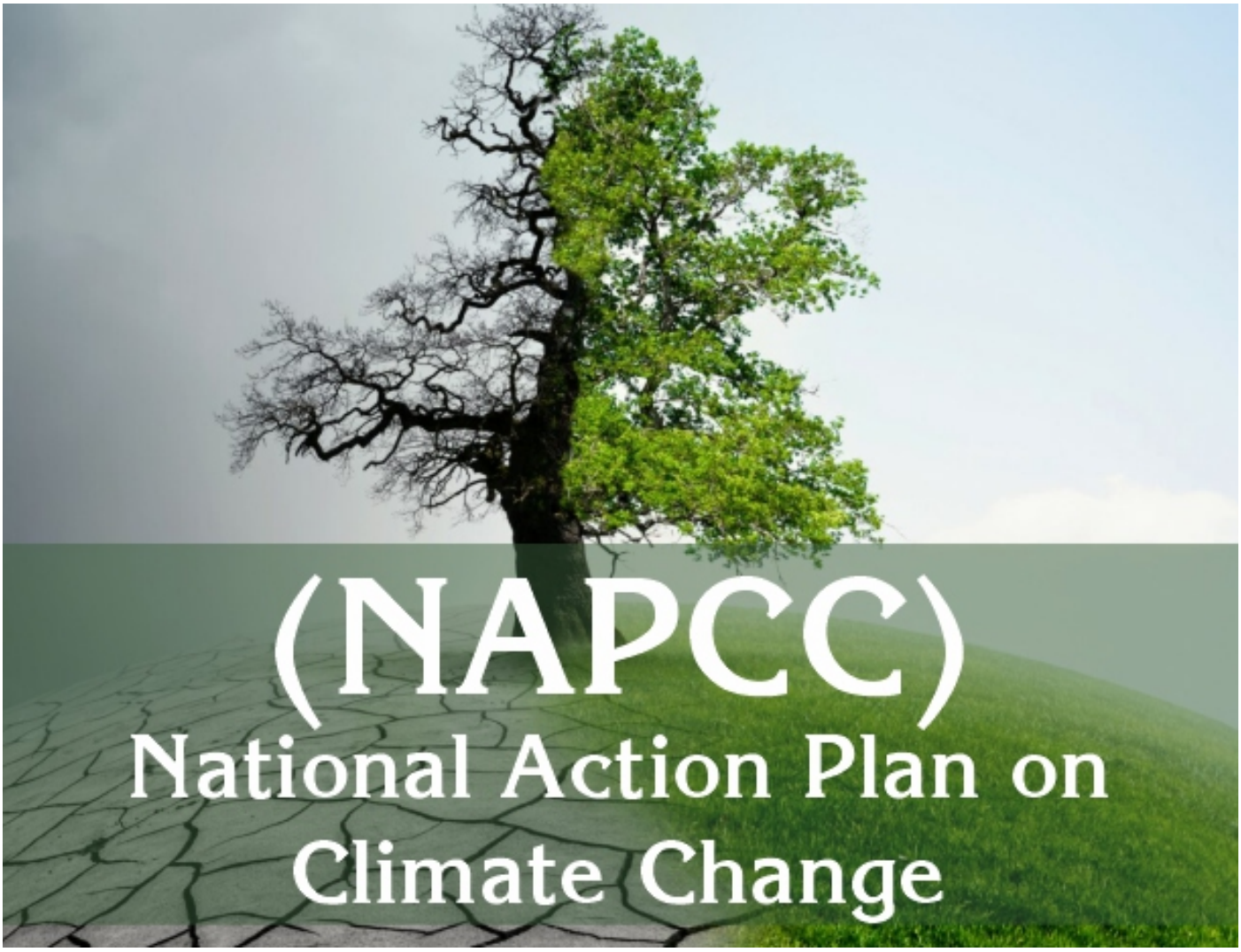
Thus, holistic policy support is helping India to find the way towards a clean and green India where sustainable development has been streamlined to deliver the best results and showcase great outcomes to the global community. The government's approach to coordinating the NAPCC with the NDC commitments has also increased the relevance and scope of the national action plan for addressing contemporary social, economic, and environmental concerns.

Way Forward

For the effective implementation of NAPCC and to achieve global climate targets, a more focused approach to implementation will be needed. The close monitoring, evaluation, and assessment along with increasing the ambits of the national mission to cover the coastal ecosystem, healthcare, sustainable transportation, etc will enhance the performance further.

This will further strengthen the strategy to reduce emission intensity across the sectors and achieve a low carbon growth track to face the future challenges of climate change. Adding more specific ities to the broad objectives of the missions listed under NAPCC will enhance the effectiveness to measure and assess quantified targets. The technical capacity building and community engagement at the core will bring new energy to the implementation of these broad missions in the availability of limited public expenditure.

Besides this, engaging actively with UNFCCC in multilateral negotiations related to climate change will help India to find global support and develop international collaborations to adopt innovative technologies to address climate change and reduce emission intensity. This will also provide India a platform to showcase its capabilities in the area of climate change adaptation and mitigation by limiting its vulnerabilities for sustainable development growth in the years to come.



Expert Insights

Since climate change is a global collective action problem, India firmly believes in global cooperation to deal with the challenge through multilateral processes. India is a Party to the United Nations Framework Convention on Climate Change (UNFCCC), and its Kyoto Protocol (KP), and the Paris Agreement (PA). Even though, India is not part of the problem, it is part of the solution, and has done far more than its fair share in addressing the climate change.

The Government of India stands committed to combatting climate change through its several programmes and schemes including the National Action Plan on Climate Change (NAPCC) which comprises missions in specific areas of solar energy, energy efficiency, water, sustainable agriculture, Himalayan ecosystem, sustainable habitat, green India, and strategic knowledge for climate change.

Shri Ashwini Kumar Choubey,
Minister of State, Ministry of Environment, Forest & Climate Change
Government of India

Resources

1. https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/dec/doc202112101.pdf
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24. https://pib.gov.in/PressReleseDetail.aspx?PRID=1782217

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Electric Vehicle		Animal Husbandry	Healthcare	Climate Change
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