

# A Critical Study of National Action Plan on climate change and State Action Plan on climate change

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## ARTICLE DETAILS

### Article History

Published Online: 30 November 2017

### Keywords

Climate Change  
Sustainable Development  
NAPCC  
SAPCC

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## ABSTRACT

*A wide pool of environmental challenges confront us today which is leading to continuing deterioration of the ecosystems on which we depend for our well being. The pressing problems related to climate change and environmental management is definitely an urgent call for enhancing the ways of sustainable development. A significant global initiative emerged in 1992 in the form of an international treaty, the United Nations Framework Convention on Climate Change (UNFCCC). Countries joined in to consider cooperatively what they could do to limit average global temperature increase and the resulting climate change. In line with global commitment and responsibility, India has taken up a major initiative in the form of National Action Plan on Climate Change (NAPCC) and attempts are made to link State Action Plan on Climate Change (SAPCC) with NAPCC on the same ground. Sustainable development is the priority agenda of the NAPCC and SAPCC. The paper focuses on the goals of NAPCC and analyses the journey so far on the part of NAPCC and SAPCC. The hurdles faced by NAPCC and SAPCC are provided with appropriate suggestions to speed up the mission of sustainable development.*

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## INTRODUCTION

The evidence of climate change can be viewed on a wide platform. Almost every sphere of life is affected and will be affected directly or indirectly as a result of climate change. The gradual change in environmental trends poses the power to radically alter the planet that threatens the lives of many species including the human species. Each year witnesses the conversion of million hectares of productive dry land into worthless desert. Million hectares of forests are destroyed yearly. Acid precipitation kills forests and lakes. It has the capacity to acidified vast tracts of soil which can't be repaired later on. The burning of fossil fuels releases into the atmosphere carbon dioxide, which is causing global warming. The 'greenhouse effect' have led to increased average global temperature which will result in a shift in agricultural production areas, raise sea levels to flood coastal cities, and disrupt national economies. Other industrial gases threaten to deplete the protective ozone shield of the planet to such an extent that will led to a sharp rise in the number of human and animal cancers and this will also result into a disruption in oceans' food chain. On the other hand as a result of industrial and agricultural activities toxic substances are released into the human food chain and into underground water tables beyond reach of cleansing.

All these pressing problems of environmental management gave rise to a new concept known as Sustainable development which further gave birth to policy measures to support and strengthen the concept of Sustainable development. The term was used by the Brundtland Commission which coined what has become the most often-quoted definition of sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." All definitions of sustainable development require that we see the world as one. The field of

sustainable development can be conceptually divided into four general dimensions: social, economic, environmental and institutional. The first three dimensions deals with key principles of sustainability, while the final dimension addresses key institutional policy and capacity issues. The problems we face are complicated and serious and we cannot address them in the same way we created them. But we can address them. Fulfilling the needs of the future depends on how well we balance social, economic, and environmental objectives. In the short term many of these objectives may seem to conflict with each other. Yet responsible use of natural resources now will help ensure that there are resources available for sustained development in the long term. Sustainable development as an emerging issue attempts to solve a number of inter-related global issues such as poverty, inequality, hunger and environmental degradation. In theory development that is sustainable and at the same time not damaging to the planet is very possible. Though, in reality there are a lot of issues and challenges that need to be tackled. However, the record on the path of sustainability so far appears to have been quite poor. Therefore keeping in view the long term perspective of development of society we must seek growth in a sustainable manner. The challenge of reconciling economic growth, social development and preservation of the natural environment is widely viewed as the single greatest issue among the global community.

## NATIONAL ACTION PLAN ON CLIMATE CHANGE (NAPCC)

On 30 June 2008, the Prime minister released India's National Action Plan on Climate Change (NAPCC). The document was intended to provide a concrete roadmap detailing how India plans to move forward in combating climate change. India is faced with the challenge of sustaining its rapid economic growth while dealing with the global threat of climate change. The goal is development and climate change

is a major problem because it could hurt development targets. Without a careful long-term strategy, climate change may undermine our development efforts, with adverse consequences, across the board, on our people's livelihood, the environment in which they live and work and their personal health and welfare. The objective is to establish an effective, cooperative and equitable global approach based on the principle of common but differentiated responsibilities and relative capability. We must not only promote sustainable production processes, but equally sustainable lifestyles across the globe. NAPCC claims that even as India pursues its development objectives, at no time will its per-capita emissions surpass those of the developed countries. The approach that the NAPCC proposes is a directional shift in the development pathway that promotes development objectives while also yielding co-benefits for addressing climate change effectively. The NAPCC sets out eight "National Missions" as the way forward in implementing the government's strategy and achieving the National Action Plan's objective. The focus of these missions is on "promoting understanding of climate change, adaptation and mitigation, energy efficiency and natural resource conservation. The missions' are-

- National Solar Mission
- National Mission for Enhanced Energy Efficiency
- National Mission on Sustainable Habitat
- National Water Mission
- National Mission for Sustaining the Himalayan Ecosystem
- National Mission for a Green India
- National Mission for Sustainable Agriculture
- National Mission on Strategic Knowledge for Climate Change

The National Mission for Enhanced Energy Efficiency is basically targeted at Industry, which, according to the NAPCC, accounts for 42% of the country's total commercial energy use (2004-2005) and 31% of total CO<sub>2</sub> emissions (1994). The National Mission on Sustainable Habitat aims to make habitats more sustainable through a threefold approach that includes improvements in energy efficiency of buildings in residential and commercial sector, Management of Municipal Solid Waste (MSW), Promote Urban Public Transport. The NAPCC claims that use of energy efficient options could help achieve 30% electricity savings in new residential buildings and 40% in new commercial building. For existing buildings the corresponding savings are 20% and 30% respectively.

The National Mission for a Green India aims at enhancing ecosystem services such as carbon sinks. It builds on the Prime Minister's Green India campaign for afforestation of 6 million hectares and the national target of increasing land area under forest cover from 23% to 33%. It is to be implemented on degraded forest land through Joint Forest Management committees set up under State Departments of Forests. The Green India programme suggests: Training on silvicultural practices for fast-growing and climate-hardy tree species. Reducing fragmentation of forests by provision of corridors for species migration, both fauna and flora. Enhancing public and private investments for raising plantations for enhancing the cover and the density of forests.

#### MAJOR DEVELOPMENTS IN THE FIELD OF NAPCC

##### Jawaharlal Nehru National Solar Mission (JNNSM)

- Welspun Solar Madhya Pradesh Private Limited (WSMPPL), a wholly owned subsidiary of Welspun Renewable Private Limited, has won a 125 MW Solar PV Project in Madhya Pradesh. This is the highest capacity to be awarded to any Indian entity in the solar space till date.
- MoU of 10000 MW with Adani Enterprises Limited in Rajasthan.
- MoU of 6000MW with Reliance power Limited in Rajasthan.
- MoU of 5000MW with Essel Infrastructure Limited in Rajasthan
- Government to kickstart its 100,000 MW Solar energy Plan soon.
- Salem Railway Junction gets Solar Power Plant.
- Revised Draft Guidelines for implementation of scheme for setting up of 2000MW Grid-connected Solar PV Power Projects under JNNSM, Batch-III.
- Solar Capacity addition dips 12% in 2014. However 2015 is expected to witness strong and new capacity addition.
- Punjab's solar mission wins accolades.
- Wind energy mission addition awaits nod.
- Draft Guidelines for selection of 3000MW Grid-connected Solar PV Power Projects under Batch-II Tranche- I "State Specific Bundling Scheme".
- Chhattisgarh state achieved 7.10 MW grid from solar projects.
- Norms for 3,000MW solar projects released.
- PM's Panel on Climate Change to be reviewed
- Energy Department flags free land to green power developers.
- The new government doubles UPA's solar mission targets.
- Draft Scheme for development of Solar Parks and Ultra Mega Solar power projects.
- The Development of Mini- Grids based on renewable energy sources such as solar PV, biogas and small hydro has been a successful venture in India.
- The Indian solar industry has been maturing at a rapid speed, growing more than a hundred fold in four years to reach over 2.6 Giga Watts (GW) of installed capacity in 2014.

##### NATIONAL MISSION FOR ENHANCED ENERGY EFFICIENCY (NMEEE)

- The Ministry of Environment, Forests and Climate Change has prepared a Draft Guidelines for conservation, development and management of urban greens.
- NMEEE spell out four initiative to enhance energy efficiency, in addition to the programmes on energy efficiency being pursued by MOP and BEE:
  1. A market based mechanism to enhance cost effectiveness of improvements in energy efficiency in energy-intensive large industries and facilities, through certification of energy savings that could be traded i.e. PAT (Perform Achieve and Trade).

2. Accelerating the shift to energy efficient appliances in designated sectors through innovative measures to make the products more affordable i.e. MTEE (Market Transformation for Energy Efficiency).
3. Creation of mechanism that would help finance demand side management programmes in all sectors by capturing future energy savings i.e. EEEP (Energy Efficiency Financing Platform).
4. Developing Fiscal instruments to promote energy efficiency named FEEED (Framework for Energy Efficient Economic Development).

#### NATIONAL MISSION ON SUSTAINABLE HABITAT (NMSH)

- Proposals are being developed to support pilot/demonstration project for the cause of promoting sustainable habitat to the extent of about 10% of the capital cost, for best practises in connection to energy efficiency.
- Formation of sub- committees to set NMSH standards/benchmarks for urban local bodies on municipal solid waste management, urban storm water management, urban water supply and sewerage, urban planning and urban transport.
- An individual report has been submitted by each sub- committee.
- Under the 13th Finance Commission a provision of Rs.26000cr. has been made for urban and local bodies.

#### NATIONAL WATER MISSION (NWM)

- States, Union Territories urged to set up water missions.
- Operational research to support mainstreaming of integrated flood management under climate change.
- Cabinet nod to water mission document.

#### NATIONAL MISSION FOR SUSTAINING THE HIMALAYAN ECOSYSTEM (NMSHE)

- A Report has been submitted by the expert committee set up for the preparation of a Detailed Project Report (DPR) on the proposed National Centre for Himalayan Gaciology.
- On 9th April 2010, the Ministry of Environment and Forest (MoEF) in collaboration with China, Nepal, and International Centre for Integrated Mountain Development (ICIMOD) and United Nations Development Programme (UNDP) has initiated a Kailash Landscape Protection Project.
- On September 2009, a document titled 'Governance for Sustaining Himalayan Ecosystem: Guidelines and best practises (G-SHE)' was released.

#### NATIONAL MISSION FOR A GREEN INDIA (GIM)

- Green India Mission converged with MGNREGA to reclaim forest.
- Government to push Rs.46000 cr. Mission to increase forest cover.
- Cabinet likely to clear Rs.13 cr. for green mission.

- Conservation of biodiversity and ecosystem services by REDD+ Project in India.
- As per the 14th Finance Commission, the criteria used for devolution has accorded 7.5% weight to 'Forest Cover'.

#### NATIONAL MISSION FOR SUSTAINABLE AGRICULTURE (NMSA)

- It is designed to be operational by mainstreaming adaptation and mitigation strategies in ongoing research and development programmes along with flagship schemes such as Rashtriya Krishi Vikas Yojana (RKVY), National Horticulture Mission (NHM), National Food Security Mission (NFSH) and National Agriculture Insurance Scheme (NIAS).
- The Modified National Agricultural Insurance scheme (MNIAS) has been approved and takes into account some recommendation provided by the NMSA.
- The Indian Council of Agricultural Research is undertaking the National Initiative on Climate Resilient Agriculture (NICRA) which aims to scale up outputs both through Krishi Vigyan Kendras and the MNSA for wider adoption by farmers.
- Components to the NICRA encompasses strategic research on adaptation and mitigation for which institutions and research areas have been chosen, technology demonstration to solve the issue of current climate variability in 100 vulnerable districts.
- NICRA has been allocated a sum of Rs. 350 cr.

#### NATIONAL MISSION ON STRATEGIC KNOWLEDGE FOR CLIMATE CHANGE (NMSKCC)

- 'Building Human and Institutional Capacities', a focus of the mission was launched with SCOPUSTM data which provides a list of 100 institutes and 100 scientists of which institutes were invited to submit proposals for 15 topics in four broad categories: establishing and strengthening a centre for excellence (CfE).
- So far atleast two thematic Knowledge networks have been set up.
- A National Data Sharing and Access Policy (NDSAP) have also been launched.
- Indian Network for Climate Change Assessment (INCCA) has released "Climate Change and India: A 4x4 assessment" to address concerns in relation to the effects of climate change and on natural resources and livelihoods.
- The process of formulating professor- chairships for the next five years has been started.

#### STATE ACTION PLAN ON CLIMATE CHANGE

The Indian Ministry of Environment, Forests and Climate Change (MoEF & CC) has asked all Indian States to develop action plans to define how they intend to undertake activities and programmes aimed at climate change adaptation and mitigation. This State action Plan on Climate Change (SAPCC) should be in line with the objectives of the National Action Plan on Climate Change (NAPCC) and ensure its

implementation at State level. Some tables have been included SAPCC as incorporated by the various states. on the performance of SAPCC and other dimensions of

**Table 1: Evaluation of SAPCC for select States**

Criteria	West Bengal	Sikkim	Haryana	Karnataka	Rajasthan	Orissa
Climate profile:(GHG emissions, inventories and climate scenarios)	Provides details on observed changes in climate and future climate projections. Plan does not provide any details about the GHG emissions pattern in the State. GHG inventory data is in the process of being prepared and will be available in the final version of the action plan.	Provides details on observed changes and future projections on climate change. The plan does not provide any details about the GHG emissions in the State.	Provides detailed assessment of climate change scenarios along with future projections on climate for the State. Provides assessment of GHG emissions by sector for the year 2005-06.	Detailed assessment provided on climate change scenarios, projected change in climate and information on sector wise GHG emissions for the State based on recent studies (2011) by Bangalore Climate Change Initiative- Karnataka	Provides details on observed changes in climate and future projections on climate change. Provides an account of GHG emissions inventory across sectors and districts in the State (1995 data).No recent study on GHG emissions structure for the State.	Does not provide any details on current status, future projections on climate change. There is no information provided on GHG emissions for the State.
Assessment of vulnerabilities	Emphasizes the need to assess vulnerabilities	The plan provides details on the likely impacts and vulnerabilities due to climate change on various sectors such as – water resources, agriculture, bio-diversity, hydro power generation, habitat and transport. The plan also provides detailed vulnerability assessment of rural communities.	The plan provides details on the likely impacts and vulnerabilities due to climate change on various sectors such as –water, forest, agriculture and human health.	BCCI- K (2011) has prepared a district wise vulnerability index for Karnataka based on the following dimensions demographic and social, occupational, agricultural and climate. Proactive in conducting vulnerability assessments	Emphasizes the need for vulnerability assessment and relevant research to be undertaken	Emphasizes the need for vulnerability assessments and relevant research to be undertaken.
Prioritization of strategies	In depth sectoral analysis done to identify key Priorities. Sectoral experts were consulted for guidance towards prioritization	In depth sectoral analysis done to identify key priorities. Priorities were identified by conducting workshops for different working groups.	No explicit mention of prioritization of strategies.	Key priorities identified for each sector. No explicit mention of the approach used for prioritization	Key priorities have been identified by taking into account national policies, sectoral strategies under the national missions and State level	The working groups developed a prioritization approach to create a distinct list of priorities by categorizing them into high, medium and

					priorities, through multi-stakeholder consultations and interactions	low priorities. Each working group identified 10- 12 key priorities for the five year period 2010- 15. The priorities were then shared with external stakeholders to obtain feedback.
Inter-Departmental Coordination	No explicit mention. Plan proposes to set up an institute for climate change which will be responsible for tracking research from different departments and also undertaking its own.	No explicit mention.	Constitution of Climate Change Authority in the State is being planned to facilitate coordination among various departments.	No explicit mention.	Climate change and Clean Development Mechanism Cell was set up in April 2010 under the Rajasthan Pollution Control Board.	Plan proposes setting up of a State Climate Change Agency for coordination.
Cost Assessment1	Cost assessments have been provided for most sectors except horticulture, livestock and energy efficiency.	Cost assessments provided for all sectors identified in the action plan.	Cost assessments provided for all sectors identified in the action plan.	No cost assessments provided.	Cost assessments are not provided for many of the strategies in the following sectors- energy, urban governance and development, and water	Cost assessments have been provided for all sectors mentioned in the action plan.
Identifying sources of Finance	No sources of funding identified.	No sources of funding identified.	No sources of funding Identified	No sources of funding identified.	No sources of funding Identified	Yes, identified sources for every action
Targets	Actions proposed for strategies are defined more in terms of goals rather than targets, Fisheries sector has well- defined targets	No specific targets for most sectors except for some sectors like water. Clear timelines have been provided for all actions.	Well defined targets for most sectors like forestry, renewable energy and energy efficiency (not strategy wise) and health.	No specific targets or time frames indicated for most initiatives	Physical and financial targets have been provided for most sectors based on information received from various government departments. Targets yet to be assigned for certain	No targets specified.

					activities, especially those that require interdepartmental coordination.
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Source: Compiled from various State Action Plans for Climate Change

**EVALUATION OF NAPCC AND SAPCC AND APPROPRIATE SUGGESTIONS**

The purpose of the paper has been to produce a rapid assessment of the obstacles and opportunities in the implementation of NAPCC and SAPCC and henceforth provide appropriate suggestions. The NAPCC was adopted so as to mitigate the impact of climate change but on its course many hurdles were experienced and many loopholes evolved. To start with Power from solar energy contributed only 0.41% of overall power demands in India in 2013- 14. A Cumulative Installed Capacity (CIC) of 100 GW of solar power by 2021- 22 would help scale up India’s solar capacity. On the other side weak agriculture extension services and insufficient credit and insurance availability to poor farmers is a big challenge and situation will worsen if proper attention is not paid as warming intensifies? The mission on sustainable agriculture does not encounter the needs and challenges of marginal and poor farmers. The need of the hour is to identify and scale up successful sustainable farming practices in different agro-climate zones to address food security and to tackle the issue of climate change. The problem of fuel and fertilizer shortage in farming is not addressed in this mission. It is similar to past policies and misses the urgency of the problems in the agricultural sector. The mission does not adequately address the issue of reducing the rate of forest diversion. In spite of many strong points in the incorporation of NMEEE it may be difficult to achieve substantial improvements in energy in the absence of targets both at the national and state levels. The magnitude of the problem magnifies as there is a serious lack of capacity in research (both public and private) and difficulty in obtaining finance for promoting energy efficiency across various sectors. The energy sector has witnessed a low carbon pathway for the past 20-30 years, and this mission brings little novelty to the sector. PAT currently covers and focuses only large scale manufacturing industries while smaller scale industries which may be more polluting are not affected by the scheme directly. In the two important sectors of the document on urban transport and planning no attention is paid to the poor and vulnerable. Very little attention is paid towards the establishment of research programmes on the unique and vastly diverse ecosystems and matrix of microclimates of the Himalayas. In order to make India a global leader in solar energy, research capacity has to be enhanced substantially. Sufficient safeguards need to be implemented in order to prevent the proliferation of spurious suppliers and low quality products. The Department of Science and Technology is not involved in interdisciplinary research, which is the key to address the issue of climate change. In the context of the NAPCC, it has become imperative for all states in the country to have programmes of action that tune national initiatives to regional and local socio-economic and ecological conditions. This has resulted in the formulation of State Action Plans on Climate Change. The SAPCCs specifies current and future development scenarios and likely impact of climate change, and identify vulnerable areas, sectors and communities and associated risks. On the basis of this assessment, each state has come up with its own list of activities to address these issues in specific sectors that are in line with the national climate missions. But progress of

states towards achieving these goals is likely to stumble over familiar stumbling block: financing successful implementation of the SAPCCs will depend on how well the plans are written, prioritization of actions according to a well-defined set of criteria and clarity of objectives and targets. How well the State Action Plans are aligned with the national missions and State’s strategies to leverage national and international funds will decide its potential to raise resources. There needs to be synergies between Central expenditure and State finances and actions. Appropriate institutional mechanisms need to be created for Centre- State disbursements of public (domestic) funds. The creation of a suitable climate for climate change demands prudent economic policies and management, an effective and predictable public administration, the merger of environmental concerns into decision making and progress towards the goal of sustainable development in the light of state- specific conditions.

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