

- Bioremediation and biomining of landfill sites have also been undertaken in Delhi.
- Number of mechanised road sweeping machines has been increased significantly and presently 60 machines are deployed for cleaning of roads in Delhi.

Construction and Demolition (C&D) Activities

- SoPs and notification regarding dust mitigation measures for construction and demolition activities have been issued.
- Three C&D waste processing plants with 2650 TPD capacity are operational in Delhi. About 2 lakh ton of end products have been used this year till August.

Monitoring

- Notification of National Ambient Air Quality Standards in 2009 and launch of National Air Quality Index in 2015.
- Ambient air quality is monitored at 793 locations covering 344 cities in 28 States & 7 Union Territories (UTs) across the country under National Air Quality Monitoring Programme (NAMP). Under NAMP, PM_{2.5} is monitored at 274 locations covering 132 cities.
- Implementation of Air Quality Early Warning System for Delhi in October, 2018 in association with Ministry of Earth Sciences (MoES). The system provides timely alerts to implementing agencies for facilitating proactive actions.

Technical Interventions

- Research projects are being carried out by CPCB in collaboration with premier institutions like IIT, NEERI, etc. under Environment Protection Charge (EPC) funds.
- Lack of certification system of ambient air quality monitoring instruments in India was identified. A certification scheme has been established in collaboration with National Physical Laboratory (NPL).
- Regular engagements with technical bodies and experts have been undertaken for knowledge sharing.

Climate change costs

2291. PROF. M. V. RAJEEV GOWDA: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) the amount of money spent on adaptation and mitigation measures, separately, during last five years with details of the project and source of funding, year-wise and State-wise;

(b) whether there is any income and outcome budget with respect to climate change and if so, the details thereof;

(c) if not, reasons therefor;

(d) whether Government has conducted any cost benefit analysis to determine the amount of money that would be saved if certain climate change measures are adopted, including health related expenditure; and

(e) whether Government has conducted any study to evaluate the intangible benefits that would accrue through certain climate change measures?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) India's climate action is embedded in various programmes and schemes of Government of India. The details regarding expenditure incurred under three schemes of this Ministry, which are directly related to climate change, are given in Statement (*See below*).

(b) and (c) National Action Plan on Climate Change (NAPCC) provides the overarching framework for all climate actions and comprises eight missions in specific areas of solar energy, enhanced energy efficiency, sustainable habitat, water, sustaining Himalayan ecosystems, Green India, sustainable agriculture and strategic knowledge for climate change. All these missions are institutionalized and implemented by their respective nodal ministries/departments, including allocation of funds under their relevant schemes as a part of their annual budgetary allocations. Therefore, no separate budget exercise is envisioned.

(d) and (e) Global warming or Climate change is a global phenomenon and requires cooperation of all nations based on the principles of 'Equity' and 'Common but Differentiated Responsibilities and Respective Capabilities' under the United Nations Framework Convention on Climate Change and its Paris Agreement. The extent of global warming will depend on climate action taken by all the countries. India is a party to the Paris Agreement, which has mechanisms like global stocktake and ratcheting up action to address climate change and avoid adverse consequences.

Statement

The details regarding expenditure incurred under three schemes of this Ministry, which are directly related to climate change

(A) National Mission for a Green India

Sl. No.	States	FY 2015-16		FY 2016-17		FY 2017-18		FY 2018-19		Total	
		Release	Utilized	Release	Utilized	Release	Utilized	Release	Utilized	Release	Utilized
1.	Andhra Pradesh	-	-	105.53	105.53	44.60	-	266.62	-	416.75	105.53
2.	Chhattisgarh	2338.6	2338.6	2023	2023	1095.3	1095.3	536.07	536.07	5992.9	5992.9
3.	Karnataka	105.53	105.53	86.853	86.853	85.734	66.99	162.34	159.34	440.46	418.71
4.	Kerala	914.82	-	-	383.12	-	531.70	-	-	914.82	914.82
5.	Manipur	834.84	834.84	782.29	782.29	641.58	641.58	488.81	488.81	2747.50	2747.50
6.	Mizoram	-	-	988.35	988.35	2000	2000	2236.4	2236.4	5224.8	5224.8
7.	Odisha	182.92	182.92	138.96	138.96	140.56	140.56	474.33	474.33	936.77	936.77
8.	Punjab	611.53	-	-	606.11	621.73	-	-	-	1233.3	606.11
9.	Uttarakhand	2020.9	-	-	-	-	-	-	1129.8	2020.9	1129.8
10.	Madhya Pradesh	-	-	-	-	-	-	2415.9	2165.9	2415.9	2165.9

11.	Maharashtra	-	-	-	-	-	-	1030.2	1030.2	0.00	
12.	Sikkim							332.36	332.36	332.36	332.36
	Sub Total	7009.1	3461.8	4125.0	5114.2	4629.5	4476.1	7943	7523	23706.58	20575
13.	ESIP*	-	-	-	-	50	-	100	150.00	150	150
	TOTAL	7009.09	3461.84	4124.999	5114.227	4629.469	4476.097	8043.023	7673.045	23856.58	20725.21

* Project activities as per standard Project Appraisal Document and Implementation Guidelines

B. National Adaptation Fund on Climate Change

(₹ in crore)				
Sl. No.	States	Title of the Project	Total Cost of the project	Amount Released
1	2	3	4	5
Approved and Sanctioned Projects in the F. Y. 2015-16				
1.	Kerala	Promotion of integrated farming system of Kaipad in coastal wetlands of North Kerala	25.00	12.50
2.	Jammu and Kashmir	Climate Resilient Sustainable Agriculture in Rain-Fed Farming (Kandi) Areas of Jammu and Kashmir	22.51	11.25
3.	Mizoram	Sustainable Agriculture Development through Expansion, Enhancement and Modelling in the state of Mizoram	10.38	5.19

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1	2	3	4	5
4.	Punjab	Towards Climate Resilient Livestock Production System in Punjab.	17.40	13.92
5.	Telangana	Resilient Agricultural Households through Adaptation to Climate Change in Mahbubnagar district, Telangana.	24.00	6.00
6.	Himachal Pradesh	Sustainable Livelihoods of agriculture - dependent Rural communities in drought prone district of Himachal Pradesh through climate smart solutions.	20.00	10.00
7.	Puducherry	Integrated Surface Water Management through rejuvenation of 20 tanks and 32 village ponds for Climate Change Adaptation in Puducherry.	16.76	3.95
8.	Meghalaya	Spring-shed development works for rejuvenation of springs for climate resilient development in the water stressed areas of Meghalaya.	22.91	11.45
9.	Odisha	Conserve Water through the Management of runoff in the River basin to improve ground water recharge to reduce vulnerability and enhance resilience for traditional livelihood in Nuapada.	20.00	16.00
10.	Chhattisgarh	Climate Adaptation Strategies in Wetlands along Mahanadi River Catchment areas in Chhattisgarh.	21.47	10.73
11.	Manipur	Model Carbon Positive Eco-Village in Phayeng of Manipur.	10.00	5.00

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12.	Tamil Nadu	Management and rehabilitation of coastal habitats and biodiversity for climate Change Adaptation and Sustainable Livelihood in Gulf of Mannar, Tamil Nadu. India.	24.74	12.37
Total Cost in the F.Y 2015-16			235.17	118.36
Approved and Sanctioned Projects in the F. Y. 2016-17				
13.	Andhra Pradesh	Climate Resilient interventions in Dairy Sector in coastal and Arid areas in Andhra Pradesh.	12.71	6.36
14.	Haryana	Scaling-up Resilient Agriculture Practices towards Climate Smart Villages in Haryana.	22.09	8.77
15.	Karnataka	Conservation and Management of Indigenous varieties of livestock (Cattle and Sheep) in the Wake of Climate Change in Karnataka.	24.22	12.11
16.	Madhya Pradesh	Increasing Adaptive Capacity to Climate Change through developing climate-Smart Villages in Select Vulnerable Districts of Madhya Pradesh.	24.87	12.44
17.	West Bengal	Rain Water harvesting and sustainable water supply to the hilly areas in Darjeeling adaptive measures climate change impact's.	23.12	11.56
18.	Maharashtra	Efficient water management and agriculture technology adoption for climate adaptive and resilient farming system in 51 villages of Nundurbar and Buldhana districts of Maharashtra.	22.95	11.47

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1	2	3	4	5
19.	Sikkim	Addressing Climate Change vulnerability of Water Sector at Gram Panchayat Level in drought prone areas of Sikkim.	24.67	10.00
20.	Assam	Management of Ecosystem of Kaziranga National Park by creating Climate Resilient Livelihood for Vulnerable Communities through Organic farming and pond based Pisciculture.	24.56	12.43
21.	Gujarat	Climate Change adaptation for Natural Resource Dependent communities in Kachchh, Gujarat.	21.36	8.79
Total cost in the F.Y 2016-17			200.55	93.93
Approved and Sanctioned Projects in the F. Y. 2017-18				
22.	Rajasthan	Mukhya Mantri Jal Swavlamban Abhiyaan (MJSA) for Climate Change Adaptation and Water harvesting in Arthuna, Anandpuri and Sajjangarh Blocks of District Banswara in Rajasthan.	24.98	12.49
23.	Bihar	Scaling up climate smart agricultural through mainstreaming climate smart villages in Bihar.	23.10	11.53
24.	(for Punjab, Haryana, UP & Rajasthan State)	Regional Project - Climate Resilience Building among Farmers through Crop Residue Management.	120.66	60.33
25.	Nagaland	Gene pool Conservation of Indigenous Rice Varieties under Traditional Integrated Rotational Farming System (Jhum optimisation) for Promoting Livelihood and Food Security as Climate Change Adaptation Strategy in Nagaland.	24.67	12.33

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26.	Uttar Pradesh	Ecosystem Services based Adaptation to Climate Change Project in Bundelkhand Region of Utter Pradesh.	19.80	6.31	Written Answers to
27.	Jharkhand	Enhancing Climate Resilience of Forests and its Dependent Communities in Two Landscapes of Jharkhand.	24.73	12.36	
Total cost in the F.Y 2017-18			237.94	115.35	
Approved and Sanctioned Projects in the F. Y. 2018-19					
Kerala	Promotion of integrated farming system of Kaipad in coastal wetlands of North Kerala.	25.00	5.00 (2nd Instalment)	[9 December, 2019]	Unstarred Questions
Mizoram	Sustainable Agriculture Development through Expansion, Enhancement and Modelling in the state of Mizoram.	10.38	3.00 (2nd Instalment)		
Manipur	Model Carbon Positive Eco-Village in Phayeng of Manipur.	10.00	3.00 (2nd Instalment)		
Rajasthan	Mukhya Mantri Jal Swavlamban Abhiyaan (MJSA) for Climate Change Adaptation and Water harvesting in Arthuna, Anandpuri and Sajjangarh Blocks of District Banswara in Rajasthan.	24.98	10.00 (8+2) (2nd Instalment)		
Tamil Nadu	Management and rehabilitation of coastal habitats and biodiversity for climate Change Adaptation and Sustainable Livelihood in Gulf of Mannar, Tamil Nadu, India.	24.74	10.00 00 (2nd Instalment)		
Himachal Pradesh	Sustainable Livelihoods of agriculture - dependent Rural communities in drought prone district of Himachal Pradesh through climate smart solutions.	20.00	5.00 (2nd instalment)		

1	2	3	4	5	224
	Sikkim	Addressing Climate'Change vulnerability of Water Sector at Gram Panchayat Level in drought prone areas of Sikkim.	24.67	6.16 (2nd instalment)	Written Answers to [RAJYA SABHA]
28.	Arunachal Pradesh	Addressing Climate Change Vulnerability of Papum-Poma River for conservation and recharging of its spring.	23.92	11.96	
	Puducherry	Integrated Surface Water Management through rejuvenation of 20 tanks and 32 village ponds for Climate Change Adaptation in Puducherry.	16.76	9.35 % (2nd Installation)	
29.	Tamil Nadu (2nd Project)	Climate Proofing of Rainfed Watersheds in Salem & Virudhunagar Districts of Tamil Nadu.	23.80	11.90 (5+6.9)	
30.	Multi State Project (Maharashtra, Rajasthan, Telangana)	Restoration of Degraded Landscapes to Natural State of Ecosystems for Climate Resilience and Livelihood Improvement of Vulnerable Communities.	126.10	34.13	
		Total Expenditure in the F.Y 2018-19	173.82	109.5	Unstarred Questions
		Approved and Sanctioned Projects in the F. Y. 2019-20			
	Meghalaya	Spring-shed development works for rejuvenation of springs for climate resilient development in the water stressed areas of Meghalaya.	22.91	5.00	
	Gujarat	Climate Change adaptation for Natural Resource Dependent communities in Kachchh, Gujarat.	21.36	12.57	
		Total Expenditure in the F.Y. 2019-20		17.57	
		Gross Total Cost	847.48	454.71	

C. Climate Change Action Programme (CCAP)							
(a) Demonstration projects							
Sl. No.	State	Name of Project	2015-16	2016-17	2017-18	2018-19	2019-20
1.	Tamil Nadu	Coastal habitat rehabilitation for Climate Change adaptation in Gulf of Mannar, South-eastern India: Improving Ecosystem services and fisheries livelihood.	4,000,000		2,288,000	268,689	
2.	Punjab	Technological Adaptation for Gainful Utilisation of Paddy Straw.		12,099,000			10,263,000
3.	Madhya Pradesh	Enhancing Adaptive Capacity to Climate Change through Conservation of Traditional water Supply sources of Indore city.		21,680,000		20,000,000	
4.	Madhya Pradesh	Enhancing Adaptive Capacity to Climate Change through Conservation of Traditional water Supply sources of Burhanpur city.				25,000,000	
TOTAL			4,000,000	33,779,000	2,288,000	45,268,689	10,263,000

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(b) Capacity building support projects

Sl. No.	State	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
1.	Punjab	300,000	700,000				
2.	Madhya Pradesh		600,000			400,000	
3.	Bihar		600,000				
4.	Chandigarh		600,000				400,000
5.	Haryana		600,000			400,000	
6.	Chhattisgarh		600,000				
7.	Meghalaya		600,000				
8.	Mizoram		600,000				
9.	Gujarat		600,000				
10.	Himachal Pradesh		600,000				
11.	Karnataka		600,000	400,000			
12.	Puducherry		1,500,000				
13.	Sikkim		600,000				

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14.	Tamil Nadu		600,000				
15.	Telangana		600,000			400,000	
16.	Punjab			460,576			
17.	Manipur			600,000			
18.	Nagaland			600,000		400,000	
19.	Arunachal Pradesh			600,000	400,000		
20.	Telangana					600,000	
TOTAL		300,000	10,000,000	2,660,576	400,000	2,200,000	400,000

* Excluding one-time grant for preparation/ revision of State Action Plan on Climate Change.