
A Down To Earth ANNUAL
STATE OF INDIA'S ENVIRONMENT
In figures
2018

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Note:

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Down To Earth
SCIENCE AND ENVIRONMENT FORTNIGHTLY

CSE-DTE DATA CENTRE

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Maps in this report are indicative and not to scale.

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DATAWISE

RICHARD MAHAPATRA
Managing Editor, Down To Earth

Big data is finally a political issue in India. Of late political parties fought over who hired whom to manipulate voters' choices. Using electorate data to sharpen campaign has been a major new age tool for political parties. But when this toll assumed an unholy character and data analyst companies became influencers of election results, citizens of democracies world over have become suspicious, as well as conscious, of the potential and perils of possessing and processing big data. And journalism has not been left out of this.

Data-driven journalism continues to strive, both in India and elsewhere in the world. There are many thriving data-based news platforms in India. Fact-checking is fast emerging as a specialised column/section in many newspapers and television channels. Politicians are being regularly subjected to such fact-checks of their claims. Politicians using data to address public is a great surprise but at the same time recognition of the fact that data is the new way to gain credibility. Even the general media has started showing tilt towards telling stories through data. We are datafied, proposed the State of India's Environment In Figures 2017. But the time has come to be Datawise.

Data is secular. As many say data puts an end to "theory". It kills subjectivity and lets itself to tell the story as it is. But a secular resource alone is not a guarantee to objectivity. Data is used by people with their respective orientation and thus interpretation. This throws the challenge of becoming Datawise in a datafied world.

The State of India's Environment In Figures 2018 is just an attempt to make you that.

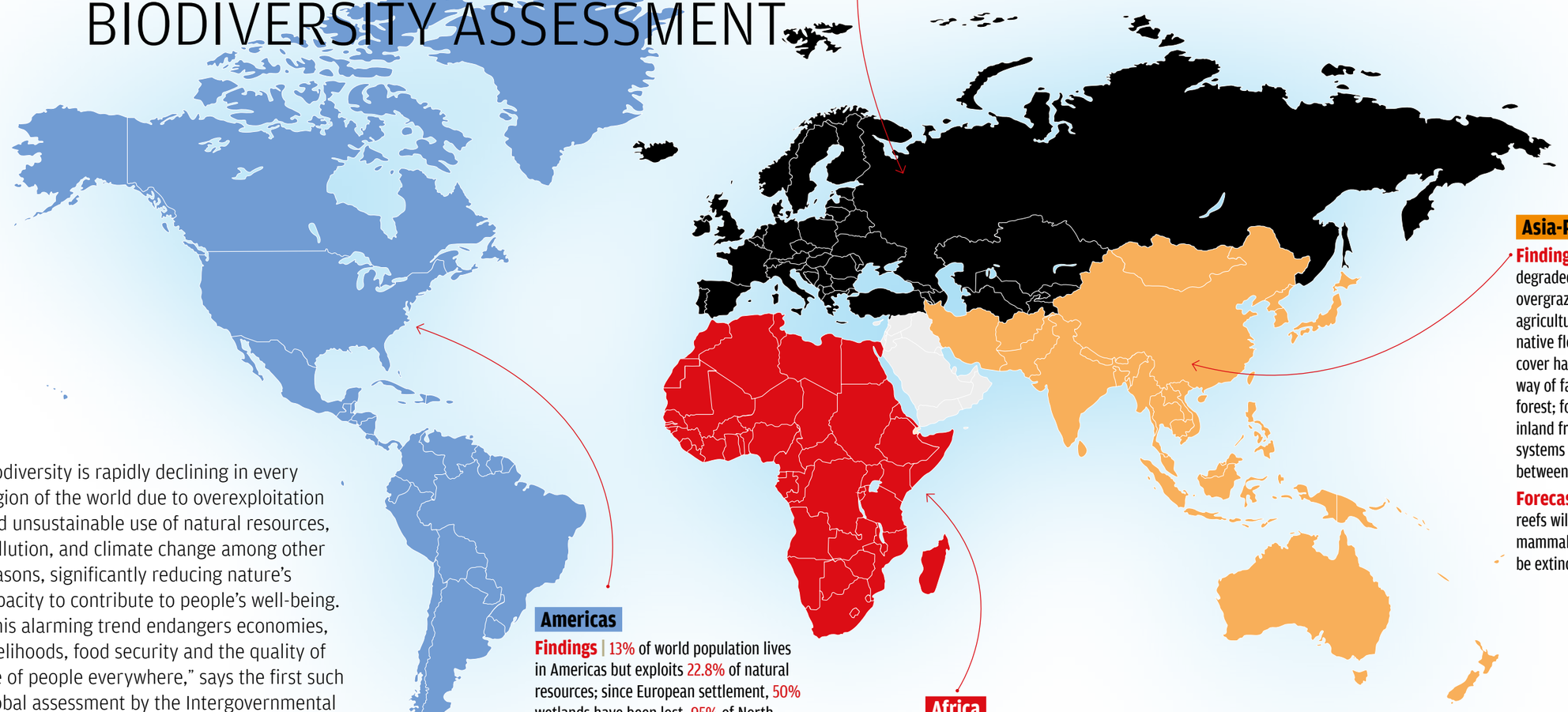
This annual e-book scavenges tons of data on India's environment and development. Then, using cutting edge tools process them into sharp infographics. Each and every dataset here is a stand-alone verdict on a specific subject/development. Each and every one is a 360 degree annual assessment. With each dataset, we have tried to tell the complete story, in a secular manner but with lots of data wisdom. Just to put on record, each data that you go through here is preceded by 12 months of careful tracking to not just make sense of the big data involved but also to make a credible statement.

To further empower you, each of the dataset is backlinked to our amazing world of data and related resources, curated over 35 years.

By buying and using this book, you have become an active supporter of independent journalism pursued by Down To Earth. Becoming Datawise will be our shared objective.■

STATE OF DEVELOPMENT

BIODIVERSITY ASSESSMENT



Europe and Central Asia

Findings | 51% of wetlands have degraded; 42% terrestrial animal and plant species have declined in number in the past 10 years; crop species have declined by 20% since 1950; fish species have declined by 26.6%; 48% of marine animal and plant species with known population trends have been declining in last 10 years; 25% agricultural land is affected by soil erosion

Forecast | The region will be 1°C–3°C warmer in 2041–2060 than in 1986–2005; by 2100, the extent of near-surface permafrost at high latitudes could decrease by 37-81%

Asia-Pacific

Findings | 60% grasslands have degraded between 1990-2015 due to overgrazing and conversion to agriculture, resulting in decline of native flora and fauna; 12.9% of forest cover has reduced due to unsustainable way of farming shrimps in mangrove forest; forests, alpine ecosystems, inland freshwater and wetlands, coastal systems were the most threatened between 1990 and 2015

Forecast | By 2050, 90% of the coral reefs will be degraded while 24% of mammal and 29% of bird species will be extinct

Biodiversity is rapidly declining in every region of the world due to overexploitation and unsustainable use of natural resources, pollution, and climate change among other reasons, significantly reducing nature's capacity to contribute to people's well-being. "This alarming trend endangers economies, livelihoods, food security and the quality of life of people everywhere," says the first such global assessment by the Intergovernmental Platform on Biodiversity and Ecosystem Services. The world has lost 87 per cent of its wetlands in the past 300 years due to rapid urbanisation and unsustainable agriculture, and 3.2 billion people or two-fifths of humanity are affected due to worsening land degradation. The regional assessments of biodiversity and ecosystem services conducted over three years, and the assessment of land degradation were released in March at a meeting, which has 129 member countries, in Medellin, Columbia

Americas

Findings | 13% of world population lives in Americas but exploits 22.8% of natural resources; since European settlement, 50% wetlands have been lost, 95% of North American tall grass prairie grasslands and 88% Atlantic tropical forest have been degraded; 20-70% of fish stocks reduced due to overfishing; coral reefs had degraded by over 50% by the 1970s, and only 10% remained by 2003

Forecast | By 2050, the region is likely to lose 40% of its original biodiversity

Africa

Findings | 500,000 sq km (or 2%) of land has degraded. Local and global demand for fish and rapidly growing populations that depend on fisheries is a major cause of overfishing. Droughts have been more frequent and severe since the 1970s, driving land degradation; number of birds and mammals threatened by a range of human-induced drivers has increased over the past 20 years

Forecast | By 2100, climate change could lead to the loss of over half of bird and mammal species, current population of 1.25 billion likely to double by 2050, putting severe pressure on biodiversity

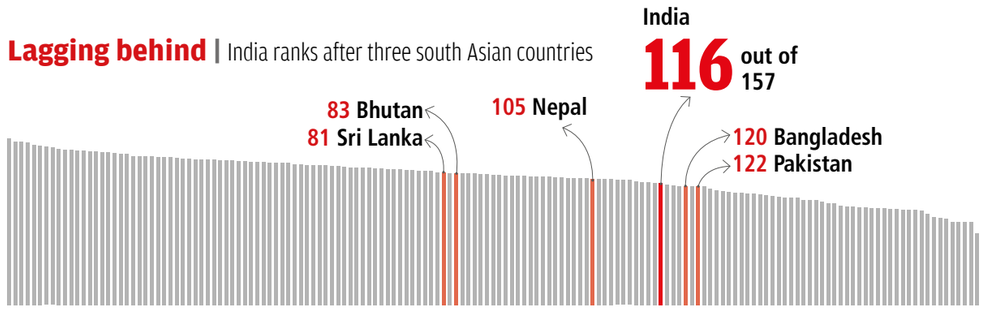
Source: Four assessments of biodiversity and ecosystem in America, Europe and Central Asia, Asia-Pacific and Africa, and a global thematic assessment of land degradation and restoration released in March 2018 by the IPBES

STATE OF DEVELOPMENT

SUSTAINABLE DEVELOPMENT GOALS

Despite making progress in the past one year, India is far behind in achieving any of the Sustainable development goals (SDGs). In fact, its performance has dipped in several key indicators such as PM2.5 levels in urban areas, incidence of tuberculosis, expected years of schooling and female labour force participation

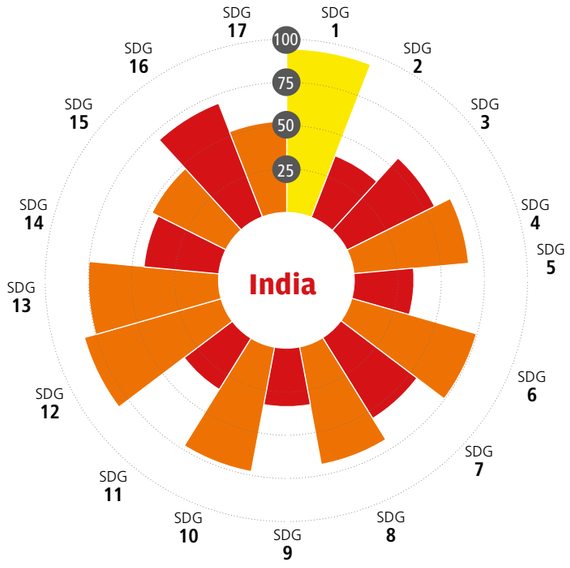
Lagging behind | India ranks after three south Asian countries



TOP 5	Score
1- Sweden	85.6
2- Denmark	84.2
3- Finland	84.0
4- Norway	83.9
5- Czech Republic	81.9
Bottom 5	
153- Madagascar	43.5
154- Liberia	42.8
155- Congo Dem. Rep.	42.7
156- Chad	41.5
157- Central African Republic	36.7

Source: 'SDG Index & dashboards: A global report', Solutions Network and Bertelsmann Stiftung

Poor performance | A green rating on the SDG Dashboard denotes SDG achievement. Yellow, orange and red indicate increasing distance from SDG achievement



IS INDIA PREPARED FOR THE SDGs?

India's performance in 18 targets has dipped in the past one year and this will affect the progress in at least 12 SDGs

Indicator	2016	2017
Goal 1: No poverty		
Poverty headcount ratio at $1.90 a day (% population)	21.3	9.4
Projected Poverty headcount ratio at $1.90 a day in 2030 (% population)	NA	0.2
Goal 2: Zero hunger		
Prevalence of undernourishment (% population)	15.2	15.2
Cereal yield (t/ha)	3	3
Prevalence of obesity, BMI >= 30 (% adult population)	NA	4.9
Sustainable Nitrogen Management Index (0-1)	0.9	1
Goal 3: Good health and well-being		
Under 5 mortality (per 1,000 live births)	47.7	47.7
Incidence of tuberculosis (per 100,000 people)	167	217
HIV prevalence (per 1,000)	NA	0.2
Age-standardised death rate due to cardiovascular disease, cancer, diabetes, and chronic respiratory disease in populations age 30–70 years, per 100,000 population	NA	26.3
Age-standardised death rate attributable to household air pollution and ambient air pollution, per 100,000 population	NA	130
Proportion of births attended by skilled health personnel	NA	52.3
Universal Health Coverage Tracer Index (0-100)	NA	53.3
Adolescent fertility (births per 1,000)	28.1	23.3
Subjective wellbeing (average ladder score 0-10)	4.6	4.2
Healthy life expectancy at birth (years)	58	59.6
Percentage of surviving infants who received 2 WHO recommended vaccines	83	87
Goal 4: Quality education		
Expected years of schooling (years)	11.7	6.3
Literacy rate of 15-24 year olds (%)	81.1	89.7
Net primary school enrolment rate (%)	93.1	90
Goal 5: Gender equality		
Women in national parliaments (%)	12	12
Ratio of female to male mean years of schooling of population age 25 and above	49.8	58.2
Ratio of female to male labor force participation rate	34.7	33.8
Goal 6: Clean water and sanitation		
Freshwater withdrawal as % total renewable water resources	33.9	33.9
Imported groundwater depletion (m3/year/capita)	NA	0.2
Goal 7: Affordable and clean energy		
Access to electricity (% population)	78.7	79.2
Access to non-solid fuels (%)	42.4	36
CO2 from fuels & electricity (MtCO2/TWh)	1.6	1.7
Goal 8: Decent work and economic growth		
Adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider (%)	NA	58.6
Adjusted growth rate (%)	0.2	-0.5
Unemployment rate (% total labor force)	3.5	3.5
Percentage of children 5–14 years old involved in child labour	11.8	11.8

Goal 9: Industry, information and infrastructure		
R&D expenditures (% GDP)	0.8	0.8
Logistics Performance Index (1-5)	2.9	3.1
Quality of overall infrastructure (1-7)	4	4.5
Mobile broadband subscriptions (per 100 inhabitants)	3.2	9.4
Proportion of the population using the internet (%)	18	26
QS University Ranking, Average score of top 3 universities (0-100)	NA	57.1
Number of scientific and technical journal articles (per capita)	NA	0.1
Goal 10: Reduced inequalities		
Gini index (0-100)	33.9	35.2
Goal 11: Sustainable cities and communities		
Annual mean concentration of particulate matter of less than 2.5microns of diameter (PM2.5) in urban areas (g/m3)	46.7	72.6
Goal 12: Responsible consumption and production		
Percentage of anthropogenic wastewater that receives treatment (%)	10.5	2.2
E-waste generated (kg/capita)	NA	1.3
Production-based SO2 emissions (kg/capita)	NA	6.2
Net imported SO2 emissions (kg/capita)	NA	-0.4
Reactive nitrogen production footprint (kg/capita)	NA	12.9
Net imported emissions of reactive nitrogen (kg/capita)	NA	-8.7
Goal 13: Climate action		
CO2 emissions from energy (tCO2/capita)	1.7	1.6
Imported CO2 emissions, technology-adjusted (tCO2/capita)	NA	0.1
Goal 14: Life below water		
Ocean Health Index - Clean waters (0-100)	51.3	29.2
Ocean Health Index - Biodiversity (0-100)	85.6	91.1
Ocean Health Index - Fisheries (0-100)	49	56.4
Mean area that is protected in marine sites important to biodiversity (%)	4.2	31
Goal 15: Life on land		
Red List Index of species survival (0-1)	0.7	0.7
Annual change in forest area (%)	2.7	2.7
Mean area that is protected in terrestrial sites important to biodiversity (%)	5.5	26.5
Mean area that is protected in freshwater sites important to biodiversity (%)	na	15.2
Imported biodiversity impacts (species lost per million people)		0
Goal 16: Peace, justice and strong institutions		
Homicides (per 100,000)	3.5	3.2
Prison population (per 100,000)	30	33
Proportion of the population who feel safe walking alone at night in the city or area where they live (%)	68.9	68
Corruption Perception Index (0-100)	38	40
Proportion of children under 5 years of age whose births have been registered with a civil authority, by age (%)	83.6	71.9
Government efficiency (1-7)	4	4.2
Property rights (1-7)	3.8	4.1
Goal 17: Partnerships for the goals		
Tax revenue (% GDP)	19.8	11
Health, Education & R&D spending (% GDP)	8.6	8.5

UN adopted SDGs to end extreme poverty, fight inequality and injustice, and fix climate change by 2030. It is an extension of MDGs and has 17 goals
Source: 'SDG Index & dashboards: A global report', published in 2017 by the Sustainable Development Solutions Network and Bertelsmann Stiftung

STATE OF DEVELOPMENT

ENVIRONMENTAL PERFORMANCE

The inability to improve air quality, protect biodiversity, and cut greenhouse gas emissions has pushed India to the bottom three in the 2018 Global Environmental Performance Index (EPI) rankings. In the previous EPI rankings in 2016, India ranked better at 141 out of 180 countries

India ranks

177 of 180 nations globally — Switzerland tops the list

25 of 26 Asian countries — Japan tops the list

07 of 8 South Asian countries — Sri Lanka tops the list

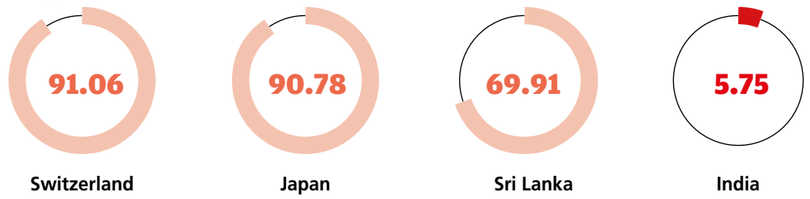
Source: Environmental Performance Index 2018, Yale University

BOTTOM OF THE LEAGUE

All parameters are scored out of 100

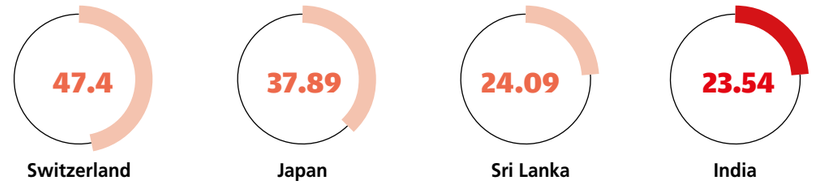
Air Quality

INDICATORS USED: Household solid fuels; Particulate Matter (PM) 2.5 exposure; PM 2.5 exceeding WHO thresholds



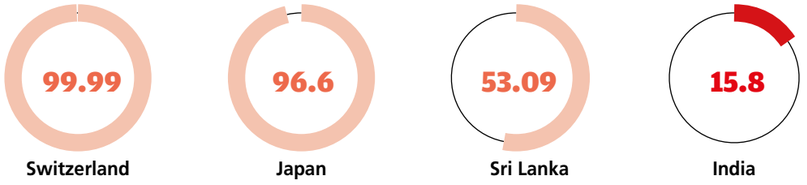
Forests

INDICATOR USED: Tree cover loss



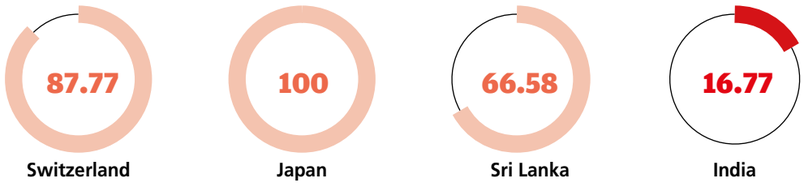
Water & Sanitation

INDICATOR USED: Proportion of a country's population exposed to health risks from their access to sanitation, and drinking water risks from their access to sanitation, and drinking water



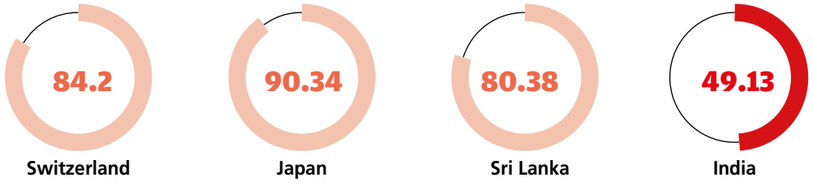
Heavy Metals

INDICATOR USED: Lead exposure



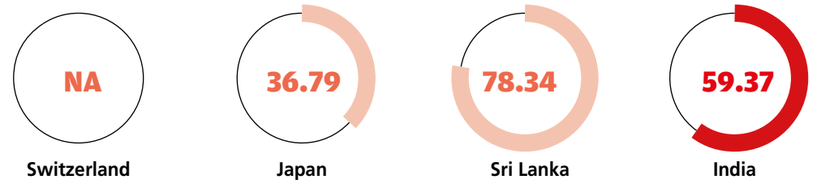
Biodiversity & Habitat

INDICATORS USED: % of marine protected areas within exclusive economic zones; % of biomes in protected areas, weighted by national composition of biomes and global composition of biomes; average area of species' distributions in a country within protected areas; extent to which terrestrial protected areas are ecologically representative; proportion of habitat within a country remaining, relative to a baseline set in 2001



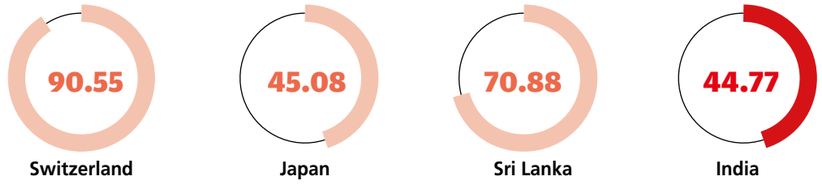
Fisheries

INDICATORS USED: % fish stocks caught within a country's exclusive economic zone that are overexploited or collapsed; mean trophic level of fish caught



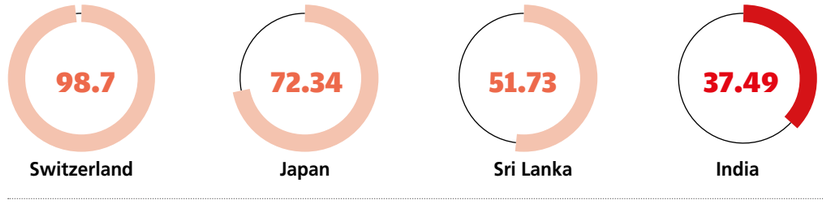
Climate & Energy

INDICATORS USED: Metric tonnes of CO_2 emissions per unit of GDP; metric tonnes of CO_2 emissions per unit of kWh of electricity & heat; metric tonnes of CO_2-equivalent per unit of GDP; metric tonnes of CO_2-equivalent per unit of GDP; Gigagrams of black carbon per unit of GDP



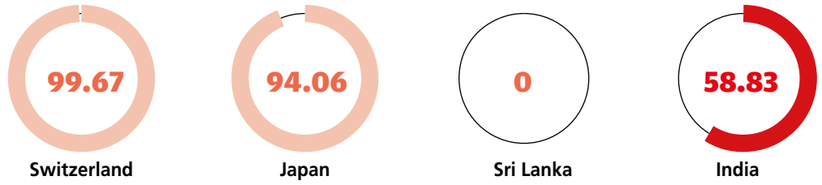
Air Pollution

INDICATORS USED: Nitrogen oxide and sulfur oxide emission intensity



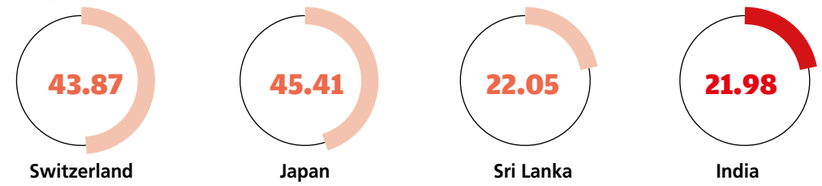
Water Resources

INDICATOR USED: % of wastewater that undergoes at least primary treatment in each country



Agriculture

INDICATOR USED: Sustainable nitrogen management index



Source: Environmental Performance Index 2018, Yale University

STATE OF DEVELOPMENT

INCLUSIVE GROWTH

India's inclusive story has too many kinks in it. For starters, 6 out of 10 Indians continue to be poor, surviving on less than $3.20 per day. At the same time, the country's employment growth is slowing down. For India, poor performance in the two parameters is extremely worrying as close to 35 per cent Indians are young (15-34 years). Little wonder, youth protests measured a steep rise in the recent years. According to the National Crime Records Bureau, 480 student protests were registered in 2016, which is close to 40 protests a month. The poor performance can also be gauged by the growing inequity in the country. The wealth Gini index of India is a worrying 83 (100 means absolute inequality), the worst in South Asia

India ranks

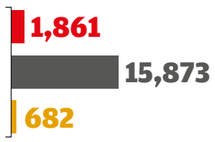
62
of 74 emerging economies of the world.
Lithuania tops the list

5
of the 5 emerging economies in South Asia
Nepal tops the list

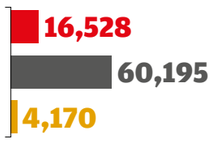
Source: The Inclusive Development Index 2018, World Economic Forum

GROWTH AND DEVELOPMENT

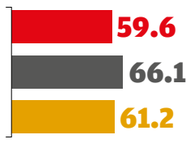
India Lithuania Nepal



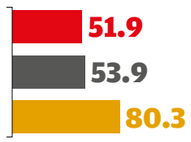
GDP per capita ($)
| 2016
Gross domestic product (GDP) divided by mid-year population



Labour Productivity ($)
| 2016
GDP divided by total employment in the economy



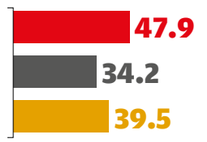
Healthy Life Expectancy (yrs) | **2015** Average number of years a person can expect to live in full health by taking into account years lived in less than full health due to disease and/or injury



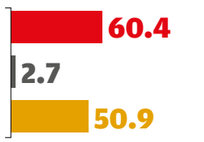
Employment (%)
| 2016
The proportion of a country's population that is employed. Ages 15 and older are generally considered the working-age population

INCLUSION

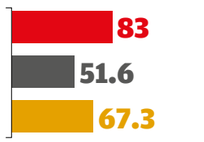
India Lithuania Nepal



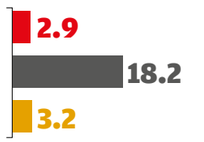
Net-income Gini
| 2016 or most recent
The extent to which the net distribution of income within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality



Poverty Rate (%)
| 2016 or most recent
For emerging economies, it is defined as the percentage of the population living on less than $3.20 a day at 2011 international prices



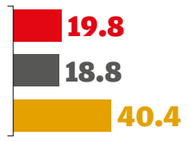
Wealth Gini
| 2017
The differences in the distribution of wealth. Higher Gini coefficients signify greater inequality in wealth distribution



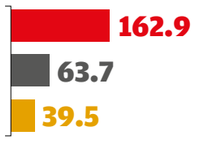
Median Income ($)
| 2012 or most recent
The median of daily per capita income/ consumption expenditure in 2011 purchasing power parity dollar

INTERGENERATIONAL EQUITY AND SUSTAINABILITY

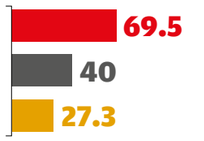
India Lithuania Nepal



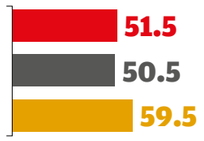
Adjusted Net Savings, Excluding Carbon Damage (% of GNI)
| 2015 or most recent
A positive Adjusted Net Savings indicates that a country is adding to its overall wealth and that economic growth is on a sustainable path



Carbon Intensity of GDP (kilo-tonnes of CO2/$ billion in 2005)
| 2014 or most recent
Carbon intensity is a measure of how much carbon economies emit for every dollar of GDP they produce



Public Debt (as a share of GDP)
| 2016
All liabilities in the Government Finance Statistics Manual 2001 system are debt, except for equity and investment fund shares, financial derivatives, and employee stock options



Dependency ratio (dependents per 100 working-age people)
| 2016
The ratio of dependants—people younger than 15 or older than 64—to the working-age population, those aged 15-64

Source: The Inclusive Development Index 2018, World Economic Forum

STATE OF
DEVELOPMENT
ENVIRONMENTAL CRIMES

National Green Tribunal (NGT) was set up in 2010 to fastrack environmental cases. Eight years later, while the number of environment-related police cases is gradually coming down, the number of court cases is mounting. And with NGT forced to close its regional benches in 2018 due to staff crunch, the situation will only worsen

In 2016

4,732
environment-related crimes registered

1,413
cases pending police investigation

21,145
cases pending in courts

ENVIRONMENT-RELATED OFFENCES

	Court pendency percentage*	Police pendency percentage**	People convicted
Forest Act, 1927	85.2	16.9	3,219
States with most cases:	Uttar Pradesh (1,815) Rajasthan (1,191) Himachal Pradesh (157)		
Wildlife Protection Act, 1972	91	34.8	214
States with most cases:	Uttar Pradesh (302) Rajasthan (190) Assam (82)		
Environment (Protection) Act, 1972	93.1	58.5	40
States with most cases:	Maharashtra (97), UP(11), West Bengal (2)		
Air (Prevention & Control of Pollution), 1981	98.6	62.9	0
States with most cases:	Maharashtra (21), UP(2), Jharkhand (2)		
Water (Prevention & Control of Pollution) Act, 1974	70	59.1	4
States with most cases:	Madhya Pradesh (6), Gujarat (3), Himachal Pradesh (2)		
Total environment-related offences	85.9%	22.1%	3,477

* Court pendency is the percentage of the total cases pending trial at the end of the year divided by the total cases that came for trial during the year
** Police pendency is the percentage of total cases disposed of by police/ total cases for investigation during the year

Source: Crimes in India 2016, National Crimes Records Bureau

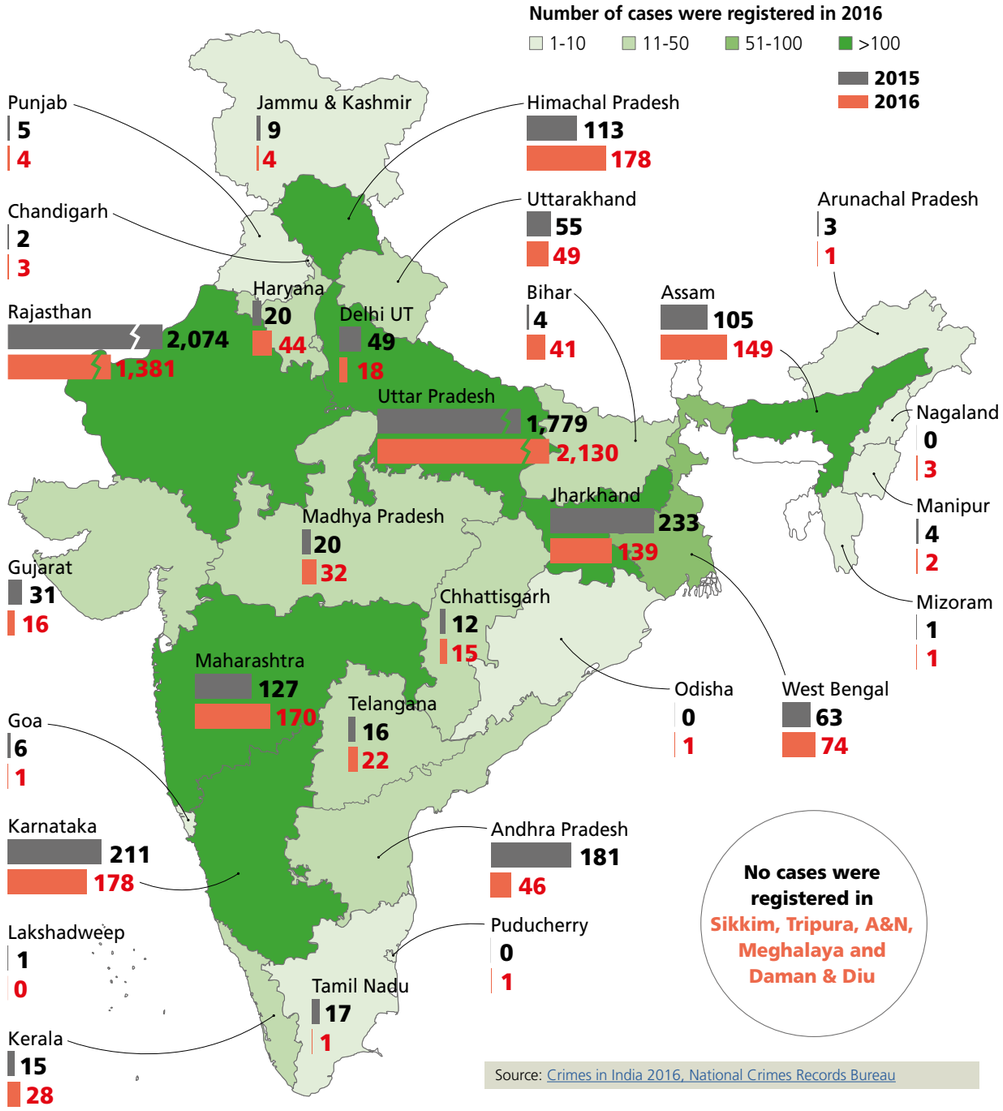
A long wait

9.5
cases were disposed of on an average every day by the court in 2016

6 yrs
The time court will take to finish the existing backlog if it moves at its current pace

57.93
cases/per day disposed of is the rate required to finish the backlog in a year

Worrying trend | 15 states have registered an increase in environmental crimes between 2015-16



Source: Crimes in India 2016, National Crimes Records Bureau

From State of India's Environment in figures 2017

131 India's rank on UN Human Development Report 2016

110 India's rank on the Sustainable Development Index 2016

Bihar, Assam and Uttar Pradesh are the worst performing states on 11 socio-economic indicators

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United Nations Department of Economic and Social Affairs (UN DESA)
The report reviews progress made towards the 17 Goals in the second year of implementation of the 2030 Agenda for Sustainable Development

SDG Index and Dashboards Report 2017 | July 2017
Bertelsmann Stiftung
The SDG Index and Dashboards assists countries in identifying priorities for action to achieve the 17 SDGs

Atlas of Sustainable Development Goals 2018 | May 2018
The World Bank
It is a visual guide to the trends, challenges and measurement issues related to each of the 17 Sustainable Development Goals

Turning promises into action: Gender equality in the 2030 Agenda for sustainable development | February 2018
UN Women
The report takes stock of where we stand on key aspects of gender equality globally and tells us what is needed to monitor progress meaningfully

Asia and the Pacific SDG progress report 2017 | May 2018
UNESCAP
The report assesses progress in the implementation of the Sustainable Development Goals (SDGs) and targets in Asia and the Pacific

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The survey analyses policy options for strengthening tax revenues, enhancing prudent sovereign borrowing and leveraging private capital

Fostering green finance for sustainable development in Asia | March 2018
Asian Development Bank Institute
It reviews the state of green lending and investment in Asia and provides an overview of green financial governance initiatives across Asia

Financing for development: progress and prospects 2018 | April 2018
United Nations
The report highlights that most types of development financing flows increased in 2017, and that there has been progress across all the action areas of the Addis Ababa Action Agenda

MORE ON DEVELOPMENT

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World Economic Forum
The annual assessment measures how 103 countries perform on eleven dimensions of economic progress in addition to the gross domestic product

Social Progress Index 2017 | June 2017
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The 2017 Social Progress Index uses key indicators in the areas of basic human needs and well-being to measure the relative performance of 128 nations

2018 Environmental Performance Index | January 2018
Yale University
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Crime in India 2016: statistics | November 2017
National Crime Records Bureau
The annual report provides comprehensive statistics on crimes including the crime trends in the country

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Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

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National Crime Records Bureau

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STATE OF AGRICULTURE

FARM INCOME

Farm income in 16 states and union territories (UTs) dropped between 2002-03 and 2012-13, a decade when the sector grew by over 3 per cent annually. At the same time, income from livestock dipped in 10 states and UTs. Add to this more than half of the farmers in the country are under debt. Little wonder, while the number of farm labourers in the country rose by 37.5 million between 2001 and 2011, farmers reduced by 8.5 million

FARM FAILURE

While the number of cultivators has gone down over the past decade, the share of farm labourers has gone up. This indicates that farmers are not earning enough from cultivation, thus abandoning farming

	2001		2011	
	Absolute (in million)	Share in total agricultural workers (%)	Absolute (in million)	Share in total agricultural workers (%)
Cultivators	127.3	54.4	118.8	45.1
Agricultural labourers	106.8	45.6	144.3	54.9
Total agricultural workers	234.1	100	263.1	100
Decadal annual growth rate of agricultural workers	2.4		1.2	

DWINDLING LIVESTOCK

The number of cattle, sheep and goats have gone down. This is worrying as farmers depend on livestock for income during crop loss

Species	2007 (in million)	2012 (in million)
Cattle	199.08	190.9
Buffalo	105.34	108.7
Sheep	71.56	65.07
Goats	140.54	135.17
Horses and ponies	0.61	0.63
Total livestock	529.7	512.06

Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare

LOSS OF INCOME

The real income, which factors in the effects of inflation on the purchasing power, of an average Indian farmer from cultivation increased by just 3.8 per cent in the decade between 2002-03 and 2012-13

State	Real income growth rate from cultivation between 2002–03 and 2012–13 (%)	Livestock
Delhi	-12.6	-0.2
Lakshadweep	-12.5	23.5
West Bengal	-4.2	5.3
Jammu & Kashmir	-4.2	1.2
Andaman & Nicobar	-3.6	-2.2
Daman & Diu	-3.6	-3.8
Mizoram	-3.5	-6.5
Uttarakhand	-3.4	1.9
Goa	-2.7	15
Dadra & Nagar Haveli	-2.7	-2.5
Bihar	-1.4	-3.8
Nagaland	-1.2	N.A.
Sikkim	-1.1	-2.2
Puducherry	-0.9	N.A.
Jharkhand	-0.6	23.1
Meghalaya	-0.3	11.9
Chandigarh	1.6	-2.2
Assam	2	9.7
Punjab	2.5	10.2
Gujarat	2.6	7.6
Tamil Nadu	3.6	17.3
Uttar Pradesh	3.7	16.3
Kerala	3.8	7.3
Andhra Pradesh	4	17.4
Manipur	4.2	84.3
Madhya Pradesh	4.5	N.A.
Tripura	5	7.6
Maharashtra	5.3	10.5
Himachal Pradesh	5.5	7.3
Arunachal Pradesh	6.6	-0.9
Karnataka	7.4	9.9
Haryana	7.6	N.A.
Odisha	9	41.7
Chhattisgarh	9.2	N.A.
Telangana	9.9	10.5
Rajasthan	11.3	23.4
All India	3.8	14.7

Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare

FARM DEPENDENCY

In 2015-16, cultivation formed 85 per cent of the total household income of large farmers, but its share for small and marginal farmers was less than 40 per cent

Household income by size classes in 2015–16 at current prices					
Household size	Cultivation (₹)	Livestock (₹)	Non-farm business (₹)	Wages and salaries (₹)	Total income in 2015-16 (₹)
Small and marginal farmers (> 2 ha farmland)	29,132	11,817	7,341	31,490	79,779
Medium and semi-medium farmers (2-10 ha farmland)	1,42,362	23,080	9,580	26,061	2,01,083
Large farmers (<10 ha farmland)	5,17,517	42,009	26,594	19,273	6,05,393
All sizes	45,824	12,422	7700	30,757	96,703

Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare

UNDER PRESSURE

More than half the farmers in the country were under debt in 2013

State	Agriculture households under debt (%)	Average loan amount per household (₹)
Andhra Pradesh	92.9	1,23,400
Assam	17.5	3,400
Bihar	42.5	16,300
Chhattisgarh	37.2	10,200
Gujarat	42.6	38,100
Haryana	42.3	79,000
Jharkhand	28.9	5,700
Karnataka	77.3	97,200
Kerala	77.7	,13,600
Madhya Pradesh	45.7	32,100
Maharashtra	57.3	54,700
Odisha	57.5	28,200
Punjab	53.2	1,19,500
Rajasthan	61.8	70,500
Tamil Nadu	82.5	1,15,900
Telangana	89.1	93,500
Uttar Pradesh	43.8	27,300
West Bengal	51.5	17,800
All India	51.9	47,000

Source: Key Indicators of Situation of Agricultural Households in India, NSSO

STATE OF AGRICULTURE

SOIL HEALTH CARD SCHEME

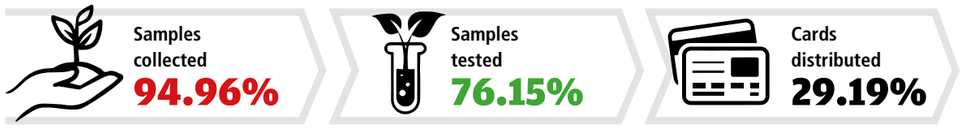
Three years after the Centre launched the soil health card scheme, its annual performance continues to be sub-par with less than 30 per cent farmers under the current cycle receiving the card. At the same time, the nitrogen, phosphorous and potassium (NPK) ratio in India's soil remains skewed in favour of nitrogen, highlighting the excessive use of urea fertilisers, which could have been checked had the soil health card scheme achieved its outcome

Why we need the soil health card | India's soil is high on nitrogen and the soil health card can plug the same by advising farmers on what fertilisers to use

Recommended Nitrogen (N): Phosphorous (P): Potassium (K) ratio — 4:2:1

6.7:2.7:1	7.2:2.9:1	8.2:3.2:1	4:3.2:1
During 2016-17	During 2015-16	During 2013-14	During 2009-10

Lagging behind | There is a progressive delay at every step of the scheme



Source: Ministry of Agriculture and Farmers Welfare, Government of India; Updated till April 10, 2018

YET TO PICK UP

28 states and UTs have met less than 50 per cent of the soil health card distribution targets

States/UTs	Target for soil samples collection and testing during cycle-II (2017-18)	% progress of soil samples collected (cycle-II)	% progress of soil samples tested (cycle-II)	Target for printing and distribution of soil health cards (SHCs) for cycle-II	% progress of SHCs printed (cycle-II)	% progress of SHCs distributed (cycle-II)
States						
Uttar Pradesh	2,385,200	93.02	83.38	11,662,730	24.72	24.72
Maharashtra	1,425,763	>100	>100	6,488,616	57.68	51.45
Madhya Pradesh	1,156,989	99.37	92.80	4,436,189	65.70	65.68
Rajasthan	1,154,007	62.74	44.45	3,443,000	40.75	35.55
Karnataka	832,883	>100	82.75	3,916,095	44.28	30.78
Gujarat	794,618	>100	>100	2,554,462	14.99	0.00
Andhra Pradesh	674,191	>100	86.69	3,727,602	27.15	27.15
Bihar	654,389	93.79	51.16	3,618,117	33.43	29.19
West Bengal	650,175	82.75	35.68	2,520,255	35.79	0.00
Tamil Nadu	637,268	>100	>100	3,500,000	50.79	31.36
Telangana	487,627	100.00	94.61	2,585,294	27.71	21.89
Punjab	417,763	81.36	0.00	2,309,811	0.00	0.00
Haryana	622,550	100.00	39.49	2,180,278	2.81	1.46
Chhattisgarh	351,846	>100	>100	1,945,355	84.35	80.45
Odisha	334,318	87.15	72.54	1,848,441	28.55	22.80
Kerala	103,392	0.00	0.00	2,852,208	0.00	0.00
Goa	12,500	54.06	35.62	12,500	33.78	33.78
Uttarakhand	67,869	>100	>100	375,247	>100	80.59
Himachal Pradesh	50,000	>100	>100	480,383	69.46	69.46
Jammu and Kashmir	82,659	46.41	20.78	457,022	15.60	15.60
Jharkhand	57,651	82.19	73.53	318,754	30.23	30.23
Arunachal Pradesh	10,266	0.00	0.00	54,649	0.00	0.00
Assam	142,389	46.74	0.00	770,484	0.00	0.00
Manipur	10,357	34.20	14.15	57,261	0.00	0.00
Meghalaya	19,686	70.04	53.70	104,781	39.20	37.70
Mizoram	5,993	26.30	11.65	5,993	11.61	11.61
Nagaland	16,712	>100	>100	92,399	41.13	39.85
Sikkim	6,609	0.00	0.00	23,000	0.00	0.00
Tripura	16,368	100.00	76.82	58,862	36.74	36.74
Union Territories (UTs)						
Andaman & Nicobar	703	>100	>100	3,900	41.67	41.67
Dadar Nagar & Haveli	7,362	38.25	0.00	7,362	0.00	0.00
Puducherry	1,765	>100	>100	9,797	0.00	0.00
Total	13,191,863	94.96	76.15	62,420,840	35.10	29.19

States where performance is less than 50%, states where performance has been 50-75%, states where performance has been greater than 75%
Source: Ministry of Agriculture and Farmers' Welfare, Government of India; Updated till April 10, 2018

STATE OF AGRICULTURE
FARM ECONOMY

While India's food exports have dipped between 2013-14 and 2016-17, its imports have risen in the period by 64 per cent. At the same time, ₹92,651 cr per year is the post-harvest loss that is primarily due to poor storage facilities and transportation. Ironically, the government estimates that an investment of ₹89,375 cr—a figure marginally lower than the annual post-harvest losses—is all it takes to improve the state of storage and transportation facilities for food crops

India needs

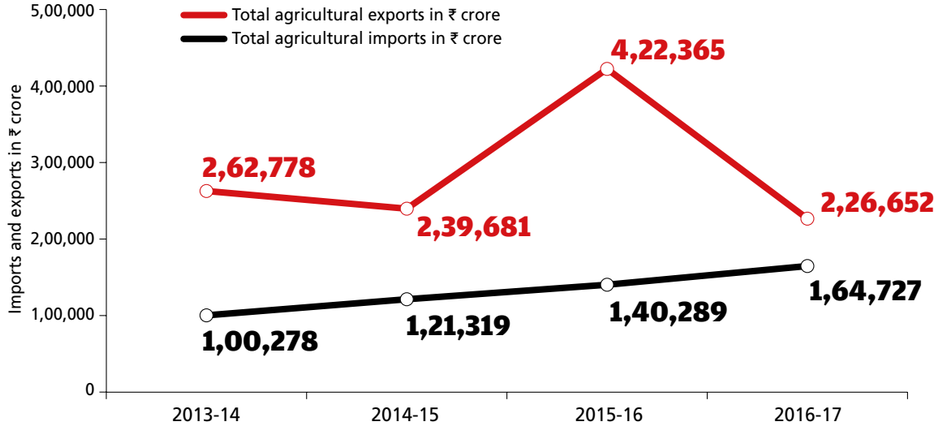
69,831
integrated pack houses at village-level for first round of processing of farm produce

52,826
reefer trucks to transport the produce to cold storage

3,568
regulated markets to sell the produce

UP ON IMPORTS

In 2016-17, India registered its lowest agriculture exports and the highest imports in the past four years



Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare and Directorate General of Commercial Intelligence and Statistics; Import and export data updated till April 18, 2018

TOP 5 AGRICULTURAL COMMODITIES IMPORTED

Commodity	Import value in 2016-17 (in crore)	% increase between 2013-14 and 2016-17	Export value in 2016-17 (in crore)	Post-production crop loss of 2012-13 at 2014 prices (in crore)
Vegetable oils	₹73,039	36443%	₹780	₹8,278 (estimate for oilseeds)
Pulses	₹28,523	123%	₹1,278	₹3,877
Fresh fruits	₹11,291	26998%	₹4,974	₹16,644
Cashew	₹9,027	93%	₹5,279	₹239
Wheat	₹8,509	31513%	₹448	₹7,882

TOP 5 AGRICULTURAL COMMODITIES EXPORTED

Commodity	Export value in 2016-17 (in crore)	% increase between 2013-14 and 2016-17	Import value in 2016-17 (in crore)	Post-production crop loss of 2012-13 at 2014 prices (in crore)
Marine products	₹39,594	29.28%	₹633	₹4,315
Buffalo meat	₹26,161	-1.12%	0	₹1,235 (meat)
Basmati rice	₹21,513	-26.56%	0	₹10,344 (paddy)
Spices	₹19,111	26.18%	₹5,760	₹939 *
Rice (other than basmati)	₹16,930	-4.86%	₹7	₹10,344 (paddy)

*Post production losses of only black pepper, chilly, coriander and turmeric

POOR AGRI-LOGISTICS

Except for cold storage, the country is lagging in all other agri-logistics, required to bring the produce from farm to the market. If plugged, the sector can create over 28 million jobs, a majority of which will be at the village level

Step 1

Pack houses: The near-farm aggregation points where the fresh harvest is brought for processing

Integrated Pack-House:
Infrastructure requirement | **70,080**

Infrastructure created | **249**

Investment required | **₹66,339** cr

Near-farm job creation potential | **2,800,000**

Step 2

Reefer trucks to transport the produce to cold storage

Reefer Trucks:
Infrastructure requirement | **61,826**

Infrastructure created | **Less than 10,000**

Investment required | **₹15,848 cr**

Near-farm job creation potential | **186,000**

Step 3

Produce is stored at cold storage to be sent to the final market

Cold Storage:
Infrastructure requirement | **35.1 million tonnes**

Infrastructure created | **31.8 million tonnes**

Investment required | **₹3,860 cr**

Near-farm job creation potential | **21,900**

Step 4

Sent to the final market by rail, road, water and air

97 per cent horticulture produce transported on roads. The post-harvest losses can be substantially reduced if they are shifted to trains

Step 5

Ripening units: for fruits that need ripening

Ripening Units:
Infrastructure requirement | **9,131**

Infrastructure created | **812**

Investment required | **₹3,328 cr**

Near-farm job creation potential | **40,000**

Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare and Directorate General of Commercial Intelligence and Statistics; Import and export data updated till April 18, 2018

MARKET CRUNCH

India needs an additional 3,568 wholesale markets

States/UTs	Regulated markets*	Total markets required
Relatively higher Geographical area		
Andhra Pradesh	248	435
Chhattisgarh	187	325
Gujarat	400	517
Karnataka	513	547
Madhya Pradesh	545	829
Odisha	436	387
Rajasthan	454	827
Telangana	260	288
Arunachal Pradesh	13	120
Manipur	0	49
Meghalaya	2	49
Mizoram	0	39
Nagaland	19	41
Sikkim	0	16
Tripura	21	34
Uttarakhand	58	226
Himachal Pradesh	56	130
Jammu & Kashmir	25	338
Maharashtra	902	846
Relatively higher agri-production		
Haryana	281	263
Punjab	435	339
Tamil Nadu	283	452
West Bengal	475	594
Relatively higher population		
Delhi	16	36
Goa	8	14
Kerala	0	143
Bihar	0	561
Jharkhand	190	246
Uttar Pradesh	623	1,179
Assam	226	259
Total	**6,676**	**10,130**

* Regulated markets include primary market yards and secondary market yards and it is assumed that all will function as wholesale markets, irrespective of current status of infrastructure

Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare

STATE OF AGRICULTURE
HORTICULTURE

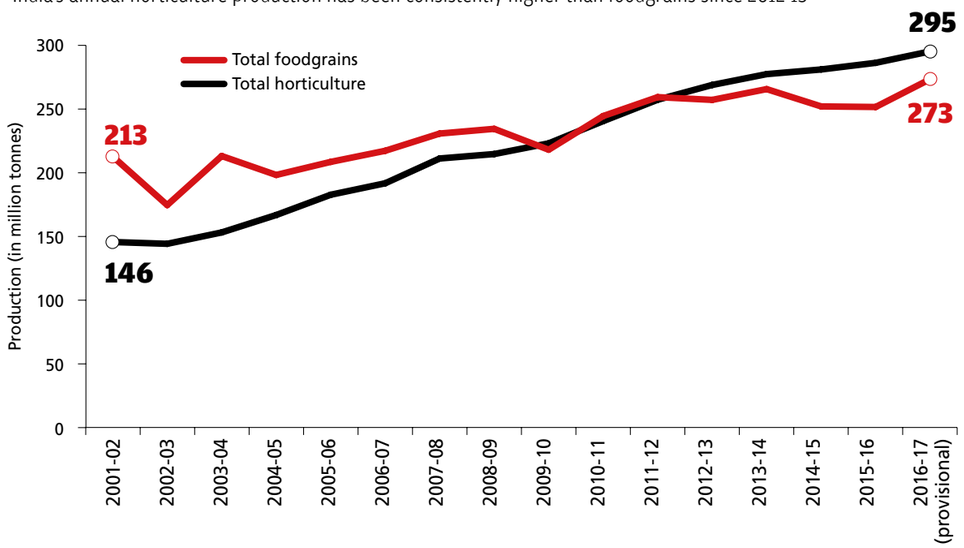
Just 6.6 per cent of India's total cropped area are under horticulture. Yet, the production was 22 million tonnes more than that of foodgrain in 2016-17, suggesting a huge potential in the sector. As a result, the recent Ashok Dalwai Committee Report on Doubling of Farmer's Income suggests encouraging farmers to take up horticulture to augment income. It calculates that a farmer can earn an additional ₹80,000 per hectare (ha) if they replace staple crops with horticulture

₹79,232/ha
Additional income a farmer can earn by replacing staple crops with horticulture crop at 2015-16 prices

₹1,939 cr
Additional income for farmers due to replacement of staple crops by 1 per cent increase in area under horticulture in 2015-16

HORTICULTURE MOVES AHEAD

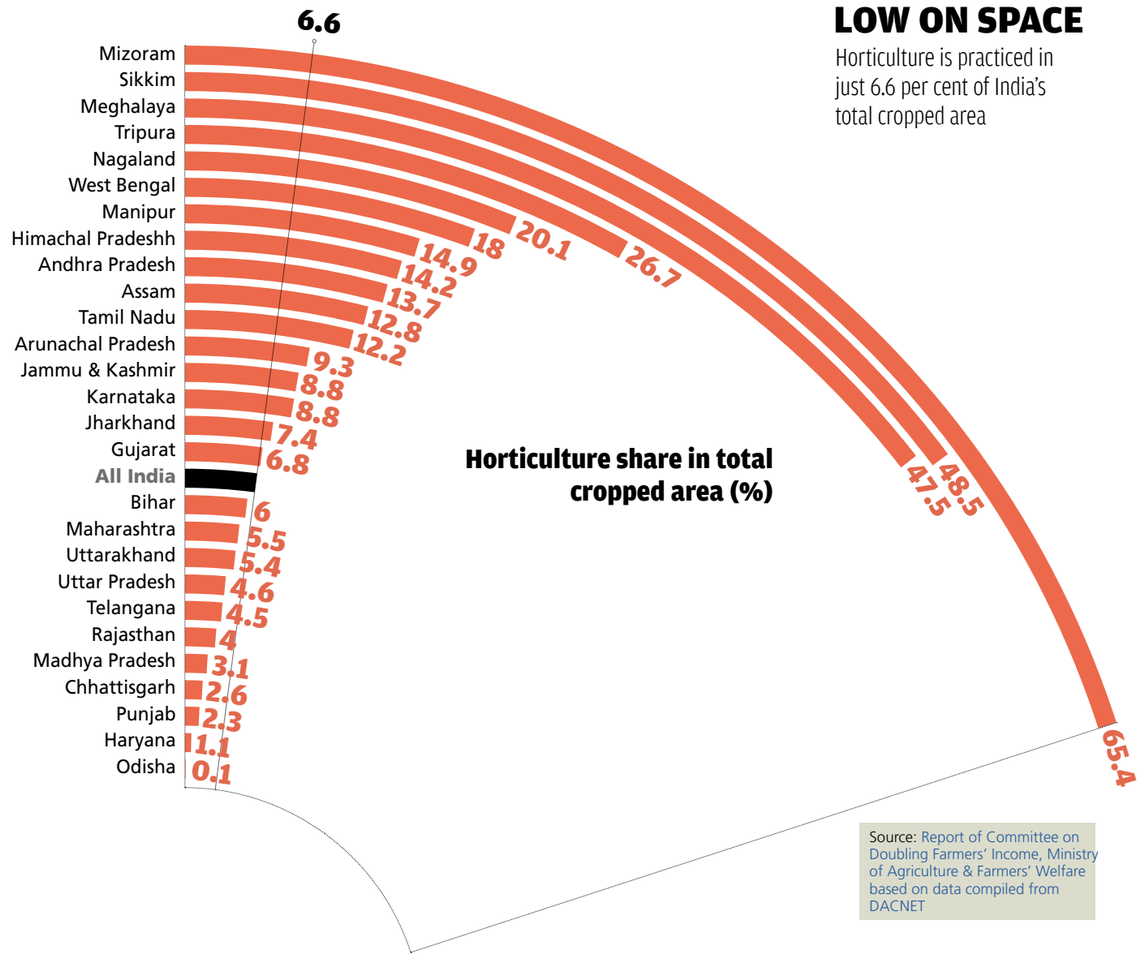
India's annual horticulture production has been consistently higher than foodgrains since 2012-13



Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare

LOW ON SPACE

Horticulture is practiced in just 6.6 per cent of India's total cropped area



Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare based on data compiled from DACNET

FUTURE-READY

There is a high projected demand for horticulture in India

Horticulture commodity	Current production (million tonnes)	Demand in 2030 (million tonnes)	Demand in 2050 (million tonnes)	Growth in demand between now and 2050
Vegetables	175	192	342	95%
Fruits	93	103	305	228%

Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare

STATE OF AGRICULTURE FARMER PROTESTS

Farmer protests continue to be at the centre stage with farmers in at least 15 states taking to the streets. There are three broad reasons for this growing discontent: government's failure to safeguard farmers against crop loss, fair price for their produce and forceful farmland acquisitions for developmental projects

Since 2017

34
major farmer protests have been recorded

15
states recorded the major farmer protests

Gujarat
No. of protest | 01

May 3, 2018 | Farmers in Amreli district sit on fast to reclaim land leased to Gujarat Heavy Chemicals Limited (GHCL) for salt production

Andhra Pradesh
No. of protest | 01

May 3, 2017 | Angry chilly farmers dump produce in all major market yards and even set some of the produce on fire to protest against sharp fall in prices

Chhattisgarh
No. of protest | 01

March 5, 2018 | In Bhanupratappur village, farmers protest against the land acquisition for the Dallirajhara-Rowghat-Jagdalpur rail project by sitting on railway tracks. Their primary demand is for government jobs

Haryana
No. of protest | 02

Feb 26, 2018 | Following several arrests, Haryana farmers carry out an agitation semi-nude to protest against the anti-farmer policies

May 25, 2017 | Farmers demand loan waivers, a fixed retirement age and government pensions

Karnataka
No. of protest | 02

March 10, 2018 | Kanabaragi village farmers protest against the Belagavi Urban Development Authority's plan to use farmland for residential projects

June 8, 2017 | Kisan Cell of the Congress protest against the state government's anti-farmer polices

Madhya Pradesh
No. of protest | 1

June 2017 | Farmers torch vehicles and stage protest in front of police stations and government offices to demand for loan waivers and higher crop prices

Maharashtra
No. of protest | 04

May 4, 2018 | Over 50,000 farmers in Thane and Palghar districts protest against land acquisition for bullet train and expressway projects; dairy farmers demand better prices

May 4, 2018 | Farmers protest after officials stop a farmers' market in Kandivili

May, 2017 | Farmers protest against mounting debt in the sector

Odisha
No. of protest | 03

April 11, 2018 | Farmers in nine blocks of Sambalpur district protest over crop loss

Feb 2018 | Sambalpur farmers protest outside agriculture office over short supply of urea fertiliser

March 2017 | Farmers protest against post-harvest crop loss

Punjab
No. of protest | 03

June 2017 | Farmers in Majha region demand farm loan waiver

Jan 2017 | Ludhiana farmers throw vegetables, milk, eggs at Samrala main chowk to protest against losses due to demonitisation

Jan 2017 | Ambala farmers protest against poor potato prices

Rajasthan
No. of protest | 04

March 20, 2018 | Farmers near Shivdaspura protest against land acquisition for new airport

Feb 22, 2018 | Farmer bodies accuse the state government of dishonesty in announcing loan waiver

Feb 17, 2018 | Farmers in Sikar partially bury themselves in pits to protest the acquisition of their lands for a toll road

May 2017 | Farmers demand loan waivers and better prices for milk

Tamil Nadu
No. of protest | 05

May 6, 2018 | Farmers protest in Chennai over Cauvery water dispute issue

April 28, 2018 | Salem farmers protest against land acquisition for airport expansion

April 14, 2018 | Farmers in Trichi staged a protest by lying in a crematorium alongside a burning pyre to demand the setting up of the Cauvery Management Board

Feb 28, 2018 | Protest over the state government's decision to release water from Thirumoorthy Reservoir to Kerala

June 9, 2017 | Farmers launch an indefinite protest for the the formation of a Cauvery Management Board

Telangana
No. of protest | 04

March 6, 2018 | Nagarkurnool farmers demand minimum support price for groundnut

May 3, 2017 | Dairy farmers in Hatri demand higher milk price

May 3, 2017 | Farmers in Armoor agitate for to pressurise the government to purchase red jowar produce

May 3, 2017 | Farmers protest after chilly prices crash

West Bengal
No. of protest | 01

May 22, 2017 | Left-affiliated peasant outfits protest against state government for better prices

Delhi
No. of protest | 01

March 13, 2018 | Thousands of farmers from across the country assemble in New Delhi to demand for an increase in the minimum support price of wheat from the existing ₹1,735 to ₹2,500 per quintal

Kerala
No. of protest | 01

Feb 24, 2018 | Demanding the release of water by Tamil Nadu under the Parambikulam Aliyar Project, Kerala farmers block the entry of trucks from Tamil Nadu

Source: Media reports

From State of India's Environment in figures 2017

55% of India depends on farm sector for livelihood

14% is the contribution of agriculture to GDP

34 farmers commit suicide in the country everyday

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MORE ON AGRICULTURE

State of Agriculture

Agricultural Statistics at a Glance 2016 | July 2017
Ministry of Agriculture & Farmers Welfare
The annual publication is a rich source of data on a wide range of parameters, such as area, production and productivity of various crops across states

Horticultural statistics at a glance 2017 | September 2017
Ministry of Agriculture & Farmers Welfare
The report contains detailed coverage of area, production and yield estimates of horticulture crops. It also has information on prices, market arrivals, value of output, inputs used, imports and exports

Report of the Ashok Dalwai Committee on Doubling Farmers' Income: Volume II - status of farmers' income: strategies for accelerated Growth | August 2017
Ministry Of Agriculture & Farmers Welfare
The report examines the aggregated growth rates that need to be registered at both national and state levels, besides disaggregating them sub-sectorally

Report of the Ashok Dalwai Committee on Doubling Farmers' Income: Volume VI - strategies for sustainability in agriculture | November 2017
Ministry Of Agriculture & Farmers Welfare
The report examines the actionable strategies and practices to achieve sustainability in agriculture

Report of the Ashok Dalwai Committee for Doubling Farmers' Income: Volume VIII - production enhancement through productivity gains | December 2017
Ministry Of Agriculture And Farmers Welfare
The report examines the merits of productivity-led production, with perspective that farmers must be able to benefit from technologies and practices that allow them to create value in a more optimal manner

MORE ON AGRICULTURE

State of Indian agriculture 2015-16 | October 2016
Ministry Of Agriculture And Farmers Welfare
The report on the State of Indian Agriculture presents a comprehensive analysis of the recent growth and performance of the agriculture and allied sectors

Soil pollution: a hidden reality | May 2018
Food and Agriculture Organization (FAO)
The report summarises the state of soil pollution, identifies the main pollutants and their sources affecting human health and the environment paying special attention to those pollutants that are present in agricultural systems

RELATED WEBSITES

Ministry of Agriculture & Farmers' Welfare

Department of Agriculture Cooperation & Farmers Welfare

National Crop Insurance Portal

Doubling of Farmers' Income

Ministry of Commerce and Industry

Soil Health Card Portal

STATE OF **FORESTS**

FOREST COVER

While India's total forest cover has registered a 0.2 per cent increase between 2015 and 2017, there are some serious concerns over the growth pattern. The primary worry is that the bulk of the increase has taken place in the open forest category, which includes commercial plantations. And this has happened at the cost of moderately dense forest category, which is normally the area close to human habitations

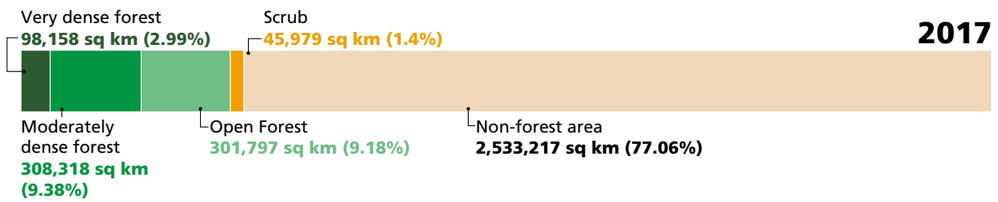
Forest categories | 21.54 per cent or 708,273 sq km of India's geographical area is under forests

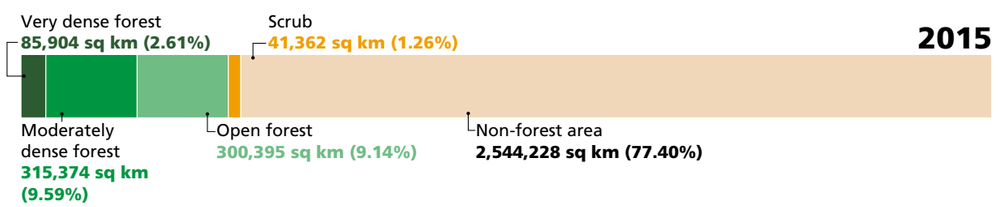
Very dense forest: All lands with tree canopy density of 70% and above

Moderately dense forest: All lands with tree canopy density of 40% and more but less than 70%

Open forest: All lands with tree canopy density of 10% and more but less than 40%

Scrub: Degraded forest lands with canopy density less than 10%

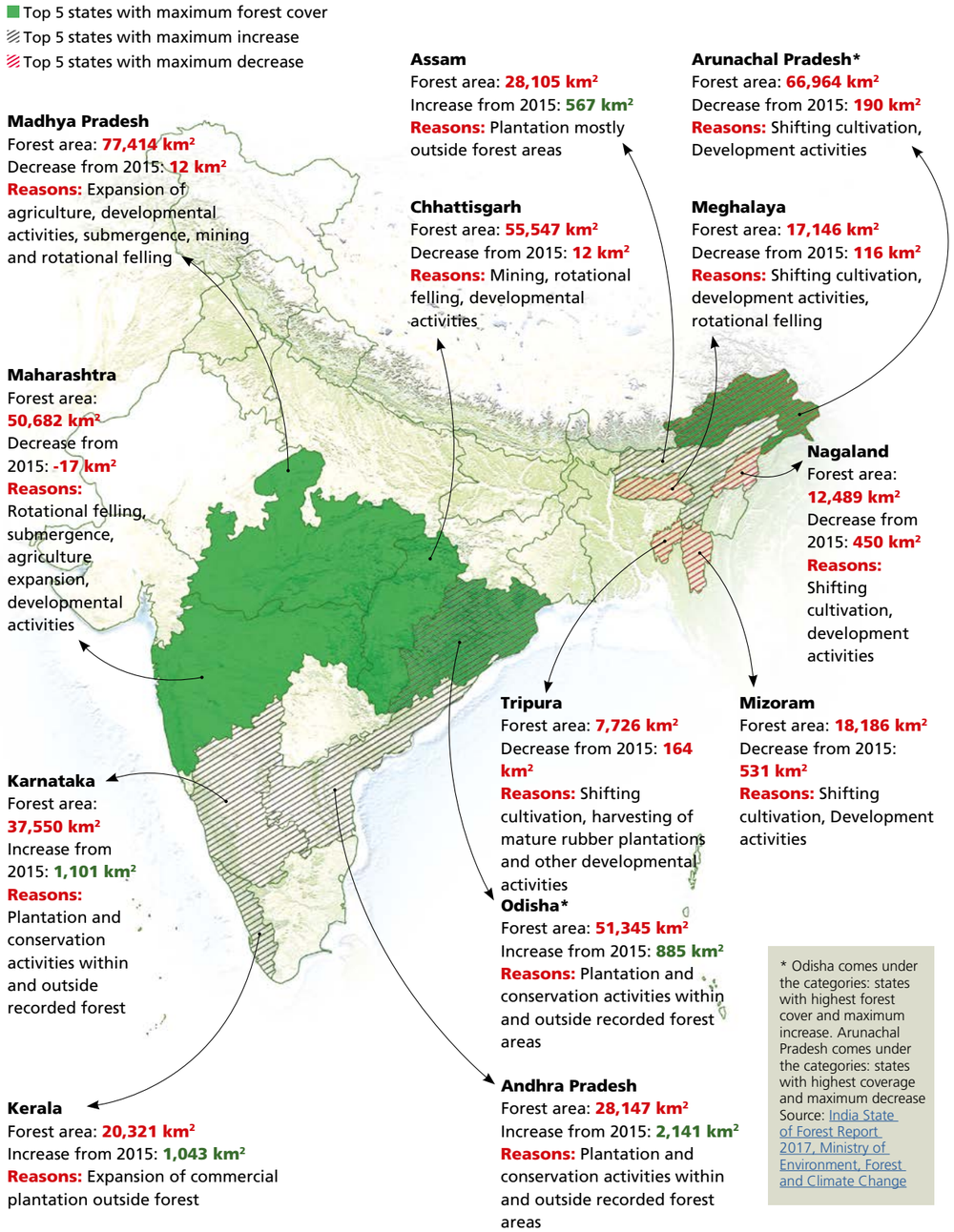




Source: India State of Forest Report 2017, Ministry of Environment, Forest and Climate Change

WOOD YOU LIKE IT

The states with highest forest cover—Madhya Pradesh (77,414 sq km), Arunachal Pradesh (66,964 sq km) and Chhattisgarh (55,547 sq km)—have registered a decline in 2017 and should draw the attention of policymakers. At the same time, the Northeastern states, which account for one-fourth of India's forest cover, have seen a net decline of 630 sq km in just two years—between 2015 and 2017. This is worrying because the region is one of the 18 biodiversity hot spots of the world



* Odisha comes under the categories: states with highest forest cover and maximum increase. Arunachal Pradesh comes under the categories: states with highest coverage and maximum decrease
Source: India State of Forest Report 2017, Ministry of Environment, Forest and Climate Change

STATE OF FORESTS

TRIBAL WELFARE SCHEMES

The Ministry of Tribal Affairs has at least seven initiatives to improve the livelihood of tribals. But a closer look shows that budgetary allocation for most of these schemes is being reduced every year

104 million (8.6%)
is the tribal population of India, as per the 2011 census

100 million
forest dwellers depend on minor forest produce (MFP) for food, shelter, medicines and income

Vanbandhu Kalyan Yojana

The scheme was launched in July 2014 by the Ministry of Tribal Affairs to ensure holistic development and welfare of the tribals. It is being implemented in only one block across 10 states—Andhra Pradesh, Madhya Pradesh, Himachal Pradesh, Telangana, Odisha, Jharkhand, Chhattisgarh, Rajasthan, Maharashtra and Gujarat. The areas in the states have been selected based on recommendations of the respective state governments

	Budget estimates	Revised estimates	Actual expenditure
2014-15	₹100cr	₹100cr	₹100cr
2015-16	₹200cr	₹200cr	₹200cr
2016-17	₹1cr	₹1cr	Nil
2017-18	₹0.01cr	-	-

Decrease in expenditure in 2016-17 over 2014-15
100%

National Scheduled Tribes Finance and Development Corporation (NSTFDC)

This apex organisation under the Ministry of Tribal Affairs was set up in 2001 for the economic betterment of Scheduled Tribes by extending concessional financial assistance

	Budget estimates	Revised estimates	Actual expenditure
2014-15	₹70cr	₹70cr	₹70cr
2015-16	₹70cr	₹63.33cr	₹63.33cr
2016-17	₹70cr	₹60cr	₹25cr
2017-18	₹60cr	-	-

Decrease in expenditure in 2016-17 over 2014-15
64%

Mechanism for marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) and development of value chain for MFP

The scheme was launched in 2013-14 to provide a social safety net to MFP gatherers and initially covered Scheduled Areas in eight states and fixed MSPs for 12 MFPs. In October 2016, the scheme was extended to all the states. But at the same time the Centre halved the budgetary allocation for the scheme. As a result, MSP for important MFPs saw a heavy reduction (see High value, low price)

	Budget estimates	Revised estimates	Actual expenditure
2014-15	₹317cr	₹100cr	₹100cr
2015-16	₹307cr	₹143cr	₹117.69cr
2016-17	₹158cr	₹3cr	₹0cr
2017-18	₹20cr	-	-

Decrease in expenditure in 2016-17 over 2014-15
100%

Tribal Festival, Research Information and Mass Education

It is an umbrella scheme to preserve and promote various aspects of tribal culture and heritage, including their values of cooperation, community feeling, music, dance, literature, language, festivals/ religion, knowledge and indigenous technology, skills, arts and handicrafts

	Budget estimates	Revised estimates	Actual expenditure
2014-15	₹18.34cr	₹24.09cr	₹20.79cr
2015-16	₹10.2cr	₹10.2cr	₹7.87cr
2016-17	₹17.39cr	₹6.39cr	₹3.86cr
2017-18	₹12.04cr	-	-

Decrease in expenditure in 2016-17 over 2014-15
81%

Scheme for Development of Primitive Vulnerable Tribal Groups

The scheme was launched on April 1, 2008, for the protection and development of the most vulnerable Scheduled Tribes. It identifies 75 primitive vulnerable tribal groups (PVTGs). Activities supported under the scheme include housing, land distribution, land development, agricultural development, cattle development, construction of link roads, installation of non conventional sources of energy and social security

	Budget estimates	Revised estimates	Actual expenditure
2014-15	₹207cr	₹180cr	₹180cr
2015-16	₹217.35cr	₹217.35cr	₹213.54cr
2016-17	₹200cr	₹150cr	₹86.1cr
2017-18	₹150cr	-	-

Decrease in expenditure in 2016-17 over 2014-15
52%

Institutional support for development and marketing of tribal products

The scheme was launched in 2014 by revising and merging two separate schemes—Market Development of Tribal Products / Produce and Grant-in-Aid to State Tribal Development Cooperative Corporation for Minor Forest Produce Operation. It provides support to tribals through better infrastructure for forest and agricultural produce

	Budget estimates	Revised estimates	Actual expenditure
2014-15	₹35cr	₹35cr	₹30.82cr
2015-16	₹50cr	₹40cr	₹35.85cr
2016-17	₹49cr	₹49cr	₹31.44cr
2017-18	₹49cr	-	-

Increase in expenditure in 2016-17 over 2014-15
2%

Grant-in Aid to Tribal Research Institutes

The scheme was launched in 2014 and provides grants to the Tribal Research Institutes set up by various state governments to preserve and promote tribal culture including tribal languages

	Budget estimates	Revised estimates	Actual expenditure
2014-15	₹15cr	₹11.09cr	₹11.09cr
2015-16	₹28.5cr	₹11cr	₹11cr
2016-17	₹21cr	₹17cr	₹11.83cr
2017-18	₹18cr	-	-

Increase in expenditure in 2016-17 over 2014-15
7%

Source: Ministry of Tribal Affairs

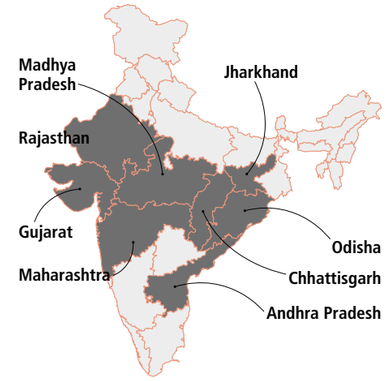
HIGH VALUE, LOW PRICE

While increasing the list of minor forest produce (MFPs), the Centre has reduced the minimum support prices (MSP) of important forest produce such as Lac by over 52 per cent under the MFP through MSP scheme

MSP 2016-17 (In ₹ per tonne) MSP 2017-18 (In ₹ per tonne)

₹22,000
₹18,000
Tamarind

States that matter: The scheme was initially started in eight states and extended to all the states in 2016



₹22,000
₹20,000
Mahua seed

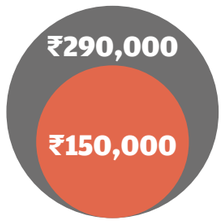
₹10,000
₹10,000
Sal seed

₹21,000
₹18,000
Karanjua seed

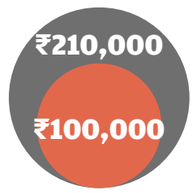
₹11,000
₹8,000
Myrobalan

₹100,000
₹60,000
Chironjee pod with seed

₹108,000
₹108,000
Gum Karaya



Lac kusumi



Lac Rangeeni

Wild honey

Source: TRIFED; As on December 5, 2017; Data unavailable for mahua flowers, tendu, bamboo, puwad seed and neem seed

STATE OF FORESTS
BAMBOO ECONOMY

Though India is the world's second largest bamboo grower, its bamboo products capture just 4.5 per cent of the global market, suggesting a wide gap between demand and supply due to over exploitation, poor regeneration, low productivity and lack of market information. Even though the government recognised bamboo as a grass in November 2017 to encourage trade, the performance of the National Bamboo Mission to promote bamboo remains sub par

India has

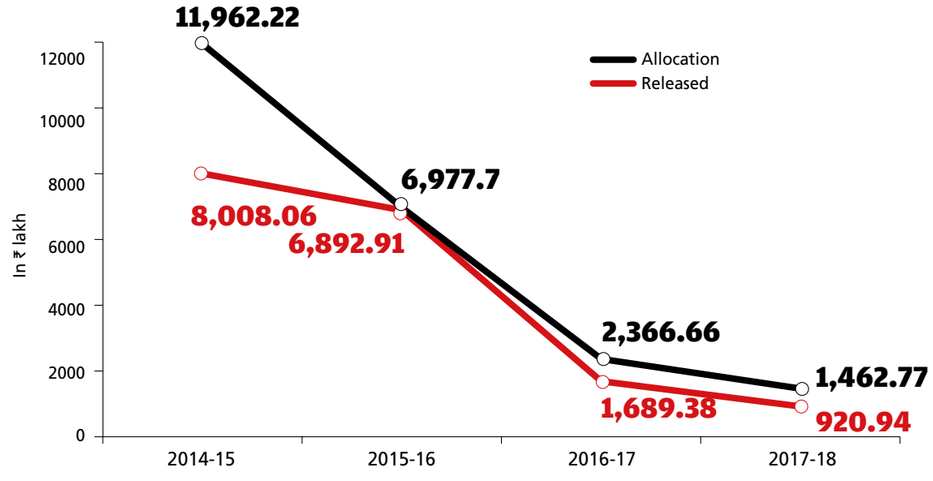
2nd
largest land area under bamboo, after China

125
indigenous bamboo varieties, found in every state except Kashmir

11
exotic bamboo varieties

NEGLECTED GRASS

The funds allocated and released for the National Bamboo Mission is gradually going down



Source: National Bamboo Mission, Ministry of Agriculture; As on March 21, 2018

NOT A PRIORITY

In 2017-18, 14 states and union territories did not receive allocations under the National Bamboo Mission

States	2016-2017		2017-2018	
	Allocation (₹ in lakh)	Released (₹ in lakh)	Allocation (₹ in lakh)	Released (₹ in lakh)
Arunachal Pradesh	138.6	138.6	75.6	19
Assam	156	0	0	0
Chhattisgarh	143.21	143.21	56.58	47.77
Gujarat	152.7	152.7	89.7	0
Himachal Pradesh	48.08	24.04	36.94	0
Jammu and Kashmir	15.99	0	0	0
Karnataka	178.5	133.88	126	94.5
Kerala	9.19	0	0	0
Madhya Pradesh	120.3	116.49	88.8	44.4
Maharashtra	18.02	0	16.68	0
Manipur	272.21	194.05	217.08	217.06
Meghalaya	27.83	0	0	0
Mizoram	416.58	416.58	311.58	284.46
Nagaland	388.5	244.25	283.5	141.75
Odisha	185.91	102.79	143.91	72
Rajasthan	19.47	0	2.2	0
Sikkim	24.68	0	0	0
Tamil Nadu	30.39	22.79	5.51	0
Tripura	20.5	0	8.69	0
India	2,366.66	1,689.38	1,462.77	920.94

No allocations were made between 2016 and 2018 in Andhra Pradesh, Uttar Pradesh, Uttarakhand, West Bengal, Bihar, Goa, Jharkhand, Punjab, and Telangana . The scheme is not implemented in Haryana

Source: National Bamboo Mission, Ministry of Agriculture & Farmers Welfare

WASTED OPPORTUNITY

Bamboo can generate 516.33 million mandays of work every year

Employment potential of bamboo		
Bamboo use	Estimated capacity/quantity	Mandays (Per annum in million)
Silviculture	25,000 hectares	75
Bamboo plantations	6 million tonnes	40
Harvesting	6 million tonnes	100
Transport/storage/handling	6 million tonnes	30
Weaving into products	3 million tonnes	240
Industrial labour	3.3 million tones	7.33
Cottage industries	40,000 tonnes	24
Total		516.33

Source: Report of Committee on Doubling Farmers' Income, Ministry of Agriculture & Farmers' Welfare

STATE OF **FORESTS**
FOREST FIRES

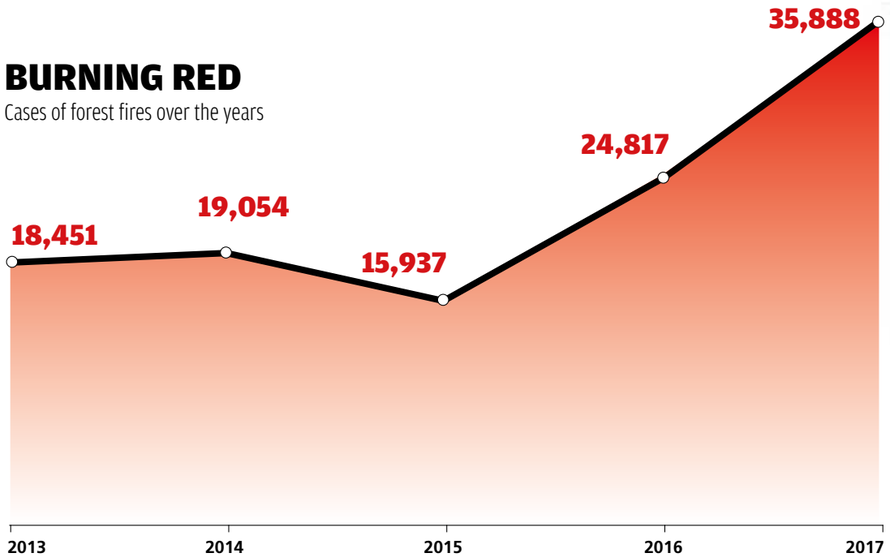
Despite a 125 per cent increase in forest fires in the country between 2015 and 2017, the government has failed to utilise funds earmarked to contain such incidents. At the same time, the government has missed two National Green Tribunal deadlines to come up with a national policy to fight forest fires

31
states and UTs registered an increase in forest fires between 2015 and 2017

54%
of Forest Fire Prevention and Management fund was released in 2017-18

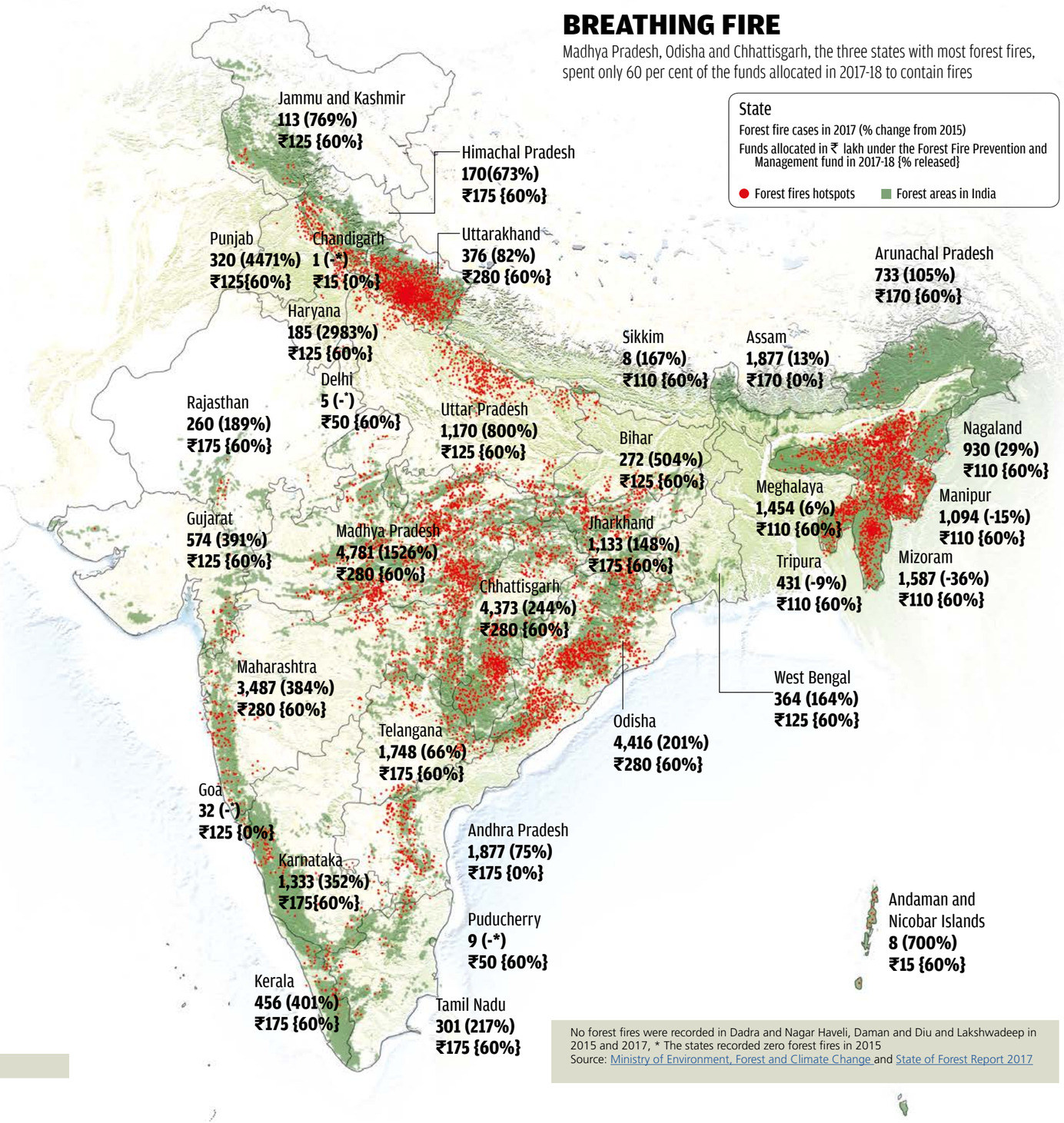
7
states and UTs did not release the Forest Fire Prevention and Management fund in 2017-18

BURNING RED
Cases of forest fires over the years



Source: State of Forest Report 2017

BREATHING FIRE
Madhya Pradesh, Odisha and Chhattisgarh, the three states with most forest fires, spent only 60 per cent of the funds allocated in 2017-18 to contain fires

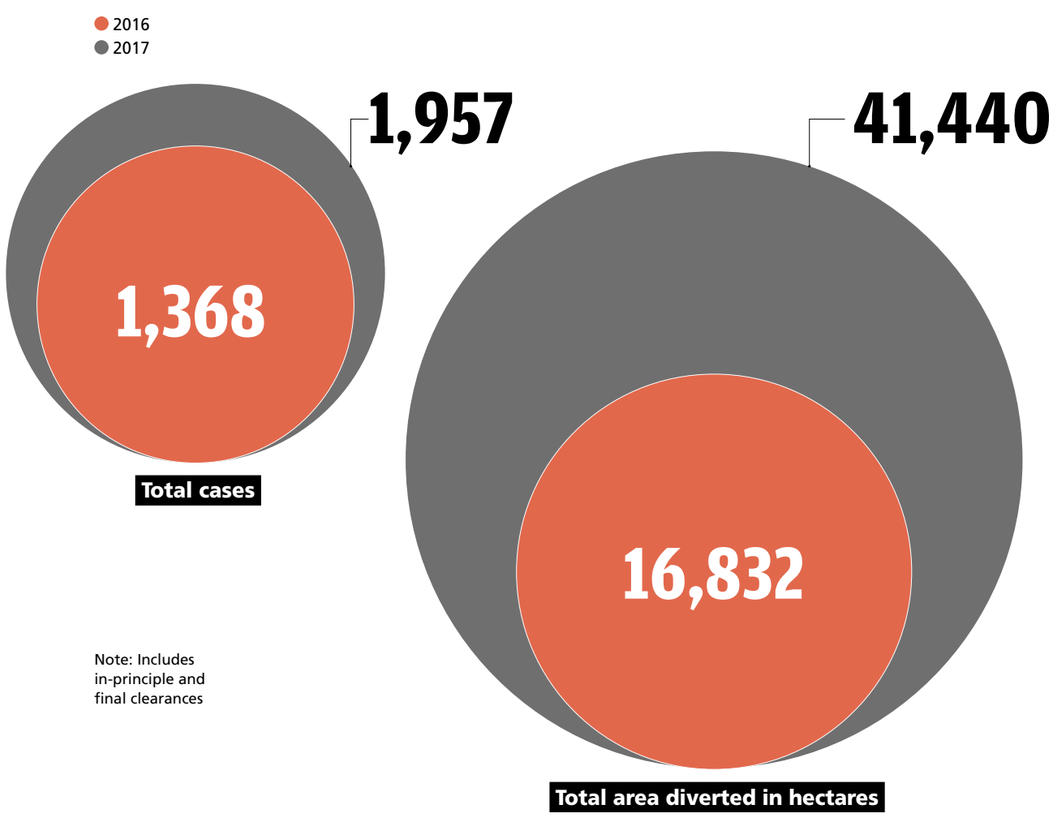


No forest fires were recorded in Dadra and Nagar Haveli, Daman and Diu and Lakshwadeep in 2015 and 2017, * The states recorded zero forest fires in 2015
Source: Ministry of Environment, Forest and Climate Change and State of Forest Report 2017

STATE OF FORESTS
FOREST CLEARANCES

There has been a 146 per cent increase in the forestland area diverted for non-forest activities in the past one year with maximum diversions recorded in Madhya Pradesh, Telangana and Odisha, which account for 54 per cent of the total diverted area

Out of forest | In 2017, the Centre on an average gave clearances to close to six developmental projects a day in forest area



Note: Includes in-principle and final clearances

EATING INTO FORESTS

14 states and UTs saw an increase in forest clearances between 2016 and 2017

State/UT	Area in hectares		% increase from 2016
	2016	2017	
Telangana	134	6,624	4,853
Rajasthan	243	2,546	948
Himachal Pradesh	81	579	615
Andhra Pradesh	314	2,102	570
Madhya Pradesh	2,290	10,710	368
Punjab	154	719	368
Sikkim	20	70	248
Odisha	2,035	5,234	157
Chhattishgarh	1,247	2,839	128
Bihar	190	429	126
Uttar Pradesh	847	1,121	32
Gujarat	1,757	2,312	32
Jharkhand	626	750	20
Karnataka	589	635	8
Tripura	31	30	-5
Tamil Nadu	34	32	-6
Maharashtra	2,640	2,183	-17
Uttaranchal	1,880	1,514	-20
Haryana	534	401	-25
Arunachal Pradesh	363	251	-31
Meghalaya	7	5	-35
West Bengal	243	122	-50
Assam	45	21	-52
Manipur	505	170	-66
Goa	0	42	—
Dadar & Nagar Haveli	2	1	-72
Kerala	14	0	-98
Andaman & Nicobar Island	5	0	-100
TOTAL	16,832	41,440	146

Note: No diversions happened in Daman & Diu, Delhi, Jammu and Kashmir, Nagaland, Lakshwadeep, Puducherry, Chandigarh and Mizoram

Source: Ministry of Environment, Forest and Climate Change

STATE OF FORESTS ENCROACHMENT

The country has lost 13,613 sq km of forests—nine times the size of Delhi—to encroachment, which is 2 per cent of the total forest area recorded in 2015. Another worry is that several states do not have updated forest encroachment data. Gujarat and Meghalaya, for example, have data till March 2011 and Odisha has it till July 2011

LEGALLY WRONG

Just three states—Madhya Pradesh, Assam and Karnataka—account for 68 per cent of the total encroached area

States / UTs	Date last updated	Encroached area in sqkm	Encroached % of total recorded forest area*
Madhya Pradesh	June 31, 2016	5,347.2	6%
Assam	March 17, 2015	3,172.2	12%
Karnataka	March 31, 2017	827.3	2%
Odisha	July 22, 2011	785.1	1%
Maharashtra	March 31, 2016	670.1	1%
Arunachal Pradesh	March 31, 2016	586.4	1%
Gujarat	March 19, 2011	347.9	2%
Jharkhand	August 7, 2017	265.0	1%
Uttar Pradesh	March 31, 2017	239.5	1%
Chhattisgarh	January 31, 2016	193.3	0%
Tamil Nadu	March 31, 2017	150.4	1%
Mizoram	November 28, 2017	114.1	2%
Rajasthan	March 31, 2017	108.4	0%
Jammu & Kashmir	March 31, 2017	102.8	1%
West Bengal	March 31, 2016	102.1	1%
Uttarakhand	December 13, 2017	95.3	0%
Meghalaya	March 12, 2011	93.8	1%
Punjab	March 31, 2017	81.8	3%
Kerala	March 31, 2017	78.0	1%
Manipur	March 31, 2017	67.3	0%

States where encroached data was last updated before December 2016 and after December2016

Source: Ministry of Environment, Forest and Climate Change
*Total Recorded Forest Area as per the India State of Forests report 2015; encroachment data updated till December 18, 2017

From State of India's Environment in figures 2017

95% forest fires in the country are manmade

35 million hectares of forests lost to fires every year

10,000 hectares of forestland was diverted between January and September 2016

Get your copy of SoE in Figures 2017

MORE ON FORESTS

India State of Forest Report 2017 | February 2018
Forest Survey of India
The biennial publication provides state/district wise forest cover of the country and changes with respect to the previous assessment State of Forest Report 2015

Global Forest Resources Assessment 2020: guidelines and specifications | March 2018
Food and Agriculture Organization (FAO)
The report provides essential information for understanding the extent of forest resources, their condition, management and uses

Draft National Forest Policy, 2018
March 2018| Ministry of Environment, Forests and Climate Change
This policy proposes to restrict schemes and projects which interfere with forests that cover steep slopes, catchments of rivers, lakes, and reservoirs, geologically unstable terrain and such other ecologically sensitive areas

The Indian Forest (Amendment) Bill, 2017 | December 2017
Lok Sabha
The Parliament cleared this bill to exclude bamboo from the definition of tree under the Indian Forest Act, stating it would improve earnings of tribals and dwellers living around forests

People's forests: Is community forest resource governance the future of India's jungles? | March 2018
Centre for Science and Environment
The investigative report examines the processes of the Community Forest Resource (CFR) and their implementation through case studies from four states

Order of the National Green Tribunal regarding notification of National Policy on forest fires | February 19, 2018
National Green Tribunal (NGT)
NGT issued directions to the Chief Secretaries of the States to take immediate step in the matter in relation approval the drafting and making suggestion to the draft National Policy

Judgement of the National Green Tribunal regarding forest fires across the State of Uttarakhand and Himachal Pradesh
| August 2017 | National Green Tribunal (NGT)
NGT directed that the Ministry of Environment, Forest and Climate Change in consultation with the states formulate National policy/Guidelines for forest fire prevention and control, which should be updated periodically

RELATED WEBSITES

Forests Survey Of India

Forest Fire Alerts System 2.0

National Bamboo Mission

Ministry Of Tribal Affairs

Tribal Cooperative Marketing Development Federation of India Limited

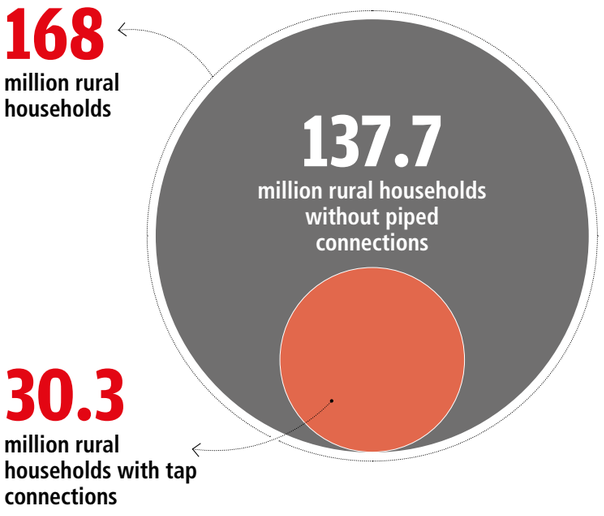
Global Forests Watch

STATE OF **WATER**

ACCESS TO WATER

Last year, the Ministry of Drinking Water and Sanitation launched the Har Ghar Jal Yojana to provide piped water supply to every household by 2030 to meet the Sustainable Development Goals. To meet the target, India needs to connect 137.7 million rural households with piped water supply in the next 12 years

Tap in the wrong direction | Just 18 per cent rural households have tap connections



UNTAPPED

82 per cent rural households do not have a tap connection in India and the figure is even higher in 18 states and UTs

Total households with tap connections as on March 7, 2018
Rural households as per Census 2011

State	Total households with tap connections (as on March 7, 2018) / Rural households as per Census 2011	% households without tap connections
Andaman & Nicobar	6,604/59,030	89%
Andhra Pradesh	2,609,841/14,246,309	82%
Arunachal Pradesh	14,154/195,723	93%
Assam	118,879/5,374,553	98%
Bihar	217,946/16,926,958	99%
Chhattisgarh	376,896/4,384,112	91%
Goa	0/124,674	100%
Gujarat	4,723,961/6,765,403	30%
Haryana	1,577,244/2,966,053	47%
Himachal Pradesh	763,320/1,310,538	42%
Jammu & Kashmir	472,172/1,497,920	68%
Jharkhand	219,870/4,685,965	95%
Karnataka	3,413,926/7,864,196	57%
Kerala	1,374,506/4,095,674	66%
Madhya Pradesh	1,153,149/11,122,365	90%
Maharashtra	4,905,535/13,016,652	62%
Manipur	21,361/383,313	94%
Meghalaya	5,370/422,197	99%
Mizoram	14,108/104,874	87%
Nagaland	15,559/284,911	95%
Odisha	303,799/8,144,012	96%
Puducherry	41,418/95,133	56%
Punjab	1,606,239/3,315,632	52%
Rajasthan	1,134,830/9,490,363	88%
Sikkim	87,800/92,370	5%
Tamil Nadu	2,855,731/9,563,899	70%
Telangana	1,791,317/NA	
Tripura	21,067/607,779	97%
Uttar Pradesh	136,594/25,475,071	99%
Uttarakhand	210,198/1,404,845	85%
West Bengal	109,822/13,717,186	99%

Source: Ministry of Drinking Water & Sanitation and Census 2011, As on March 7, 2018

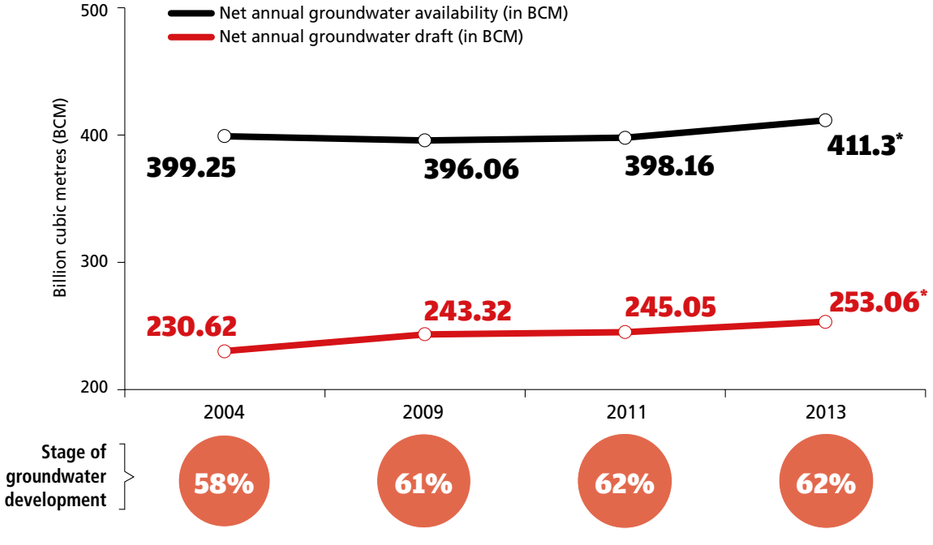
STATE OF WATER

GROUNDWATER AVAILABILITY

India's dependency on its groundwater is steadily increasing. In 2013, it used 62 per cent of the net available annual groundwater, up from 58 per cent in 2004. The highest dependency can be seen in four north Indian states—Punjab, Rajasthan, Haryana and Delhi—where the annual groundwater consumption is more than the annual groundwater recharge. The Centre is trying to compensate for the ever-increasing groundwater dependency by encouraging states to adopt artificial recharge structures that it estimates can harness 85.5 billion cubic metres of surplus run-off

NET RISE

Both groundwater availability and its dependency increased between 2004 and 2013



Stage of groundwater development= Net annual groundwater draft/ Net annual groundwater availability
Source: Dynamic ground water resources of India-2017, Ministry of Water Resources, River Development & Ganga Rejuvenation; *As on March 31, 2013

HIGHER DEPENDENCY

Groundwater development of 20 states and UTs has gone up between 2004 and 2013

States	Net annual groundwater availability in 2013* (in BCM)	Annual groundwater draft in 2013 (in BCM)	Stage of groundwater development# (%)
Punjab	23.39	34.81	149
Rajasthan	11.26	15.71	140
Haryana	10.30	13.92	135
Delhi	0.31	0.39	127
Puducherry	0.17	0.15	88
Tamil Nadu	18.59	14.36	77
Uttar Pradesh	71.58	52.76	74
Daman & Diu	0.01	0.01	70
Gujarat	19.79	13.44	68
Lakshdweep	0.0035	0.00237	68
Karnataka	14.83	9.76	66
Telangana	13.39	7.77	58
Madhya Pradesh	34.16	19.36	57
Maharashtra	31.48	17.07	54
Himachal Pradesh	0.53	0.27	51
Uttarakhand	1.97	0.99	50
Kerala	5.66	2.63	47
Bihar	28.49	12.73	45
West Bengal	26.56	11.84	45
Andhra Pradesh	18.48	8.10	44
Chhattisgarh	11.90	4.40	37
Goa	0.15	0.05	37
Dadra & Nagar Haveli	0.06	0.02	32
Odisha	16.69	5.02	30
Jammu & Kashmir	4.82	1.18	24
Jharkhand	5.99	1.35	23
Assam	28.90	4.74	16
Tripura	2.27	0.17	7.3
Mizoram	0.035	0.001	2.9
Nagaland	1.75	0.03	2
Manipur	0.426	0.004	1.01
Andaman & Nicobar	0.378	0.004	1
Meghalaya	2.98	0.01	0.4
Arunachal Pradesh	3.99	0.01	0.23
Chandigarh	0.02	0.00	0

#Stage of groundwater development shows the share of the total annual groundwater available being used;
Information unavailable for Sikkim; Telangana was created in 2014

States whose stage of groundwater development has gone up from 2004
States whose stage of groundwater development has gone down from 2004
States whose stage of groundwater development has not changed from 2004

Source: Dynamic ground water resources of India-2017, Ministry of Water Resources, River Development & Ganga Rejuvenation; *As on March 31, 2013

STATE OF WATER

GROUNDWATER CONTAMINATION

70,736 rural habitats with a combined population of 47.4 million live on contaminated groundwater. What is worse, traces of 10 new contaminants are now being reported in the country, suggesting a steady decline in the quality of groundwater

NEW THREATS

Punjab's groundwater samples had 8 of the 10 new contaminants

Manganese

Health effects: Toxicity to the nervous system, producing
a syndrome that resembles Parkinson

Top states with contaminated habitations:
West Bengal (13,346); Assam (1,041); Andhra Pradesh(23)

Copper

Health effects: Liver damage and kidney disease

Top states with contaminated habitations:
Andhra Pradesh (3); Jammu & Kashmir (1); West Bengal (1)

Aluminium

Health effects: Alzheimer's disease

Top states with contaminated habitations:
Punjab (510); Andhra Pradesh (3); Madhya Pradesh (2)

Mercury

Health effects: Damage to the gastrointestinal tract, nervous system, and kidneys

Top state with contaminated habitations:
Punjab (24)

Uranium

Health effects: Kidney and lifetime risk of cancer

Top states with contaminated habitations:
Punjab (473); Jammu & Kashmir (2); Sikkim (1)

Lead

Health effects: Slows brain development and nervous system

Top states with contaminated habitations:
Punjab (430)

Cadmium

Health effects: Liver injury, convulsions, shock and renal failure

Top states with contaminated habitations:
Punjab (27)

Chromium

Health effects: Cancer and reproductive harm, eye and respiratory irritation and asthma attacks

Top state with contaminated habitations:
Punjab (10)

Selenium

Health effects: Hair and fingernail changes; damage to the peripheral nervous system; fatigue and irritability

Top 3 States with contaminated Habitations:
Punjab (317)

Zinc

Health effects: Stomach cramps and vomiting

Top state with contaminated habitations:
Punjab (2)

Source: National Rural Drinking Water Programme, Ministry of Drinking Water and Sanitation; Updated till May 9, 2018

GONE BAD

Close to 70 per cent of rural habitats with contaminated groundwater are in Rajashtan, West Bengal and Assam

State	Contamination wise number of affected rural habitations						
	Fluoride	Arsenic	Iron	Salinity	Nitrate	Heavy metal	Total
Andhra Pradesh	348	0	1	62	6	0	417
Arunachal Pradesh	0	0	31	0	0	0	31
Assam	285	4,514	6,213	0	0	7	11,019
Bihar	898	871	2,443	0	0	0	4,212
Chhattisgarh	403	19	728	2	10	0	1,162
Haryana	118	0	0	9	0	0	127
Jammu & Kashmir	4	0	12	0	0	0	16
Jharkhand	534	101	2,183	3	4	0	2,825
Karnataka	579	4	77	40	318	1	1,019
Kerala	34	0	199	96	32	0	361
Madhya Pradesh	171	0	5	10	0	0	186
Maharashtra	75	0	17	92	88	0	272
Meghalaya	0	0	32	0	0	0	32
Mizoram	0	0	0	0	0	0	0
Nagaland	0	0	30	0	0	0	30
Odisha	104	0	2,543	377	0	0	3,024
Punjab	298	698	267	14	143	2,106	3,526
Rajasthan	5,996	0	5	12,606	1,050	0	19,657
Tamil Nadu	0	0	171	22	0	0	193
Telangana	681	0	36	182	145	0	1,044
Tripura	0	0	2,538	0	0	0	2,538
Uttar Pradesh	179	748	362	80	10	0	1,379
Uttarakhand	0	0	13	0	3	0	16
West Bengal	1,317	9,888	5,701	474	0	270	17,650
Total	12,024	16,843	23,607	14,069	1,809	2,384	70,736

No contaminants were recorded in the groundwater samples from Andaman and Nicobar, Goa, Gujarat, Manipur, Mizoram, Puducherry and Sikkim

HEALTH COST OF GROUNDWATER CONTAMINATION

Flouride: Brittle bones/teeth, joint impairment and possible damage to the thyroid gland
Arsenic: Skin cancer, lungs, bladder and kidney
Iron: Hemochromatosis, which can lead to liver, heart and pancreatic damage, as well as diabetes
Salinity: Raised Blood Pressure and hypertension
Nitrate: Methemoglobinemia, where blood is unable to give enough oxygen to the body
Metal: Reduced growth and development, cancer, organ damage, nervous system damage

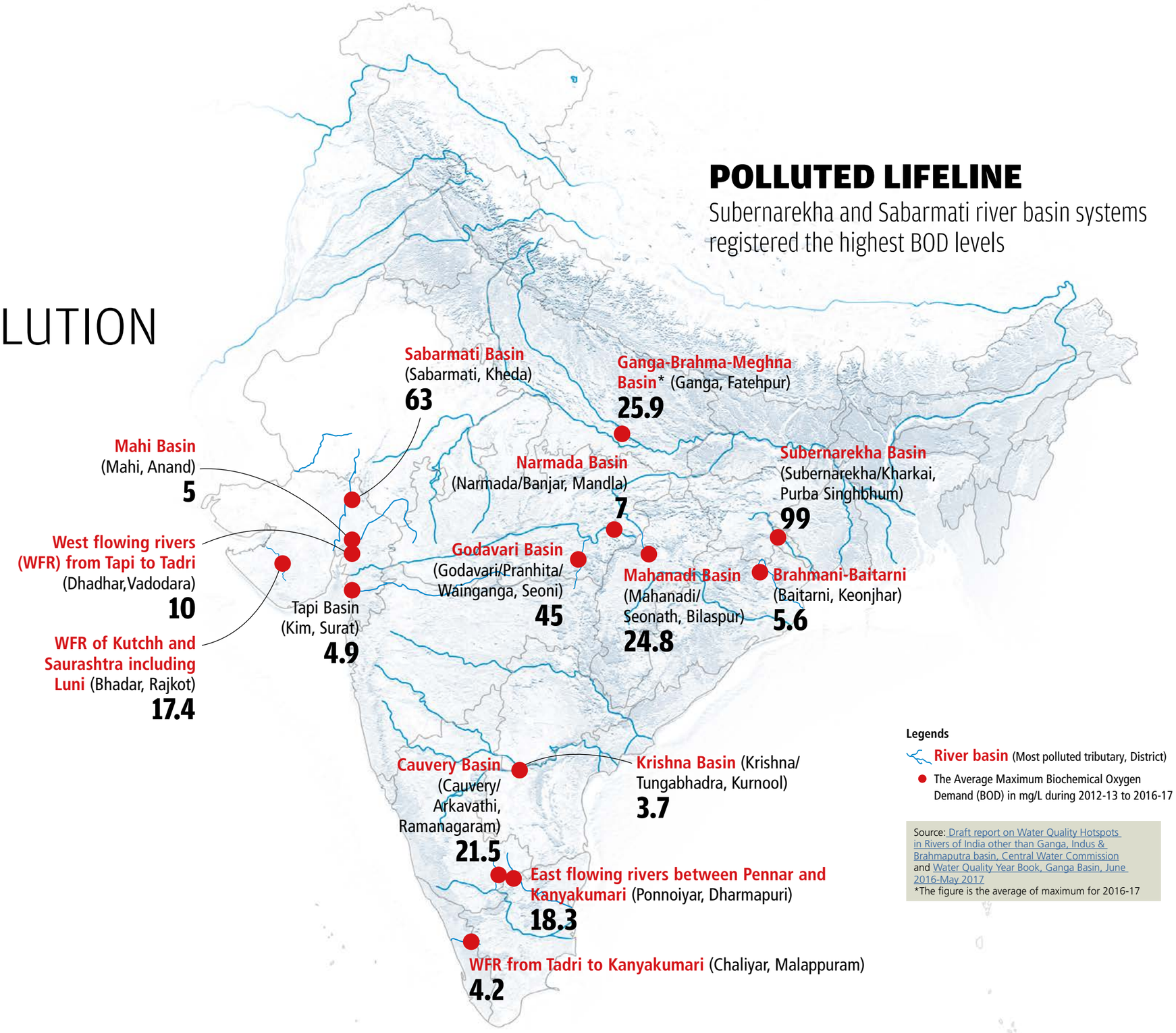
Source: National Rural Drinking Water Programme, Ministry of Drinking Water and Sanitation; Updated till May 9, 2018

STATE OF **WATER** RIVER POLLUTION

Of the 222 sites monitored by the Central Water Commission for water quality between 2012-13 and 2016-17, water quality at 67 locations was beyond the permissible limits. Out of the 67 sites, 14 sites fall under category I (severely polluted) and 12 sites fall under category II. This excludes Ganga and the Brahmaputra, the two most important and polluted river basin systems

POLLUTED LIFELINE

Subernarekha and Sabarmati river basin systems registered the highest BOD levels



Source: Draft report on Water Quality Hotspots in Rivers of India other than Ganga, Indus & Brahmaputra basin, Central Water Commission and Water Quality Year Book, Ganga Basin, June 2016-May 2017
*The figure is the average of maximum for 2016-17

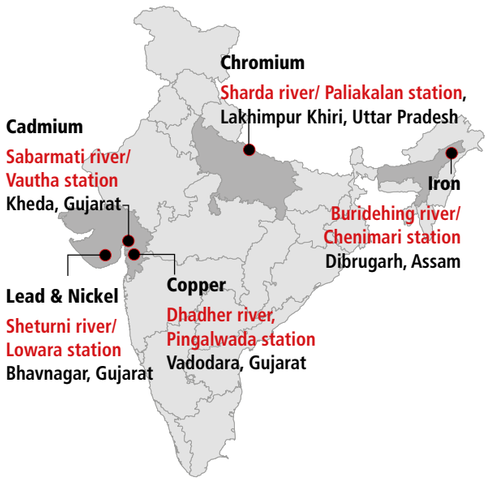
What is Biochemical Oxygen Demand (BOD)

The amount of dissolved oxygen that must be present in water in order for microorganisms to decompose the organic matter in the water. It is a used as a measure of the degree of pollution. The BOD value is most commonly expressed in milligrams of oxygen consumed per litre (mg/L). If the BOD level is higher than 3mg/L, it is unfit for drinking

STATE OF **WATER**
RIVER CONTAMINATION

42 rivers in India are polluted with at least two neuro-toxic heavy metals. Ganga, the national river, is polluted with five heavy metals—chromium, copper, nickel, lead and iron. Six rivers—Arkavathi, Orsang, Rapti, Sabarmati, Saryu and Vaitarna—have unacceptable levels of four pollutants. This is of concern because a majority of Indians still use water directly from rivers for their domestic use. And with an increase in population, the pressure on these rivers will only increase

MOST CONTAMINATED SITES



LEAD

Permissible limit | 10 µg/L

Polluted rivers | 69

Most polluted river/ water quality station | Sheturni/ Lowara (374.58 µg/L or 3646% over permissible limit)

Rivers where lead prevalence exceeded at more than one water quality station | 11

POLLUTION SOURCES
Automobile emissions, lead smelters, burning of coal, mining

HEALTH EFFECTS
Anaemia, kidney disease, nausea, anorexia, and severe abdominal cramps, muscle aches and joint pain, lung damage, difficulty in breathing

NICKEL

Permissible limit | 20 µg/L

Polluted rivers | 25

Most polluted river/ water quality station | Sheturni/Lowara (184.64 µg/L or 3646% over permissible limit)

Rivers where nickel prevalence exceeded at more than one water quality station | 3

POLLUTION SOURCES
Metallurgical industries, burning of coal

HEALTH EFFECTS
Chest constriction, chills and sweating, shortness of breath, coughing, muscle pains, fatigue, gastrointestinal discomfort and in severe cases, convulsions and delirium

IRON

Permissible limit | 300 µg/L

Polluted rivers | 137

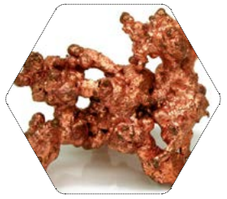
Most polluted river/ water quality station | Buridehing/ Chenimari (14550 µg/L or 4750% over permissible limit)

Rivers where iron prevalence exceeded at more than one water quality station | 44

POLLUTION SOURCES
Iron, steel, alloys, construction, transportation, machine manufacturing

HEALTH EFFECTS
Liver cirrhosis, diabetes, and susceptibility to heart attacks

COPPER



Permissible limit | 50 µg/L

Polluted rivers | 10

Most polluted river/ water quality station | Dhadher/ Pingalwada (314.93 µg/L or 530% over permissible limit)

Rivers where copper prevalence exceeded at more than 1 water quality station | 10

POLLUTION SOURCES
Copper, iron, steel and fertilizer industries, burning of wood, discharge of mine tailings, fly ash, municipal and industrial wastes

HEALTH EFFECTS
Irritation of the nose, mouth and eyes, headaches, stomach aches, dizziness, vomiting and diarrhoea, liver and kidney damage, brain damage, renal disease

CHROMIUM

Permissible limit | 50 µg/L

Polluted rivers | 21

Most polluted river/ water quality station | Sharda/ Paliakalan (450.26 µg/L or 801% over permissible limit)

Rivers where chromium prevalence exceeded at more than 1 water quality station | 3

POLLUTION SOURCES
Chromium metallurgical and chemical industries and cement and asbestos units

HEALTH EFFECTS
Skin rashes, upset stomach and ulcers, respiratory problems, weakened immune systems, kidney and liver damage and lung cancer

CADMIUM

Permissible limit | 3 µg/L

Polluted rivers | 25

Most polluted river/ water quality station | Sabarmati/ Vautha (70.51 µg/L or 2250% over permissible limit)

Rivers where cadmium prevalence exceeded at more than 1 water quality station | 4

POLLUTION SOURCES
Cadmium-producing industries, electroplating, welding

HEALTH EFFECTS
Skeletal damage, renal tubular dysfunction, high blood pressure, and lung damage and cancer

Lead = Pb; Nickel = Ni; Iron = Fe; Copper = Cu; Chromium = Cr; Cadmium = Cd

Source: Status of Trace and Toxic Metals in Indian Rivers 2018, Central Water Commission

Rivers polluted with multiple heavy metals

River	Toxic metals found
Arkavathi	Cd, Ni, Pb, Fe
Brahmaputra	Cu, Cr, Fe, Pb
Buridehing	Pb, Fe
Chel	Pb, Fe
Churni	Cr, Fe
Damanganga	Cu, Pb, Fe
Desang	Cr, Fe
Dhadher	Cu,Fe
Dikhow	Cr, Cu, Fe, Pb
Ganga	Cr, Cu, Ni, Pb, Fe
Ghagra	Cr, Pb, Fe
Ghish	Pb, Fe
Gomti	Pb, Fe
Hagari	Cd, Ni, Pb
Jaldhaka	Pb, Fe
Jiabharali	Cr, Fe
Kamang	Pb, Fe
Krishna	Ni, Pb
Kunderu	Ni, Pb
Kwano	Pb, Fe
Lohit	Pb, Fe
Mahi	Cr, Pb, Fe
Neo dihing	Pb, Fe
Noyyal	Cd, Ni, Pb
Orsang	Cd, Ni, Pb, Fe
Pennar	Ni, Pb
Purna	Pb, Cu, Fe, Cr
Ramganga	Cr, Pb, Fe
Rapti	Cd, Cr, Pb, Fe
Sabarmati	Cd, Ni, Pb, Fe
Sai	Cr, Pb, Fe
Sarju	Cr, Fe
Saryu	Pb, Fe, Cd, Ni
Sharda	Cr, Ni, Fe
Sheturni	Cd, Ni, Pb
Sone	Pb, Fe
Subarnarekha	Cu, Fe
Tel	Cr, Cu
Thungabhadra	Cd, Ni, Pb
Tirap	Cd, Fe
Ulhas	Cd, Pb
Vaitarna	Cd, Ni, Pb, Fe

STATE OF **WATER** RIVER DISPUTES

India has seen protracted river water sharing disputes over the 50 years, involving over 15 states. However, the present system of setting up tribunals under the Inter-State River Water Disputes Act, 1956, has been ineffective because in most cases the states involved have objected to the tribunal's recommendations. The Centre has now suggested the setting up of a Central single national tribunal—the Inter-State River Water Disputes Tribunal to arbitrate inter-state water disputes. Its recommendations will be binding on the competing parties

9
Tribunals have been set up till date

15
states have been involved in river disputes till date

Inter-State River Water Disputes (ISRWD) Act, 1956 is used for adjudication of disputes relating to waters of inter-state rivers and river valleys. A tribunal under the Act is set only when the Centre believes an inter-state dispute cannot be solved through negotiations. The Act was amended in 2002 and currently another amendment is pending in the Parliament

JUSTICE DELAYED

Tribunals have failed to resolve most inter-state river disputes

Name of Tribunal:
MAHANADI WATER DISPUTES TRIBUNAL

Date of constitution:
March 2018

States concerned:
Odisha and Chhattisgarh

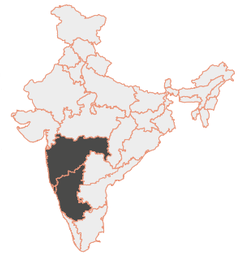
CASE FILE
The tribunal was set up to resolve the long-standing dispute between Odisha and Chhattisgarh over the sharing of water from Mahanandi river. The dispute arose over Chhattisgarh constructing dams in the upper reaches of the Mahanadi, affecting Odisha farmers. Chhattisgarh has been resisting the setting up of a tribunal, arguing that the water sharing agreement, which Odisha has been relying on, was with the erstwhile Madhya Pradesh government before the state was carved out in 2000

Source: Ministry of Water Resources, River Development and Ganga Rejuvenation

Name of Tribunal:
MAHADAYI WATER DISPUTES TRIBUNAL

Date of constitution:
November 2010

States concerned:
Goa, Karnataka and Maharashtra



CASE FILE
In July, 2002, Goa made a request for the constitution of the tribunal for adjudication of dispute relating to Mahadayi river. The issues include the assessment of available utilisable water resources in the basin and its allocation to the three basin states—Goa, Karnataka and Maharashtra. The tribunal has been given two extensions of one year each on August 21, 2016, and August 21, 2017. The tribunal shall forward its report on or before August 20, 2018

Name of Tribunal:
VANSADHARA WATER DISPUTES TRIBUNAL

Date of constitution:
February 2010

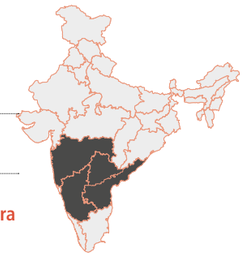
States concerned:
Andhra Pradesh & Odisha

PRESENT STATUS
The main grievance of Odisha is the construction of a canal system in Andhra Pradesh which will dry up the river. Odisha and the Centre have filed reference under Section 5(3) of the ISRWD Act, 1956 on 11.12.2017 and 12.12.2017 respectively. The matter is under adjudication in the tribunal

Name of Tribunal:
KRISHNA WATER DISPUTES TRIBUNAL -II

Date of constitution:
April, 2004

States concerned:
Karnataka, Telangana, Andhra Pradesh and Maharashtra

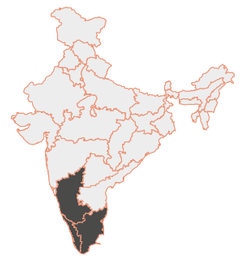


CASE FILE
The tribunal gave its report and decision on December 30, 2010, but the party states and the Centre sought further clarification from the tribunal under Section 5(3) of the Act. Andhra Pradesh then challenged the verdict in the Supreme Court in a Special Leave Petition against Karnataka and Maharashtra under Article 139 of Constitution of India. The matter is still sub-judice. And the term of the tribunal has been extended till July 31, 2017

Name of Tribunal:
CAUVERY WATER DISPUTES TRIBUNAL

Date of constitution:
June, 1990

States concerned:
Kerala, Karnataka, Tamil Nadu and Puducherry



CASE FILE
The conflict over Cauvery river rests in two agreements in 1892 and 1924. Karnataka says the pre-independence agreements are skewed in favour of the Madras Presidency. Tamil Nadu pleads that any change in this pattern will adversely affect its farmers. The Centre constituted a tribunal in 1990 which gave its verdict 16 years later on February 5, 2007. The party states filed civil appeals against the order before the Supreme Court, which pronounced its verdict February 16, 2018

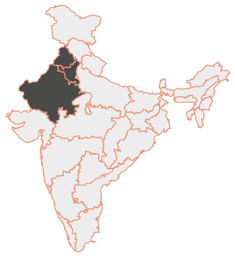
Source: Ministry of Water Resources, River Development and Ganga Rejuvenation

Name of Tribunal:

RAVI & BEAS WATER TRIBUNAL

Date of constitution:
April, 1986

States concerned:
Punjab, Haryana and Rajasthan



CASE FILE

It was set up for verification of the quantum of usage of water claimed by Punjab, Haryana and Rajasthan regarding their shares in remaining waters. The tribunal forwarded a report in January 1987. Punjab, Haryana and Rajasthan and the Centre made references to the tribunal seeking clarification/ guidance on certain points of the report. The matter is sub-judice before the tribunal

Name of Tribunal:

NARMADA WATER DISPUTES TRIBUNAL

Date of constitution:
October, 1969

States concerned:
Rajasthan, Madhya Pradesh, Gujarat and Maharashtra

CASE FILE

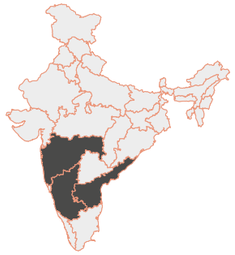
It was set up to adjudicate the sharing of Narmada waters and for Narmada River valley development. The Award in December 1979 specifies a quantum of utilisable waters at 75 per cent dependability to be shared by the four states of Gujarat, Madhya Pradesh, Maharashtra and Rajasthan and determines the height of the Sardar Sarovar Dam to 138.68 m (455 ft)

Name of Tribunal:

KRISHNA WATER DISPUTES TRIBUNAL -I

Date of constitution:
April, 1969

States concerned:
Maharashtra, Andhra Pradesh, Karnataka



CASE FILE

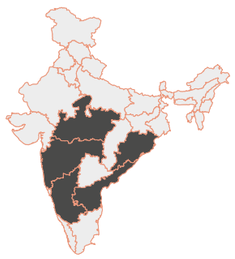
It was set up to resolve disputes between Karnataka, Maharashtra and then undivided Andhra Pradesh over sharing of the Krishna river water. The tribunal gave its award in May 1976 where it outlined the exact share of each state. It also asked for a review after 31 May 2000. However no such review was taken up for more than three years after that, prompting the Krishna Water Disputes Tribunal II

Name of Tribunal:

GODAVARI WATER DISPUTES TRIBUNAL

Date of constitution:
April, 1969

States concerned:
Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh & Odisha



CASE FILE

The Godavari Water Disputes Tribunal (GWDT) was constituted over water sharing among five states. The tribunal gave its award in July 1980 which had a series of agreements among the party states including the agreement on Polavaram Project, allocation of Godavari water by GWDT among three states, and the execution of the Inchampalli Multipurpose Project

Source: Ministry of Water Resources, River Development and Ganga Rejuvenation

From State of India's Environment in figures 2017

50% of groundwater in India is contaminated
55% districts have high levels of nitrate
47% districts have high levels of fluoride

Get your copy of SoE in Figures 2017

MORE ON WATER

Hand book on water and related information 2017 | June 2017
Central Water Commission (CWC)
The handbook gives details primarily on the progress of major and medium irrigation projects

Status of Trace and Toxic Metals in Indian Rivers | April 2018
Ministry of Water Resources, River Development and Ganga Rejuvenation
The report observes the current status of toxic metal content of Indian Rivers using water samples from 16 river basins of Central Water Commission

Ground Water Year Book – India 2016-17 | December 2017
Central Ground Water Board
The annual book depicts the changes in groundwater resources of the country in different seasons

Water scarce cities: thriving in a finite world | April 2018
The world Bank
The report is an advocacy piece to raise awareness around the need to shift the typical way urban water has been managed and to share emerging principles and solutions that may improve urban water supply security in water scarce cities

World Water Development Report 2018: nature-based solutions for water | March 2018
UNESCO
The report recognises water not as an isolated element, but as an integral part of a complex natural process that involves evaporation, precipitation and the absorption of water through the soil

Integrated hydrological data book (non-classified river basins) 2017 | June 2017
Central Water Commission
The compendium has information on major river basins consolidated at the national level provides updated basin/site-wise data of all non-classified basins

Status of trace and toxic metals in Indian rivers 2018 | April, 2018
Central Water Commission
The report attempts to provide the water quality scenario of Indian rivers in respect of trace & toxic metals

Inter-state River Water Disputes (Amendment) Bill, 2017 | March 2017
Union Minister of Water Resources, River Development and Ganga Rejuvenation
The bill seeks to amend the Inter-State River Water Disputes Act, 1956. Under the Act, which allows the setting up of tribunals for inter-state river disputes

RELATED WEBSITES

Ministry of Water Resources, River Development & Ganga Rejuvenation

Central Water Commission

Central Ground Water Board

Central Pollution Control Board

STATE OF AIR

POLLUTION IN STATE CAPITALS

Delhi has always been in the news for its deteriorating winter air quality. But an analysis of the winter (November and December 2017) and summer (April-May 27, 2018) air quality levels of 10 capital cities shows all are suffering from multi-pollutant crisis, posing a great health challenge. The other issue is of data gaps. Kolkata, despite featuring in the list of Central Pollution Control Board's 54 daily monitored cities, had no data for November and December. Data gaps were also recorded in Bihar and Mumbai. The lack of data can weaken the proposed National Clean Air Programme, which calls for city-specific plans

Daily ambient air quality levels and possible health impacts

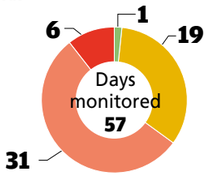
- **Good:** Minimal impact
- **Satisfactory:** Minor breathing discomfort to sensitive people
- **Moderate:** Breathing discomfort to the people with lungs, asthma and heart diseases
- **Poor:** Breathing discomfort to most people on prolonged exposure
- **Very Poor:** Respiratory illness on prolonged exposure
- Severe : Affects healthy people and seriously impacts those with existing diseases

Prominent pollutants

Particulate Matter >2.5 micrometres ($PM_{2.5}$)
Particulate Matter >10 micrometres (PM_{10})
Carbon monoxide (CO)
Nitrogen dioxide (NO_2)
Ozone (O_3)

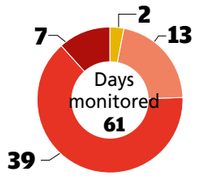
DELHI

Summer



Primary pollutants: PM_{10}, $PM_{2.5}$, O_3, NO_2,CO
Days without air quality data: 0

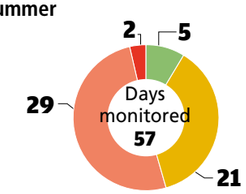
Winter



Primary pollutants: $PM_{2.5}$, PM_{10}, CO, NO_2
Days without air quality data: 0

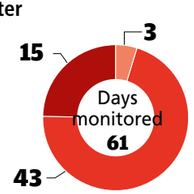
LUCKNOW

Summer



Primary pollutants: $PM_{2.5}$, O_3, NO_2
Days without air quality data: 0

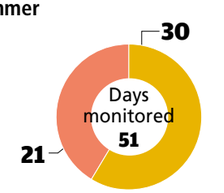
Winter



Primary pollutants: $PM_{2.5}$, O_3, NO_2
Days without air quality data: 0

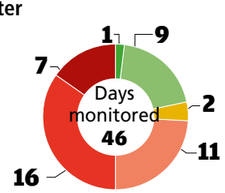
PATNA

Summer



Primary pollutants: $PM_{2.5}$, O_3
Days without air quality data: 6

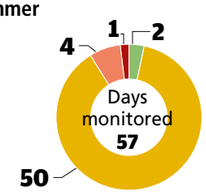
Winter



Primary pollutants: $PM_{2.5}$, O_3, CO, PM_{10}
Days without air quality data: 15

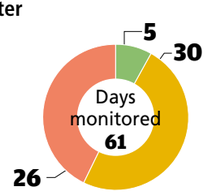
JAIPUR

Summer



Primary pollutants: PM_{10}, $PM_{2.5}$, O_3, CO
Days without air quality data: 0

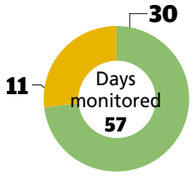
Winter



Primary pollutants: $PM_{2.5}$, PM_{10}, O_3, NO_2
Days without air quality data: 0

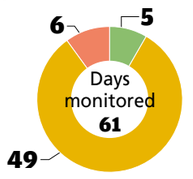
MUMBAI

Summer



Primary pollutants: CO, PM_{10}, O_3, $PM_{2.5}$
Days without air quality data: 16

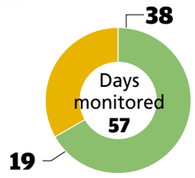
Winter



Primary pollutants: PM_{10}, $PM_{2.5}$, O_3, CO
Days without air quality data: 1

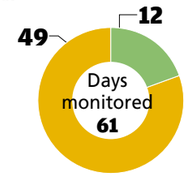
HYDERABAD

Summer



Primary pollutants: PM_{10}, $PM_{2.5}$, O_3, CO, NO_2
Days without air quality data: 0

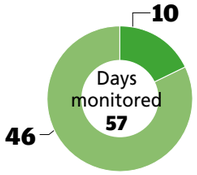
Winter



Primary pollutants: $PM_{2.5}$, O_3, PM_{10}, NO_2, CO
Days without air quality data: 0

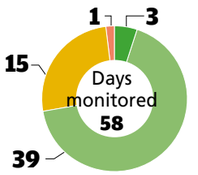
THIRUVANANTHAPURAM

Summer



Primary pollutants: CO, O_3, PM_{10}, $PM_{2.5}$
Days without air quality data: 1

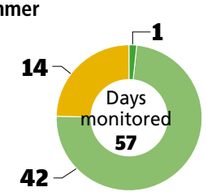
Winter



Primary pollutants: $PM_{2.5}$, CO, PM_{10}
Days without air quality data: 3

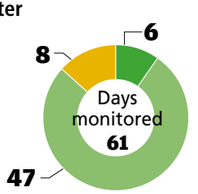
BENGALURU

Summer



Primary pollutants: $PM_{2.5}$, PM_{10}, CO, O_3, NO2
Days without air quality data: 0

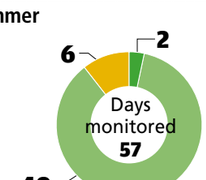
Winter



Primary pollutants: $PM_{2.5}$, NO_2, O_3, PM_{10}, CO
Days without air quality data: 0

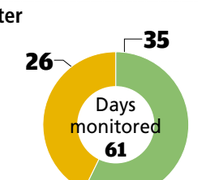
CHENNAI

Summer



Primary pollutants: $PM_{2.5}$, CO, NO_2, O_3
Days without air quality data: 0

Winter



Primary pollutants: $PM_{2.5}$, O_3, CO
Days without air quality data: 0

Source: Central Pollution Control Board; For winter, the Daily Air Quality Index, which reflects the average of past 24 hours, was analysed from November to December 2017 (61 days) and for summer, the daily Air Quality Index was analysed from April to May 27, 2018 (57 days)

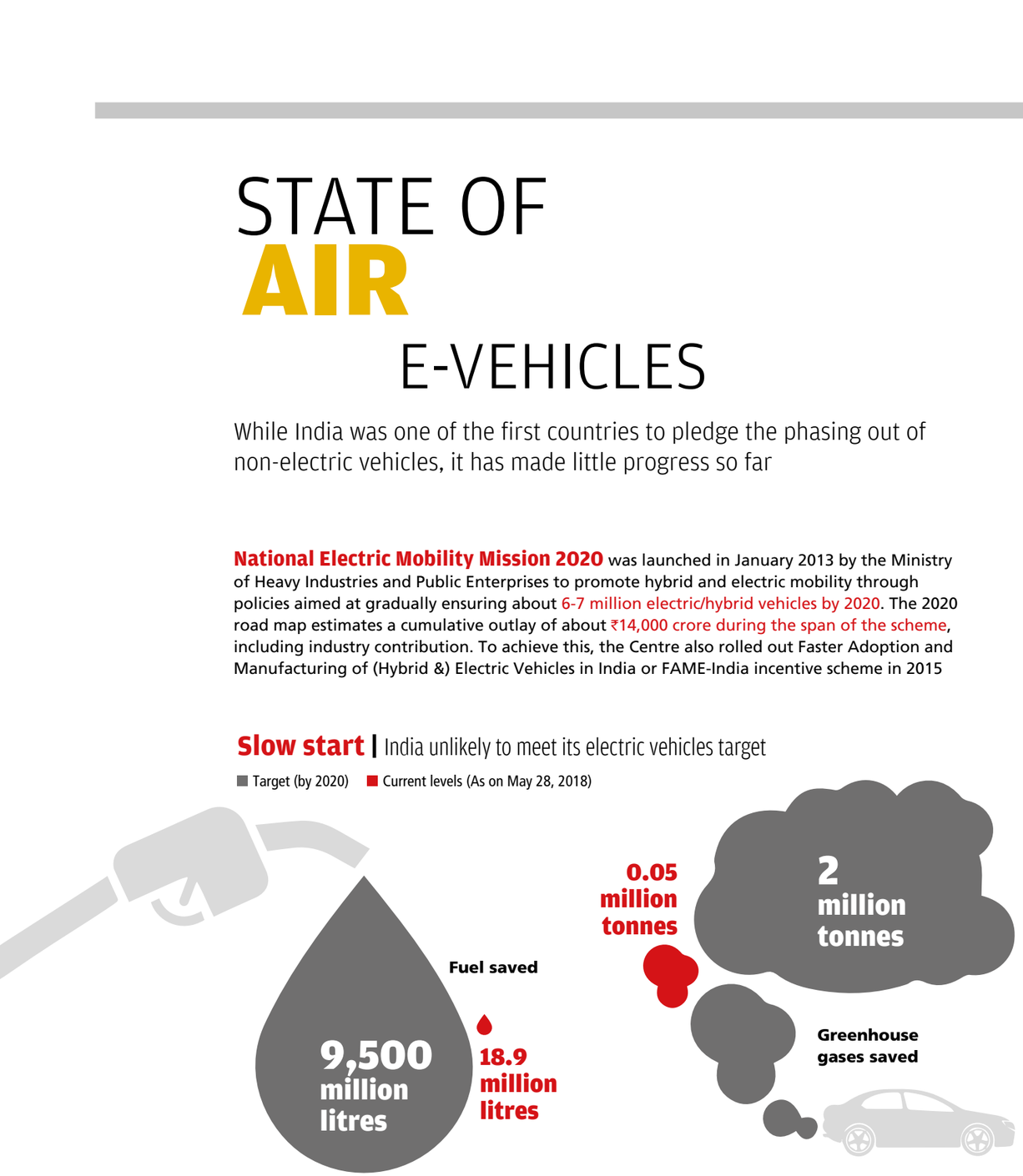
STATE OF AIR

E-VEHICLES

While India was one of the first countries to pledge the phasing out of non-electric vehicles, it has made little progress so far

National Electric Mobility Mission 2020 was launched in January 2013 by the Ministry of Heavy Industries and Public Enterprises to promote hybrid and electric mobility through policies aimed at gradually ensuring about 6-7 million electric/hybrid vehicles by 2020. The 2020 road map estimates a cumulative outlay of about ₹14,000 crore during the span of the scheme, including industry contribution. To achieve this, the Centre also rolled out Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India or FAME-India incentive scheme in 2015

Slow start | India unlikely to meet its electric vehicles target



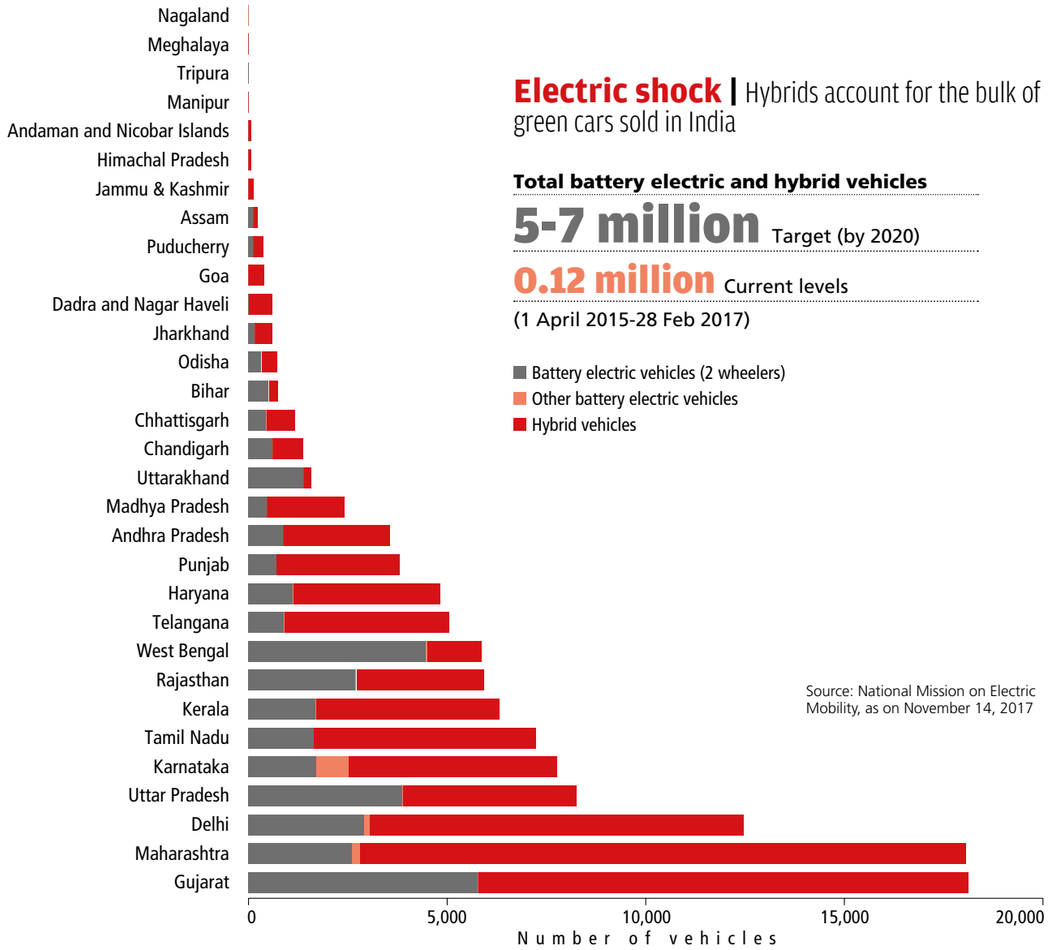
Battery electric vehicles (2-wheelers)
3.5-5 million
0.04 million

Other battery electric vehicles
0.2-0.4 million
0.001 million

Hybrid vehicles
1.3-1.4 million
0.08 million

Source: Ministry of Heavy Industries and Public Enterprises; Till February 28, 2017; * Total hybrid and battery vehicles sold till November 14, 2017

Electric shock | Hybrids account for the bulk of green cars sold in India



Total battery electric and hybrid vehicles

5-7 million Target (by 2020)

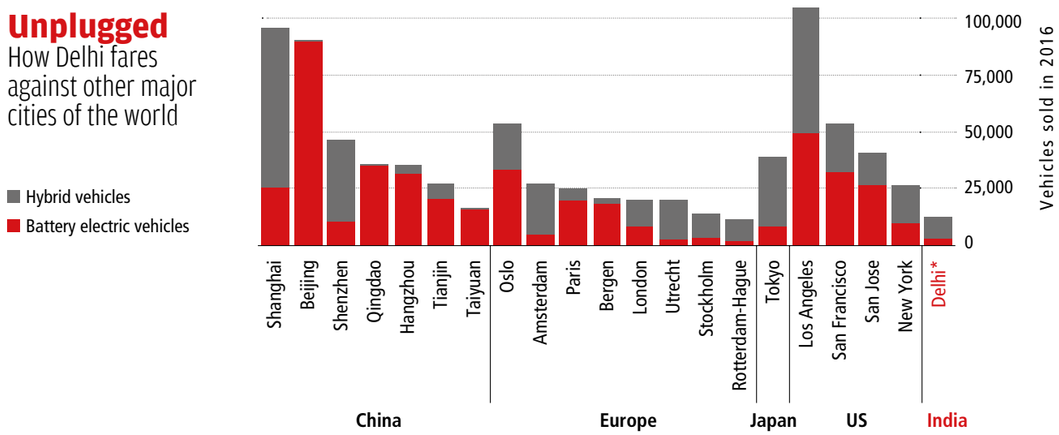
0.12 million Current levels

(1 April 2015-28 Feb 2017)

- Battery electric vehicles (2 wheelers)
- Other battery electric vehicles
- Hybrid vehicles

Source: National Mission on Electric Mobility, as on November 14, 2017

Unplugged
How Delhi fares against other major cities of the world



Source: International Council for Clean Transportation 2017; * Total hybrid and battery vehicles sold till November 14, 2017

From State of India's Environment in figures 2016

PM10 levels in **13 of the 15 worst cities** deteriorated between 2015 and 2016

Particulate Matter emitted from crop burning across India in a year is **over 17 times** the annual particulate pollution in Delhi

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MORE ON AIR

Burden of disease attributable to major air pollution sources in India | January 2018
Health Effects Institute
This report provides the first comprehensive analysis of the levels of fine particulate matter air pollution (PM2.5) in India by source at the state level and their impact on health

National Clean Air Programme (NCAP) – India | April 2018
Ministry of Environment, Forest and Climate Change
The national action plan proposes multiple strategies to reduce air pollution. Its objective is to evolve an effective ambient air quality monitoring network across the country

Airpocalypse II: assessment of air pollution in Indian cities | January 2018
Greenpeace India
The report analyses PM10 annual average recorded for 280 cities which have 630 million, or 53 per cent citizens of the country's total population

Road accidents in India – 2016 | August 2017
Ministry of road transport and highways
The report provides information on various facets of road accidents in the country during the calendar year 2016

Basic road statistics of India 2013-14 and 2014-15 | September 2016
Ministry of road transport and highways
The report contains information for 20I3-I4 and2014-15 on various categories of roads at National, State and Local (Municipal and Panchayat) levels

MORE ON AIR

EnviStats India 2018 | April, 2018
Ministry of Statistics and Programme Implementation
The report provides data information about the environment, its changes over time and across locations, and the main factors that influence them

State of Global Air 2018 | April, 2018
Health Effects Institute
This report used new findings such as satellite data and better monitoring to estimate the numbers of people exposed to air polluted above the levels deemed safe by the World Health Organisation

WHO Global Ambient Air Quality Database | 2018
World Health Organization (WHO)
According to the latest air quality database, 97 per cent of cities in low- and middle income countries with more than 100 000 inhabitants do not meet WHO air quality guidelines. However, in high-income countries, that percentage decreases to 49

RELATED WEBSITES

Central Pollution Control Board

Ministry of Environment, Forest and Climate Change

Ministry of Road Transport and Highways

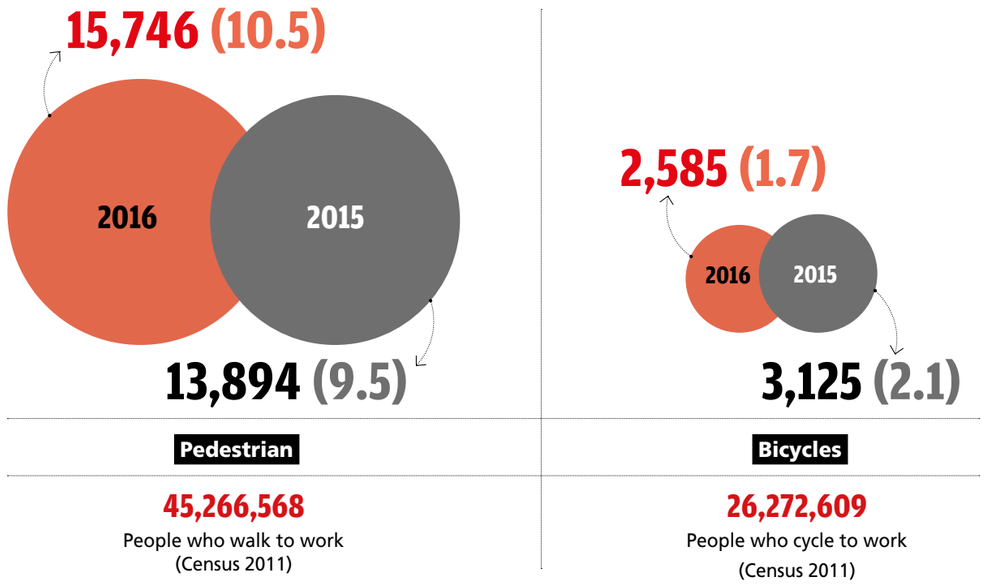
Parivahan Sewal Ministry of road transport and highways

STATE OF **TRANSPORT**

NON-MOTORISED TRAVEL

Over 18,000 pedestrians and cyclists died due to road accidents in 2016, highlighting the need for walkways and cycle paths. After all, more than 70 million Indians either walk or cycle to work and in the absence of dedicated roads they are forced to use the major city roads designed for fast-moving motorised traffic

Number of persons killed during 2016
Number of persons killed during 2015
() % share of total accidental deaths



45,266,568
People who walk to work
(Census 2011)

26,272,609
People who cycle to work
(Census 2011)

Source: Accidental Deaths & Suicides in India 2015, National Crime Records Bureau

PEDESTRIANS KILLED IN ROAD ACCIDENTS

Top 5 states with accidents in 2016		People who walk to work (Census 2011)
Tamil Nadu	2,966	3,312,310
Maharashtra	2,103	5,085,701
Madhya Pradesh	1,627	2,397,596
Haryana	1,596	957,738
Andhra Pradesh	1,259	2,902,420

ACCIDENTS AT PEDESTRIAN CROSSINGS

Top 5 states with accidents in 2016		People who walk to work (Census 2011)
Tamil Nadu	5,848	3,312,310
Karnataka	3,304	3,145,484
Haryana	2,475	957,738
Telangana	2,421	NA
Madhya Pradesh	2,253	2,397,596

CYCLISTS KILLED IN ROAD ACCIDENTS

Top 5 states with accidents in 2016		People who cycle to work (Census 2011)
Maharashtra	399	1,804,128
Uttar Pradesh	392	4,046,176
Tamil Nadu	337	2,057,817
Punjab	202	1,192,881
Madhya Pradesh	166	1,281,690

Source: Accidental Deaths & Suicides in India 2015, National Crime Records Bureau

STATE OF TRANSPORT

STATE BUS SERVICES

As metropolitan cities across the country reel under vehicular pollution and never-ending traffic snarls, the demand to switch over to public transport has become stronger. But existing government-run bus services in most metros are grossly outdated and incapable of handling the switch. Picture this: the country, on an average, has just two buses for every 1,000 people. Still the occupancy ratio of the state-bus services dropped from 70.7 per cent in 2014-15 to 69.7 per cent in 2015-16

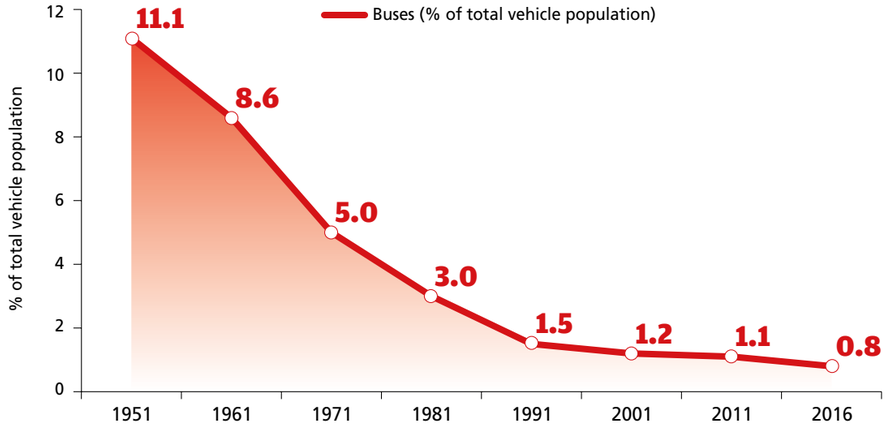
In 2015-16

142,855
The number of state-run buses

₹11,350 cr
Total loss incurred by the 47 state bus services

69.65%
Occupancy ratio of the state bus services

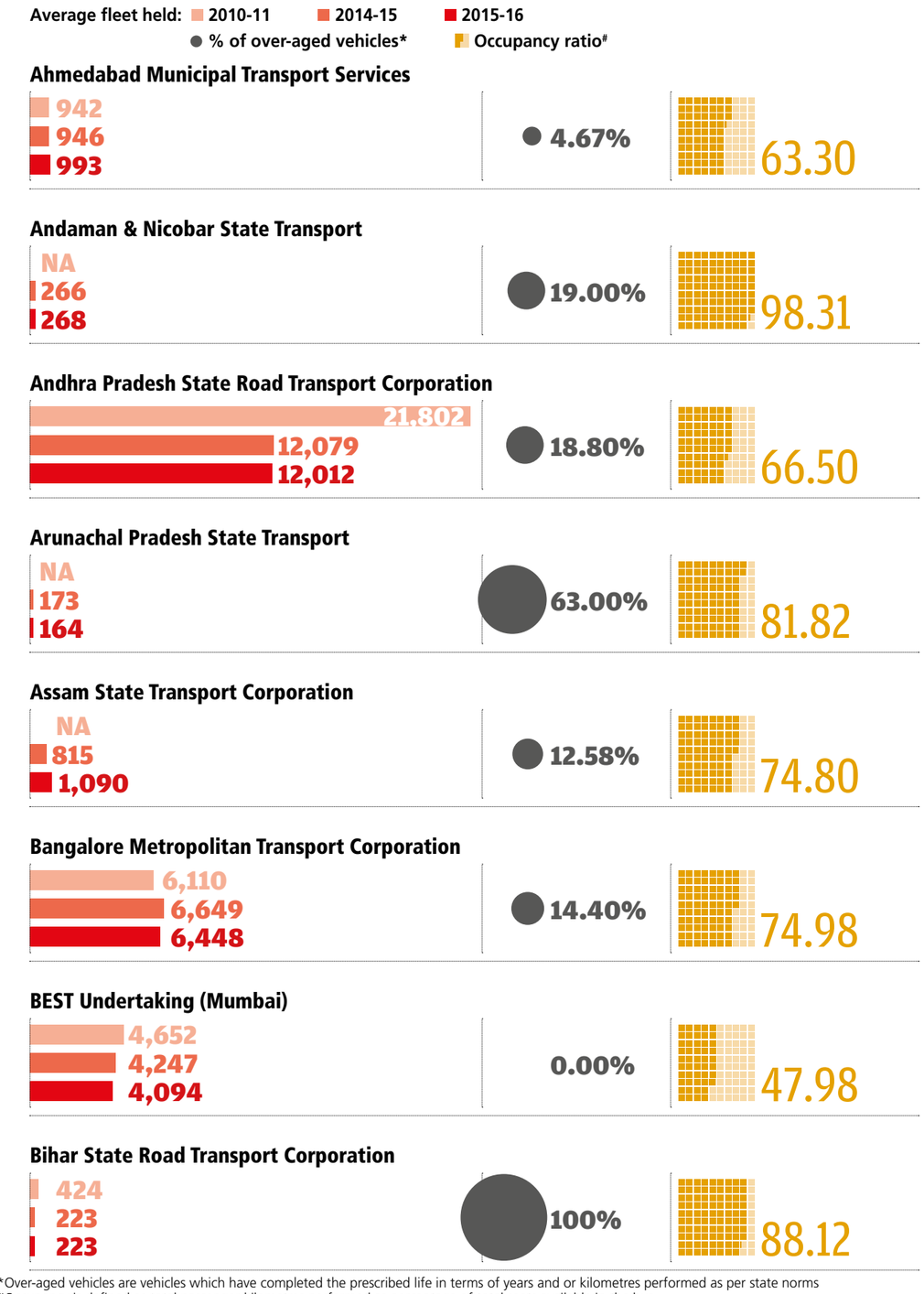
SHRINKING FAST | The share of buses in the total vehicles has dropped from 11.1% in 1951 to 0.8% today



Source: Road Transport Year Book 2015-16 and Review of the Performance of State Road Transport Undertakings (SRTUs) for 2015-2016

AN AGEING FLEET

While all the buses in Bihar State Road Transport Corporation are over-aged, nine other states have fleets with over 50% over-aged buses



*Over-aged vehicles are vehicles which have completed the prescribed life in terms of years and or kilometres performed as per state norms
#Occupancy is defined as total passenger kilometres performed as percentage of total seats available in the bus

Average fleet held: 2010-11 2014-15 2015-16 | % of over-aged vehicles* 2015-16

Calcutta State Transport Corporation

956
813
782

12.53%

57.18

Chandigarh Transport Undertaking

471
432
494

72.42%

88.89

Delhi Transport Corporation

5,771
4,977
4,564

13.07%

67.07

Gujarat State Road Transport Corporation

7,692
7,765
7,852

7.47%

61.81

Haryana State Transport

3,249
4,083
4,170

2.00%

75.29

Himachal Road Transport Corporation

1,979
2,447
2,645

NA

NA

J&K State Road Transport Corporation

NA
610
610

57.00%

98.68

Kadamba State Transport Corporation, Goa

NA
540
569

13.96%

55.57

Karnataka State Road Transport Corporation

7,164
8,321
8,172

15.90%

69.10

Kerala State Road Transport Corporation

5,573
5,691
5,636

19.26%

77.21

Maharashtra State Road Transport Corporation

16,212
17,957
18,514

1.67%

69.60

Meghalaya State Transport Corporation

50
63
59

48.50%

64.58

Metro Transport Corporation (Chennai) Limited

3,414
3,787
3,832

72.71%

76.22

Mizoram State Transport

53
33
49

12.24%

115.83

Nagaland State Transport

203
193
185

58.41%

67.40

Navi Mumbai Municipal Transport

376
360
375

5.18%

80.08

Source: Review of the Performance of State Road Transport Undertakings (SRTUs) for 2015-2016

Average fleet held: 2010-11 2014-15 2015-16

% of over-aged vehicles* 2015-16

North Bengal State Transport Corporation

783
661
779

40.00%

76.00

North Eastern Karnataka Road Transport Corporation

3,773
4,320
4,447

31.00%

63.37

North Western Karnataka Road Transport Corporation

4,259
4,738
4,736

41.40%

59.97

Odisha State Road Transport Corporation

333
446
459

41.48%

72.00

Pepsu Road Transport Corporation, Patiala

NA
907
1,006

24.00%

NA

PUNBUS (Punjab)

NA
1,242
1,258

0.00%

94.67

Pune Mahamandal

1,549
2,087
2,075

0.00%

78.75

Rajasthan State Road Transport Corporation

4,476
4,704
4,529

12.92%

75.40

Sikkim Nationalised Transport

NA
85
126

19.84%

70.90

Solapur Municipal Transport

NA
183
202

NA

74.45

South Bengal State Transport Corporation

408
590
662

10.07%

74.12

State Transport Punjab

NA
376
484

23.00%

84.12

Tamil Nadu Express Transport Corporation

1,000
1,104
1,169

78.30%

80.91

Tamil Nadu State Transport Corporation (Coimbatore) Ltd.

3,014
3,184
3,249

48.84%

68.18

Tamil Nadu State Transport Corporation (Kumbakonam) Ltd.

3,596
3,783
3,820

52.93%

85.83

Tamil Nadu State Transport Corporation (Madurai) Ltd.

3,460
2,516
2,540

44.47%

70.53

Source: Review of the Performance of State Road Transport Undertakings (SRTUs) for 2015-2016

Average fleet held: 2010-11 2014-15 2015-16 | % of over-aged vehicles* 2015-16

Tamil Nadu State Transport Corporation (Salem) Ltd.

2,056
2,230
2,309

66.39%

62.41

Tamil Nadu State Transport Corporation (Villupuram) Ltd.

3,316
3,528
3,590

54.21%

74.83

Telangana State Road Transport Corporation

NA
10,329
10,391

17.21%

69.00

Thane Municipal Transport

NA
338
353

48.00%

59.86

Tripura Road Transport Corporation

47
48
48

20.00%

83.33

Uttar Pradesh State Road Transport Corporation

8,557
9,415
9,577

15.55%

71.00

Uttarakhand Transport Corporation

NA
1,147
1,246

20.50%

NA

*Vehicles which have completed the prescribed life in terms of years and or kilometres performed as per norms set by an SRTU are categorised as over-aged vehicles.

Source: Review of the Performance of State Road Transport Undertakings (SRTUs) for 2015-2016

From State of India's Environment in figures 2016

8.17 million more people in urban areas walk to work over rural population

Almost 70 per cent of the urban population with offices within the radius of 0-5km either walk or cycle to work

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MORE ON TRANSPORT

Review of the Performance of State Road Transport Undertakings (SRTUs) for 2015-2016 | October 2017
Ministry of Road Transport and Highways
The report provides comprehensive information on physical and finance performance of 47 reporting SRTUs during 2015-16 and a comparative analysis vis-à-vis the status in 2014-15

Road accidents in India-2016 | August 2017
Ministry of Road Transport and Highways
The report provides information on various facets of road accidents in the country during 2016

Draft Delhi Road Safety Policy, 2018 | May 2018
Government of NCT of Delhi
The draft road policy of Delhi envisions reduction in road accidents as well as fatalities by 30 per cent between 2018 and 2020 and by 80 per cent between 2018 and 2025 with a minimum 10 per cent reduction yearly

Sustainable and safe: a vision and guidance for zero road deaths | January 2018
World Resources Institute
The report of 53 countries found that countries with a Safe System-based approach have achieved both the lowest rates of fatalities per 100,000 inhabitants and the greatest reduction in fatality levels over the past 20 years

The high toll of traffic injuries: unacceptable and preventable | December 2017
The World Bank
The report provides a comprehensive overview of the challenge in estimating the social impact of RTIs and addresses economic impacts of road accidents too

Managing speed | May 2017
World Health Organization
The document highlights that excessive and inappropriate speed is among the key risks for road traffic deaths and injuries, contributing to around one third of road traffic fatalities in high-income countries and up to one half in low- and middle-income countries

Accidental deaths & suicides in India | July 2016
Ministry of Home Affairs
The report contains comprehensive information on various aspects of deaths due to accidents and suicides.

RELATED WEBSITES

Ministry of Road Transport and Highways

Central Road Research Institute (CRRI)

Central Institute of Road Transport

STATE OF SANITATION

SWACHH BHARAT MISSION

While the scheme's individual household toilet construction targets are on track, little is being done to popularise the use of toilets in rural areas. In urban areas, close to a million households are waiting for over six months for their toilet

Swachh Bharat Mission was launched on October 2, 2014, to make India open-defecation free by 2019 through the construction of toilets and spreading awareness. It has two sub-missions: Swachh Bharat Mission-Gramin and the Swachh Bharat Mission-Urban. Under the urban sub-mission, the government also thrives to achieve 100 per cent scientific management of municipal solid waste in 4,041 statutory towns in the country

Toilet tally

Swachh Bharat-Gramin

72.1 million

Individual household toilets have been constructed till May 18, 2018

Swachh Bharat-Urban

4.7 million

Individual household toilets have been constructed till May 18, 2018

Individual toilets constructed | The rural performance is better than that of the urban

Gramin % target met for individual household toilets	States and Union Territories	Urban % target met for individual household toilets
100	Andhra Pradesh	92.59
100	Andaman & Nicobar Islands	0
100	Arunachal Pradesh	83.25
85.44	Assam	2.21
55.5	Bihar	21.84
100	Chandigarh UT	NA
100	Chhattisgarh	77.66
100	Daman & Diu	NA
100	Dadra & Nagar Haveli	NA
NA	NCT of Delhi	3.42
76.22	Goa	28.99
100	Gujarat	94.94
100	Haryana	56.15
100	Himachal Pradesh	28.02
79.94	Jammu & Kashmir	27.9
76.42	Jharkhand	91.83
87.8	Karnataka	48.96
100	Kerala	44.9
87.79	Madhya Pradesh	58.68
100	Maharashtra	59.08
83.4	Manipur	26.5
100	Meghalaya	0.34
100	Mizoram	74.2
91.17	Nagaland	1.14
54.68	Odisha	21.85
62.78	Puducherry UT	NA
100	Punjab	78.66
100	Rajasthan	66.35
100	Sikkim	84.13
98.63	Tamil Nadu	70.03
83.75	Telangana	55.15
74.72	Tripura	0.84
67.81	Uttar Pradesh	13.02
100	Uttarakhand	28.91
93.46	West Bengal	32.19

Source: Swachh Bharat Mission Urban and Rural dashboards; Updated till May 18, 2018

Swachh Bharat-Gramin

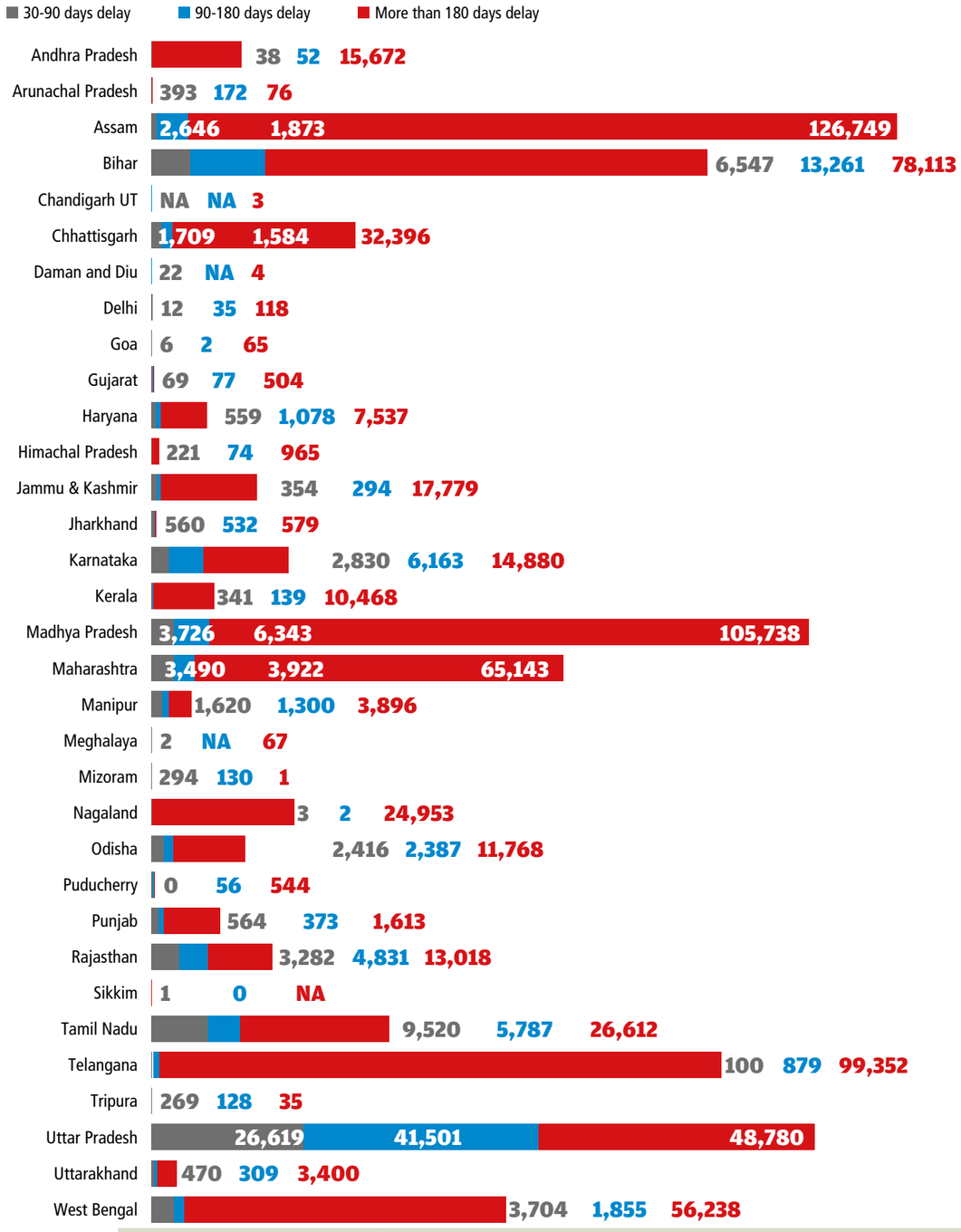
Little on awareness | States have used just 1.3 per cent of the funds for carrying out IEC activities to raise awareness

	Number of activities for IEC (Information, Education and Communication)				Financial (% of IEC expenditure)	
	2016-17		2017-18			
	Target	Achieved	Target	Achieved	2016-17	2017-18
A & N Islands	0	0	0	0	0	0
Andhra Pradesh	22,052	2,605	10,66,480	4,36,092	0.39	0.2
Arunachal Pradesh	1,09,912	94,297	7,385	1,958	4.32	1.16
Assam	24,04,682	3,96,684	30,10,888	5,58,744	0.66	1.58
Bihar	2,19,595	3,099	65,77,269	4,50,317	0.15	1.31
Chandigarh UT	0	0	0	0	0	0
Chhattisgarh	3,80,884	89,238	8,12,183	1,41,934	0.68	0.76
D & N Haveli	0	0	0	0	0	0
Daman & Diu	0	0	0	0	0	0
Goa	0	0	0	0	0	0
Gujarat	56,31,825	10,40,735	38,29,143	7,25,883	1.05	0.86
Haryana	2,10,993	44,222	2,54,073	90,165	4.68	4.68
Himachal Pradesh	53,668	5,279	25,745	4,954	0.83	1.42
Jammu & Kashmir	1,05,951	49	16	14	0.32	0.01
Jharkhand	16,39,429	1,27,983	19,30,549	5,25,224	2.01	2.37
Karnataka	3,40,204	1,66,092	3,22,466	1,11,444	0.71	0.22
Kerala	23,35,915	1,35,191	6,22,153	36,692	0.53	2.83
Madhya Pradesh	4,44,770	29,758	5,03,820	5,243	0.7	0.2
Maharashtra	3,28,833	47,309	7,20,453	10,877	0.77	1.24
Manipur	241	0	2,171	17	0	0.17
Meghalaya	1,743	173	2,443	65	3.47	2.29
Mizoram	1,485	278	1,333	491	2.13	3.61
Nagaland	1,381	406	36	36	2.1	5.04
Odisha	46,03,993	10,91,075	36,14,157	5,90,866	0.79	0
Puducherry	0	0	0	0	0	0
Punjab	1,37,468	1,03,682	46,692	31,153	1.36	0.72
Rajasthan	3,15,285	30,094	5,78,577	2,277	0.4	0
Sikkim	1,038	624	1,392	520	4.47	4.76
Tamil Nadu	38,199	5,827	18,018	3,678	0.42	2.18
Telangana	16,970	8	12,71,170	78,088	0.03	0.64
Tripura	2,24,304	1,51,374	3,02,493	1,98,710	1.23	0.75
Uttar Pradesh	3,13,906	2,997	23,99,689	76,737	0.33	1.66
Uttarakhand	5,44,121	1,12,440	10,53,204	5,27,465	0.33	0.37
West Bengal	10,89,092	5,79,973	10,00,994	1,39,401	3.19	0
Total	2,15,17,939	42,61,492	2,99,74,992	47,49,045	0.89	1.31

Source: SBM-Rural dashboard; Updated till May 18, 2018

Swachh Bharat-Urban

Long wait | Over 0.9 million applications are pending approval—82% have been delayed by six months



Source: SBM-Urban dashboard; Updated till May 18, 2018

STATE OF **SANITATION**
SWACHH BHARAT-GRAMIN

While the constituencies of most Union cabinet ministers are on-track to construct toilets in all rural households by October 2019, constituencies of three cabinet ministers are lagging. In Hajipur—the constituency of Ramvilas Paswan, Minister of Consumer Affairs, Food and Public Distribution—at the current rate of construction, all households will have toilets only by 2024. In Sundargarh and Lucknow, the constituencies of Union ministers Jual Oram and Raj Nath Singh, the targets will be met by 2023 and 2021 respectively. Even the constituencies of opposition leaders Rahul Gandhi and Sonia Gandhi are likely to miss the 2019 deadline

TRAILING STATES

With just 16 months to go, Chief Ministers of the 10 states with slowest progress should focus on the 28 districts to ensure India achieves the Swachh Bharat Mission-Gramin by October 2019

Chief ministers of the bottom 10 states under SBM- Gramin	State performance (% of households with toilets)	Worst performing districts in the state	District performance (% of households with toilets)
 **Naveen Patnaik** ODISHA	54.68	Balangir	37.8
		Mayurbhanj	39.16
		Cuttack	39.4
 **Nitish Kumar** BIHAR	55.5	Arwal	40.37
		Jamui	42.63
		Samastipur	41.99
 **V. Narayanasamy** PUDUCHERRY (Has only 2 districts)	62.78	Puducherry	58.65
		Karaikal	74.52
 **Yogi Aditya Nath** UTTAR PRADESH	67.81	Sitapur	43.64
		Azamgarh	45.27
		Chitrakoot	46.27
 **Biplab Kumar Deb** TRIPURA	74.72	North Tripura	60.73
		Unakoti	59.87
		West Tripura	76.19
 **Manohar Parrikar** GOA (Has only 2 districts)	76.22	South Goa	73.81
		North Goa	77.84
 **Raghubar Das** JHARKHAND	76.42	Godda	31.1
		Gumla	50.59
		Palamu	54.57
 **Mehbooba Mufti Sayeed** JAMMU & KASHMIR	79.94	Kathua	51.14
		Reasi	58
		Udhampur	65.44
 **N Biren Singh** MANIPUR	83.4	Ukhrul	57.43
		Jiribam	60.22
		Chandel	69.75
 **K Chandrasekhar Rao** TELANGANA	83.75	Komaram Bheem Asifabad	48.39
		Jayashankar Bhupalapally	48.45
		Adilabad	52.99

Source: SBM-Gramin dashboard ; As on May 18, 2018

THE LOO TRAIL | In Cabinet minister Jual Oram's Sundargarh constituency, the rate of toilet construction in rural households has gone down in the past two years

Name of Union Cabinet ministers from Lok Sabha and their ministries	Constituency	State	Household (HH) toilets constructed in 2017-18	HHs without toilets (2017-18)	Number of years to achieve 100% HH toilets coverage	Year for 100% HH toilets coverage (As calculated in May 2018)*	Year for 100% HH toilets coverage (As calculated in Oct 2016)#
 **Narendra Modi** Prime Minister	Varanasi	Uttar Pradesh	125,040	51,142	0.41	2018	2018
C A B I N E T M I N I S T E R S							
 **Raj Nath Singh** Minister of Home Affairs	Lucknow	Uttar Pradesh	37,074	125,748	3.39	2021	2051
 **Sushma Swaraj** Minister of External Affairs	Vidisha	Madhya Pradesh	67,182	3,085	0.05	2018	2024
 **Nitin Jairam Gadkari** Minister of Road Transport and Highways | Minister of Shipping | Minister of Water Resources, River Development and Ganga Rejuvenation	Nagpur	Maharashtra	741	0	0.00	Done	2018
 **D V Sadananda Gowda** Minister of Statistics and Programme Implementation	Bangalore North	Karnataka	2	0	0.00	Done	2015
 **Uma Bharati** Minister of Drinking Water and Sanitation	Jhansi	Uttar Pradesh	45,966	46,436	1.01	2019	2029
 **Ramvilas Paswan** Minister of Consumer Affairs, Food and Public Distribution	Hajipur(SC)	Bihar	61,647	387,530	6.29	2024	2061
 **Maneka Sanjay Gandhi** Minister of Women and Child Development	Pilibhit	Uttar Pradesh	63,979	83,979	1.31	2019	2044
 **Ananthkumar** Minister of Chemicals and Fertilizers | Minister of Parliamentary Affairs	Bangalore South	Karnataka	2	0	0.00	Done	2015
 **Anant Geete** Minister of Heavy Industries and Public Enterprises	Raigad	Maharashtra	26,495	0	0.00	Done	2023
 **Harsimrat Kaur Badal** Minister of Food Processing Industries	Bathinda	Punjab	4,341	0	0.00	Done	2019
 **Narendra Singh Tomar** Minister of Rural Development | Minister of Panchayati Raj | Minister of Mines	Gwalior	Madhya Pradesh	29,835	0	0.00	Done	2022
 **Jual Oram** Minister of Tribal Affairs	Sundargarh	Odisha	20,968	101,912	4.86	2023	2018
 **Radha Mohan Singh** Minister of Agriculture and Farmers Welfare	Purvi Champaran	Bihar	255,937	250,826	0.98	2019	2090
O P P O S I T I O N L E A D E R S							
 **Sonia Gandhi**	Raebareli	Uttar Pradesh	79,357	186,485	2.35	2020	2060
 **Rahul Gandhi**	Amethi	Uttar Pradesh	59,448	112,812	1.90	2020	2043

* Each member's constituency has been identified; Calculations are based on households without toilets as on May 21, 2018, and rate of construction of toilets during 2017-18; # Calculations in October 2016 were based on households without toilets at that time and rate of construction in 2015-16

Source: SBM-Gramin dashboard ; As on May 21, 2018

STATE OF SANITATION

FAECAL WASTE

Two flagship programmes of Prime Minister Narendra Modi are working at cross-purposes. By 2019, when Swachh Bharat Mission comes to an end, some 30 million septic tanks and pits would have been dug along the Ganga. These tanks and pits would produce 180 million litres of faecal sludge every day, which will eventually find its way into the Ganga, defeating Namami Gange

6,000 mln litre

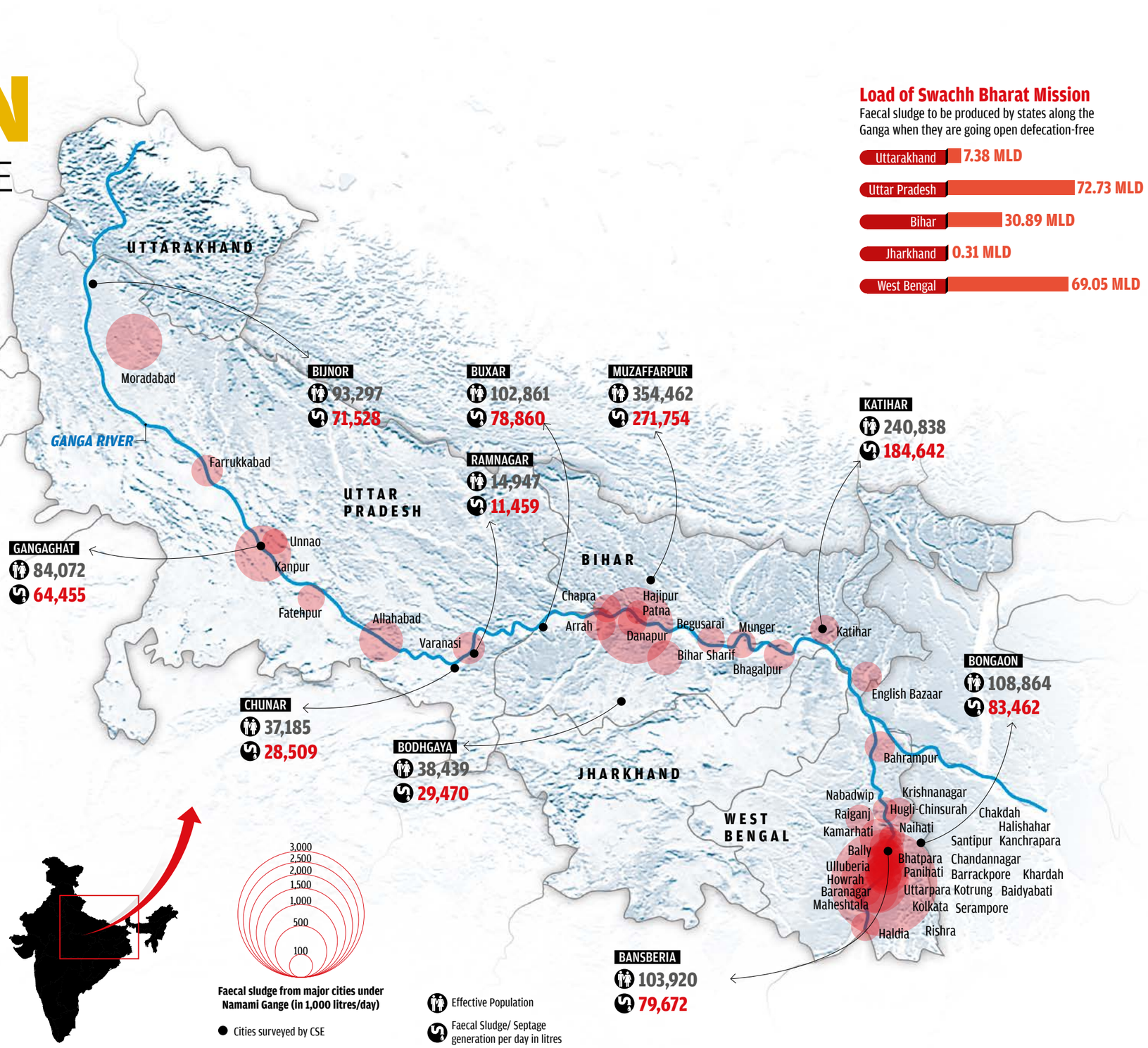
wastewater flows into the Ganga every day from 138 drains

180 mln litre

Total faecal sludge generated everyday by the states implementing the Swachh Bharat Mission

Under Namami Gange, the government will check the flow of untreated sewage into the river from 118 towns and cities. Delhi- based non-profit Centre for Science and Environment (CSE) visited 10 towns and cities along the Ganga and found that the authorities have miserably failed to manage faecal sludge, which is only going to increase in volume with the implementation of on-site sanitation under Swachh Bharat Mission

Source: Centre for Science and Environment, New Delhi



Load of Swachh Bharat Mission

Faecal sludge to be produced by states along the Ganga when they are going open defecation-free

From State of India's Environment in figures 2016

While India's sewerage generation increased by **62%**, its treatment capacity increased by just **19%** between 2009 and 2015

Get your copy of SoE in Figures 2016

MORE ON SANITATION

Report of the Comptroller and Auditor General of India on Rejuvenation of River Ganga (Namami Gange) | December 2017
Comptroller and Auditor General of India
CAG has indicted the National Mission for Clean Ganga (NMCG), a nodal central agency to implement the government's flagship 'Namami Gange' programme, for delays in executing the Ganga cleaning projects, non-utilisation of fund meant for river cleaning and lapses in monitoring

Liveability standards in cities | September 2017
Ministry of Urban Development
The Ministry of Urban Development (MoUD) has developed a set of 'Liveability Standards in Cities' to generate a Liveability Index and rate cities. The source of the Liveability Standards are the 24 features contained in the Smart City Proposals (SCPs), which have been grouped into 15 categories

National annual rural sanitation survey (NARSS) 2017-18 | March 2018
Ministry of Drinking Water and Sanitation
The survey finds that 93.4 per cent of the households in rural India who have access to a toilet use it. The NARSS also re-confirms the Open-Defecation Free (ODF) status of 95.6 per cent of villages which were previously declared and verified as ODF by various districts/states

Review of Sanitation Programme in Rural Areas: Committee on Estimates (2016-17)| August 2016
Lok Sabha Secretariat
The report deals with the action taken by the Centre on the recommendations contained in the Eighth Report (Sixteenth Lok Sabha) on the subject 'Review of Sanitation Programme in Rural Areas' pertaining to the Ministry of Drinking Water and Sanitation

MORE ON SANITATION

Out of order: the state of the world's toilets 2017 | November 2017
Water Aid
The report explores how the lack of decent toilets around the world prevents women and girls from fulfilling their potential

Increasing financial flows for urban sanitation | March 2018
World Water Council
The report first discusses what urban sanitation could look like by 2030, then examines how that sanitation would be financed, and finally identifies what decision-makers can do in order to increase financial flows

World urbanization prospects: the 2018 revision | May 2018
UN Department of Economic and Social Affairs (UN DESA)
The report estimates that Delhi will become the most populous city in the world by 2028. It adds that India is expected to add the largest number of urban dwellers by 2050

RELATED WEBSITES

Ministry of Drinking Water and Sanitation

Swachh Bharat Urban

Swachh Survekshan 2018

Swachh Bharat Mission – Gramin

STATE OF **WASTE** PLASTIC

India generates around 25,940 tonnes of plastic waste a day, of which Delhi contributes the largest share (689.52 tonnes a day). And even though 94 per cent of the plastic is recyclable, the recycling sector is largely unorganised and incapable of handling the volume

25,940

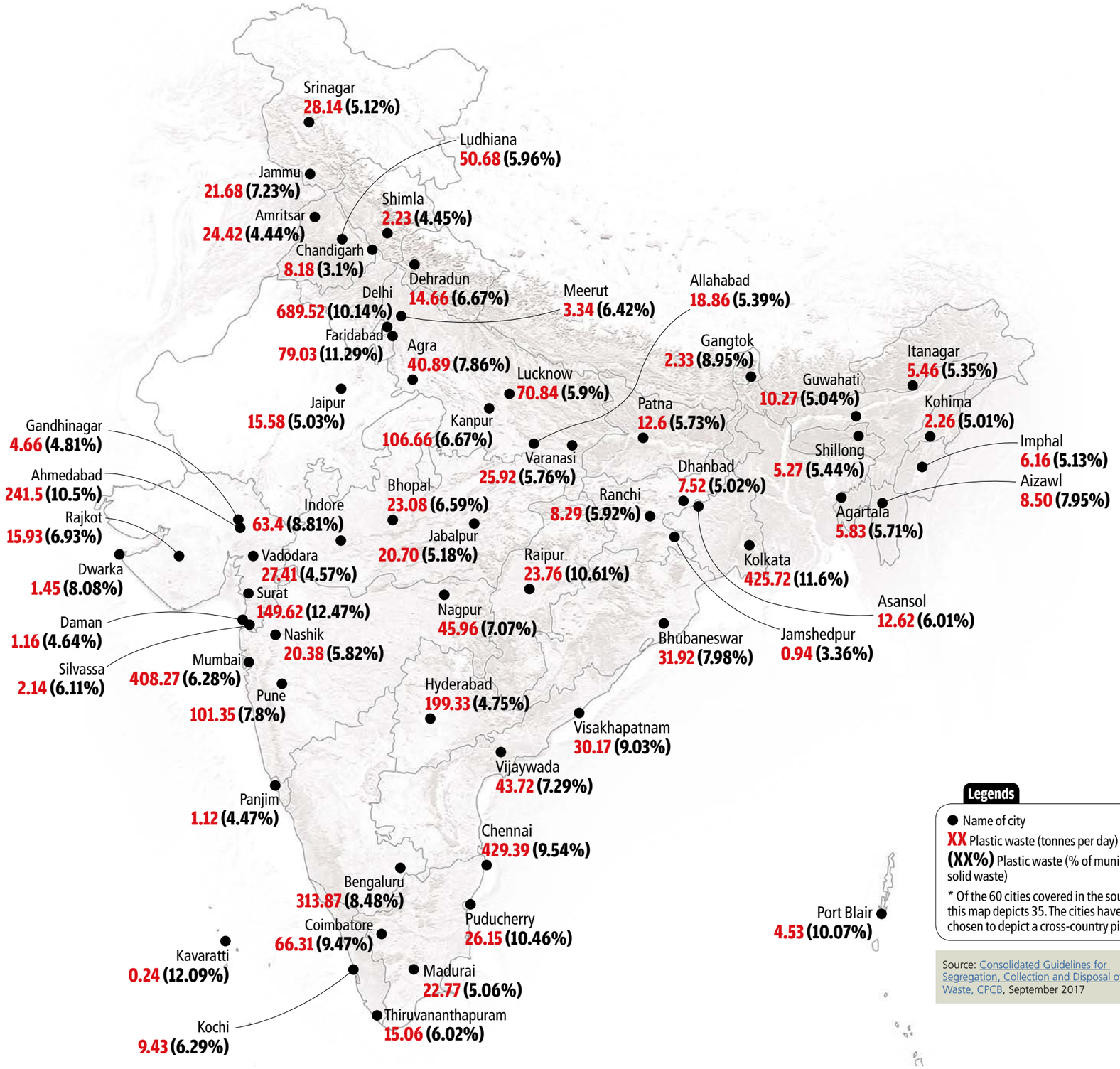
Average plastic waste generation in India (tonnes per day). The number is extrapolated by CPCB from the plastic waste generated from the 60 major cities

4,059.18

Average plastic waste generated by 60 major cities plotted on map (tonnes per day)

25

States and Union Territories have tried to regulate their plastic use in the past two decades



Legends

- Name of city
- XX Plastic waste (tonnes per day)
- (XX%) Plastic waste (% of municipal solid waste)

* Of the 60 cities covered in the source, this map depicts 35. The cities have been chosen to depict a cross-country picture

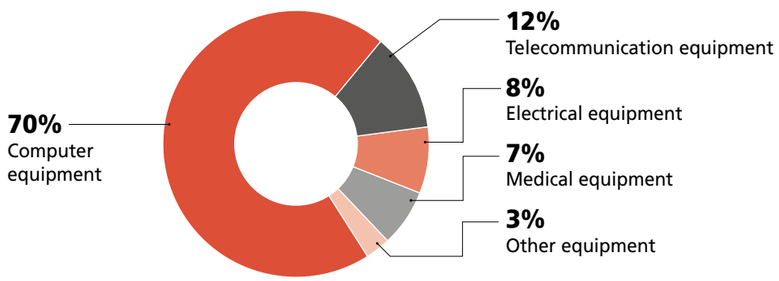
Source: Consolidated Guidelines for Segregation, Collection and Disposal of Plastic Waste, CPCB, September 2017

STATE OF WASTE

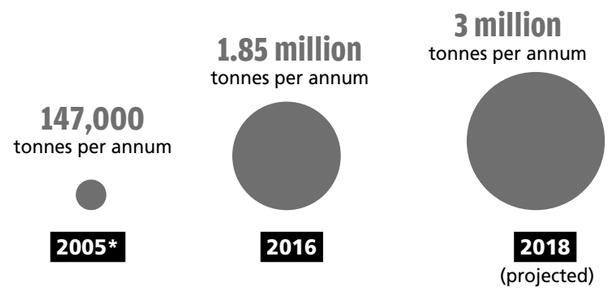
E- WASTE

In March 2018, the Ministry of Environment, Forest and Climate Change (MoEF&CC) released new e-waste management rules. Ironically, the ministry, in a Parliament reply in a December 2017, said "No comprehensive inventorization of e-waste generation in the country has been done", and that the last estimates by the Central Pollution Control Board are available till 2010. The most recent data available is an ASSOCHAM report released in 2016 that highlights 95 per cent of e-waste generated is managed by the unorganised sector

What comprises India's e-waste | Computer equipment accounts for 70% of e-waste material



Gadget trash | India has the capacity to recycle less than 15 per cent of its e-waste

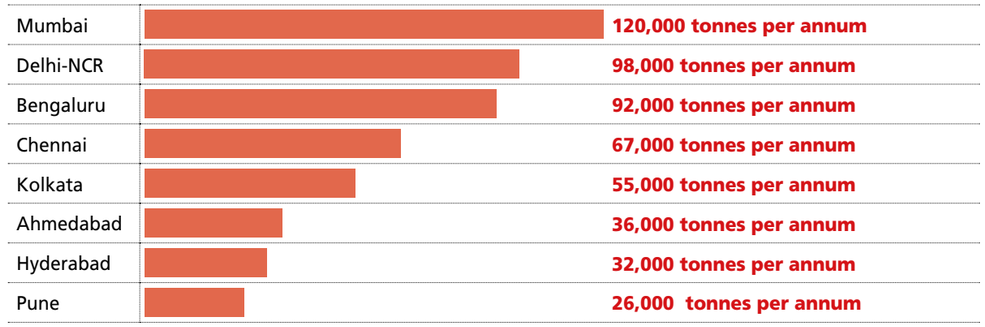


Capacity to recycle*
0.04 million tonnes
per annum

Source: * Central Pollution Control Board, The 2016 and 2018 estimates are from ASSOCHAM-Frost & Sullivan study 2016

CITIES WITH HIGHEST E-WASTE GENERATION

Just eight cities accounted for 30 per cent of e-waste generated in 2016



Source: ASSOCHAM-Frost & Sullivan study 2016; Figures are for 2016

LIMITED RECYCLING CAPACITY

India has just 178 authorised e-waste dismantlers and recyclers with a combined annual capacity of 441,086 tonnes

State	Number of registered dismantlers and recyclers	Registered capacity in tonne per annum
Chhattisgarh	2	1,650.0
Gujarat	12	37,262.12
Haryana	16	49,981.0
Karnataka	57	44,620.5
Madhya Pradesh	3	8,985.0
Maharashtra	32	47,810.0
Odisha	1	3,000.0
Punjab	1	150.0
Rajasthan	10	68,670.0
Tamil Nadu	14	52,427.0
Telangana	4	11,800.0
Uttar Pradesh	22	86,130.0
Uttarakhand	3	28,000.0
West Bengal	1	600.0

Why we should worry

95% e-waste generated is managed by the unorganised sector and scrap dealers in this market who use crude ways that can lead to soil and groundwater contamination and pose great health hazards

Source: Central Pollution Control Board; Updated till December 22, 2017

STATE OF **WASTE**
LANDFILL PROTESTS

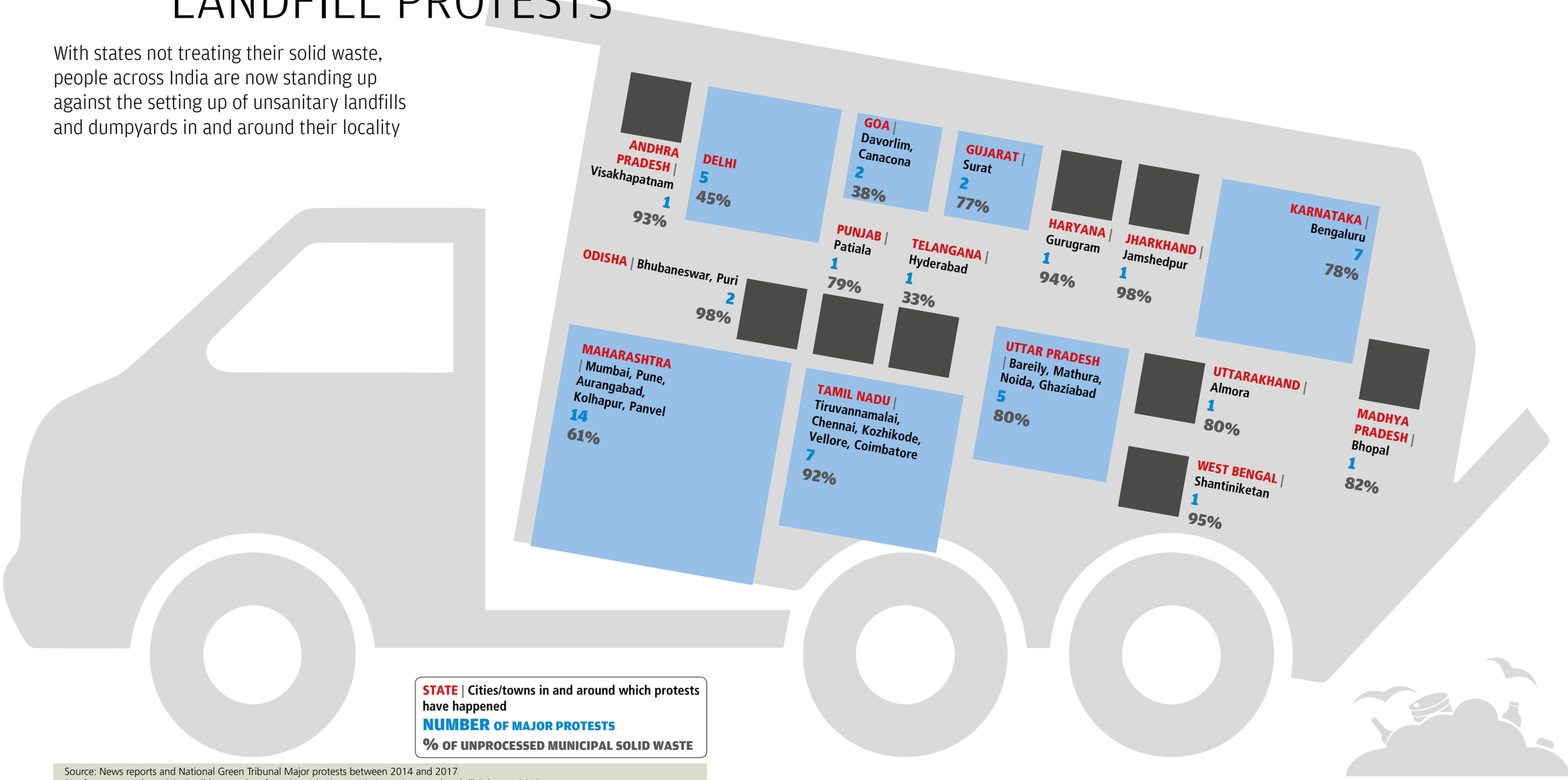
With states not treating their solid waste, people across India are now standing up against the setting up of unsanitary landfills and dumpyards in and around their locality

Stinking problem

16 states
reported cases where people stood up against solid waste dumping in their locality in the past three years

52
major protests/interventions happened across these 16 states over solid waste dumping

90%
or more solid waste dumped untreated in 8 of these 16 states



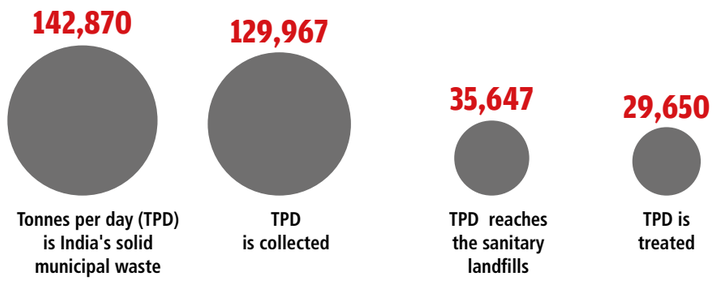
Source: News reports and National Green Tribunal Major protests between 2014 and 2017
% of unprocessed municipal solid waste data from Swachh Bharat Mission-Urban; Updated till February 2018

STATE OF WASTE

MUNICIPAL SOLID WASTE

Of the 142,870 tonnes of municipal solid waste (MSW) Indian cities generate every day, 91 per cent gets collected, but only about 20 per cent gets treated, highlighting how much of the untreated waste gets dumped in and around cities every day

Daily waste | 80 per cent of municipal solid waste is dumped either in sanitary landfills or dumpyards



639
Number of compost plants

108
Number of landfill sites

HIGH ON WASTE

Just 10 states account almost 80 per cent of the country's total MSW generation

Maharashtra	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	21,867	21,867	6,993	14,894	74	8

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Mumbai	5,320	11,000
Pune	1,175	1,600
Nagpur	504	1,000
Thane	-	700
Pimpro-Chinchwad	-	700
Nashik	200	500
Kalian-Dombivali	-	650
Vasai-Virar	-	600
Navi Mumbai	-	675

Source: EnviStats 2018, Ministry of Statistics and Programme Implementation; Updated till August 22, 2017

Uttar Pradesh	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	19,180	19,180	5,197	-	-	16

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Lucknow	475	1,200
Kanpur	1,100	1,500
Agra	654	790
Meerut	490	500
Varanasi	425	500
Allahabad	509	450

Tamil Nadu	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	14,500	14,234	1,607	-	182	3

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Chennai	3,036	5,000
Coimbatore	530	850
Madurai	275	450

Gujarat	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	10,480	10,480	2,565	7,730	93	11

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Ahmedabad	1,302	2,500
Surat	1,000	1,680
Vadodara	357	700
Rajkot	207	450

West Bengal	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	9,500	8,075	851	515	23	15

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Kolkata	2,653	4,000
Howrah	-	740

Karnataka	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	8,697	7,288	3,000	-	155	13

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Bengaluru	1,669	3,700

Source: EnviStats 2018, Ministry of Statistics and Programme Implementation; Updated till August 22, 2017

Delhi	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	8,370 (Aug 2017)	8,300	3,240	5,060	2	4

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Delhi	5,922	8,700

Madhya Pradesh	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	6,678	4,351	-	-	10	5

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Indore	557	850
Bhopal	574	700
Jabalpur	216	550
Gwalior	-	300

Telengana	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	6,628	6,225	3,175	3,050	3	1

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Hyderabad	2,187	4,000

Andhra Pradesh	Quantity generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)	Number of compost plants	Number of landfills
	6,440	6,331	500	143	18	2

Cities	Quantity generated in TPD (2004-2005)	Quantity generated in TPD (2015-2016)
Vishakhapatnam	584	350
Vijayawada	374	550

Source: EnviStats 2018, Ministry of Statistics and Programme Implementation; Updated till August 22, 2017

From State of India's Environment in figures 2016

23% of municipal solid waste generated in cities/towns is processed scientifically

Municipal Solid Waste is expected to grow by **5%** per annum due to rising urban population

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MORE ON WASTE

Solid waste management in India: an assessment of resource recovery and environmental impact | April, 2018
Indian Council for Research on International Economic Relations (ICRIER)
The study analyses the environmental and financial sustainability of solid waste management in Indian cities

Plastic Waste Management (Amendment) Rules, 2018 | March 2018
Ministry of Environment, Forests and Climate Change
The amended Rules lay down that the phasing out of Multilayered Plastic (MLP) is now applicable to MLP, which are "non-recyclable, or non-energy recoverable, or with no alternate use."

E- Waste (Management) Amendment Rules, 2018 | March 2018
Ministry of Environment, Forests and Climate Change
The government has amended the E-waste (Management) Rules in a move to facilitate and effectively implement the environmentally sound management of e-waste in India

Recommendations for long term action plan for solid waste management in Delhi | August 2017
Delhi State Legal Services Authority
The report is by the expert committee set up by the Delhi High Court to formulate and implement long term action plan regarding collection, removal and disposal of all waste in Delhi

Implementation of policy on promotion of city compost: Standing Committee on Chemicals and Fertilizers (2016-17) | April 2017
Lok Sabha Secretariat
In view of slow progress made in implementation of the policy, the Parliamentary Standing Committee on Chemicals and Fertilizers has recommended the government to review progress of the policy on city compost at regular intervals

Assessment and quantification of plastics waste generation in major cities | November 2015
Central Pollution Control Board
The study assesses and quantifies plastics waste in dump sites of major 60 cities and suggesting the viable and appropriate recycling technologies (Based on "Zero" waste concept).

The Global E-waste Monitor 2017: quantities, flows, and resources | December 2017
United Nations University (UNU)
India generated nearly 2 million tonnes of electronic waste last year, of the 44.7 million tonnes produced globally reveals this new report released by the United Nations' International Telecommunication Union

RELATED WEBSITES

Swachh Bharat Mission-Urban

Central Pollution Control Board

The Ministry of Drinking Water and Sanitation

Ministry of Housing and Urban Affairs, Government of India

Smart Cities Mission

STATE OF ENERGY RENEWABLE ENERGY

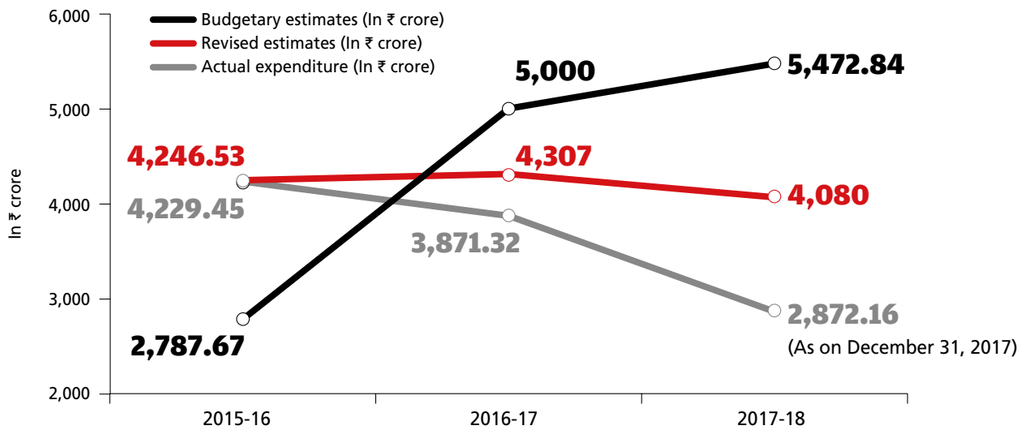
After missing its targets for two consecutive years, the Centre, it appears, is fast losing interest in meeting its ambitious target of installing 175 GW of renewable energy by 2022. The poor performance will also hit the job creation potential of the scheme which was estimated to be over 300,000. Picture this: just 9 per cent of the roof-top solar target has been met so far, even though it has the potential to create maximum green jobs in the renewable sector

Renewable target | How India plans to generate 175 GW of clean energy by 2022

Target of installing renewable energy capacity by the year 2022

HIGH ON ALLOTMENT, LOW ON EXPENDITURE

The Centre has in two consecutive years failed to utilise the money allocated to increase renewable energy capacity



Source: 39th Parliamentary Standing Committee on Energy (2017-18)

FAR FROM TARGET

Physical targets for solar power have been missed in 2016-17 and 2017-18

Target Achieved

Programme / system	2015-16	2016-17	2017-18 (As on December 31, 2017)
Grid power (in mw)			
Wind Power	(2,400) 3,423.1	(4,000) 5,502.4	(4,000) 568.7
Small Hydro	(250) 218.6	(250) 105.9	(200) 38.3
Bio Power	(400) 304.9	(400) 162	(350) 232.1
Waste to Power (Indstl./Urban)	(10) 0.0	(10) 7.5	(5) 0
Solar Power	(1,400) 3018.9	(12,000) 5,526	(10,000) 4,763.5
Off - grid/decentralised power (capacities in mw)			
Waste to Power	(10) 14.1	(15) 5.6	(20) 7.6
Biomass (Non-bag Cogen)	(60) 60.0	(60) 1.2	(60) 9.5
Biomass Gasifiers(Rural)	(8) 12.5	(10) 2.8	(7.5) 0.9
SPV Systems	(50) 87.7	(100) 155.5	(150) 104.4
Other re systems			
Family type Biogas Plants (number in lakh)	(1.1) 0.7	(1) 0.9	(1.1) 0.2

Source: 39th Parliamentary Standing Committee on Energy (2017-18)

UNUTILISED POTENTIAL

The Centre's ambitious renewable plan can generate 345,000 new jobs in the clean sector

Over 300,000 workers will be employed in the next 5 years, to achieve India's solar and wind energy targets, mostly in the rooftop solar sector

45,000 additional jobs will be created to fuel the domestic solar module manufacturing industry

Solar jobs will be well distributed across the country, while wind jobs will be concentrated in a few states

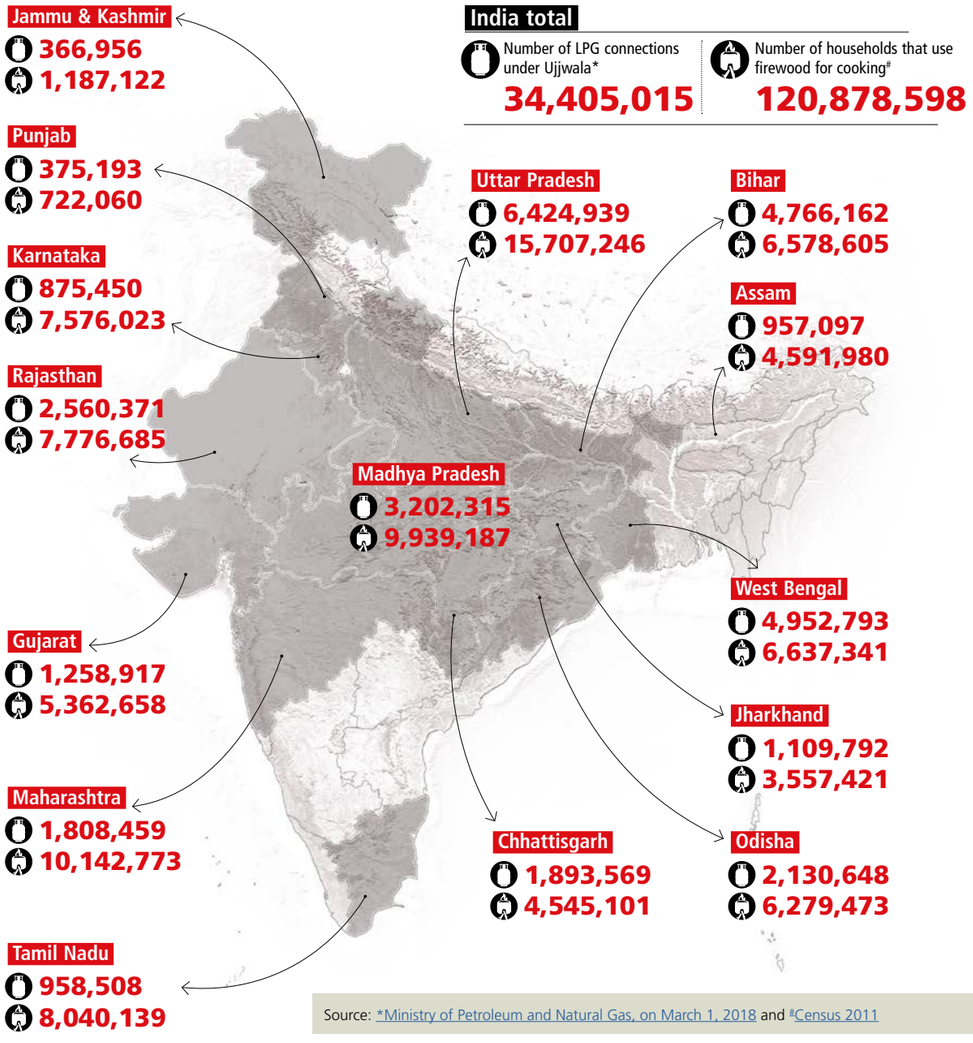
Rooftop solar is more labour-intensive than other renewables, offering 24.72 job-years per megawatt (MW) in comparison to 3.45 job-years per MW for ground-mounted solar and 1.27 job-years per MW for wind power

Source: GREENING INDIA'S WORKFORCE: Gearing up for Expansion of Solar and Wind Power in India by the Council on Energy, Environment and Water, released in June 2017

STATE OF ENERGY

LPG CONNECTIONS

Although Ujjwala has covered all states, prominent LPG distribution has taken place in 15 states. And even in them, a substantial rural population relies on unhealthy firewood for cooking



Source: *Ministry of Petroleum and Natural Gas, on March 1, 2018 and #Census 2011

From State of India's Environment in figures 2017

Thermal power plants account for

60% of particulate matter produced by industries

45% of Sulphur dioxide produced by industries

Get your copy of SoE in Figures 2017

MORE ON ENERGY

Thirty Ninth Report on Demands for Grants of the Ministry of New and Renewable Energy for the year 2018-19 | March 2018
Lok Sabha Secretariat
The parliamentary standing committee on energy has expressed disappointment with the government's performance in the renewable sector so far

Energy statistics 2018 | March 2018
Ministry of Statistics and Programme Implementation
The publication is an integrated and updated database of reserves, installed capacity, production, consumption, import, export and whole sale prices of different sources viz. coal, crude petroleum, natural gas and electricity

Renewable Capacity Statistics 2018 | March, 2018
International Renewable Energy Agency (IRENA)
The publication presents renewable power generation capacity statistics for the last decade (2008-2017)

Renewable Energy Statistics 2017 | July 2017
International Renewable Energy Agency (IRENA)
The yearbook shows data sets on renewable power-generation capacity for 2007-2016, renewable power generation for 2007-2015 and renewable energy balances for about 100 countries and areas for 2014 and 2015

Greening India's workforce: gearing up for expansion of solar and wind power in India | June 2017
Council on Energy
The analysis on clean energy jobs in India focuses on renewable energy job creation, short-term and long-term

Renewable energy and jobs: annual review 2018 | May 2018
International Renewable Energy Agency (IRENA)
The report presents the status of employment, both by technology and in selected countries, over the past year

Tracking SDG7: the energy progress report 2018 | May 2018
The World Bank
The report tracks global, regional and country progress on the four targets of SDG7: energy access (electricity, clean fuels and technologies for cooking), renewable energy and energy efficiency, based on statistical indicators endorsed by the UN

RELATED WEBSITES

Ministry of New and Renewable Energy

Pradhan Mantri Ujjwala Yojana

India Energy Dashboard

STATE OF CLIMATE

INDIA'S VULNERABILITY

The recently leaked report of the United Nations Intergovernmental Panel on Climate Change says the world is already 1 degree Celsius warmer than pre-industrial levels and is projected to cross the 1.5 degree Celsius mark by 2040. This should ring a warning bell for India because even though it contributes just 1.9 tonnes per capita emissions, it is one of the most vulnerable countries in the world. In 2017, 22.3 million Indians—the highest in the world—were affected by extreme weather events attributed to climate change

Number of extreme weather events in India

	Occurrences	Total damage in US$
1985-95	86	14.7 billion
1996-06	136	22.3 billion
2007-17	153	45 billion

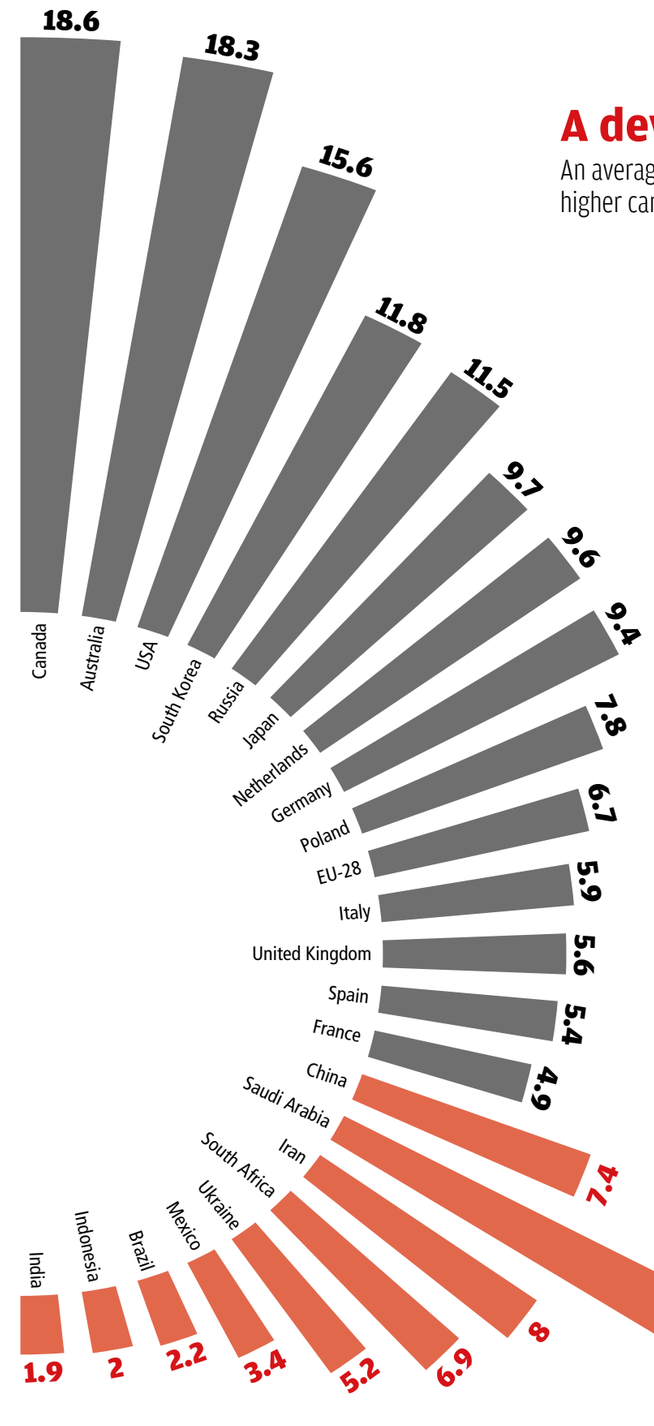
Top 10 countries with deaths in 2017

India	2,291
Sierra Leone	1,102
Iran	509
China	498
Mexico	498
Colombia	384
Sri Lanka	329
Bangladesh	323
Vietnam	316
United States of America	288

Top 10 countries with people affected (million)

India	22.33
China	15.15
Bangladesh	11.48
Cuba	10
Vietnam	5.13
Philippines	4.87
Mauritania	3.9
Peru	3.88
Thailand	3.82
Chad	1.89

Source: EM-DAT: The OFDA/CRED International Disaster Database



Source: EDGARv4.3.2 database, EC-JRC/PBL, 2017

STATE OF CLIMATE

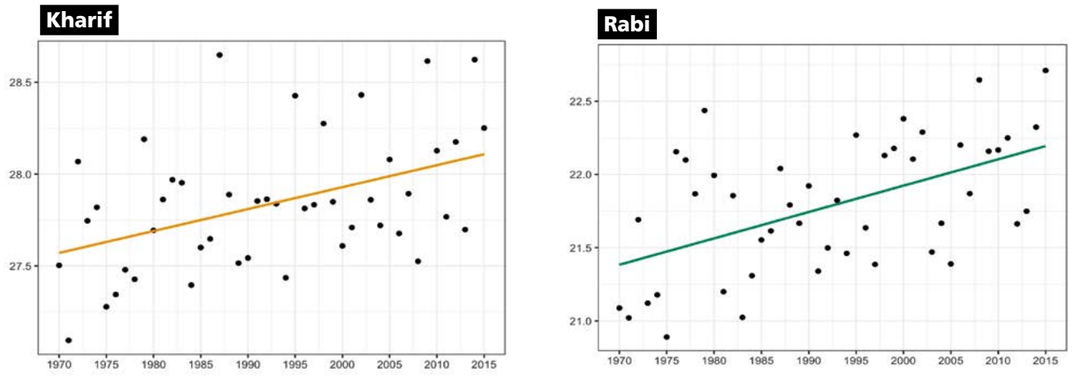
IMPACT ON AGRICULTURE

Climate change could cut agricultural yields, particularly in unirrigated areas that would be hit hardest by rising temperatures and declines in rainfall. An extreme temperature shock in unirrigated areas reduces yields by 7 per cent for kharif and 7.6 per cent for rabi. Similarly, the effects of extreme rainfall shocks are 14.7 per cent and 8.6 per cent (for kharif and rabi, respectively) in unirrigated areas, much larger than the effects these shocks have in irrigated districts

FEELING THE HEAT

The broad pattern of rising temperatures post 1970s is common to both seasons. The average increase in temperature between the most recent decade and the 1970s is about 0.45 degrees and 0.63 degrees in the kharif and rabi seasons, respectively

Average temperature by cropping season (degrees Celsius)

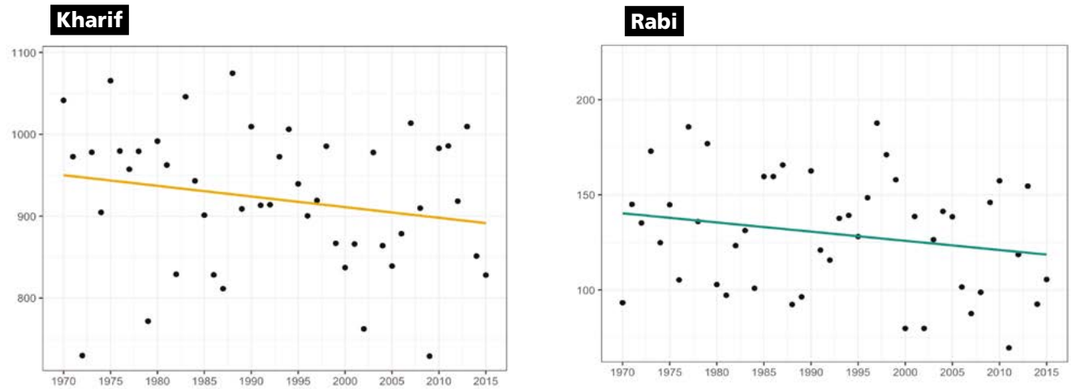


Source: Economic Survey 2017-18, Ministry of Finance

RAINFALLS

Between the 1970s and 2015, kharif rainfall has declined on average by 26 millimeters and rabi rainfall by 33 millimeters. Annual average rainfall for this period has on average declined by about 86 millimeters

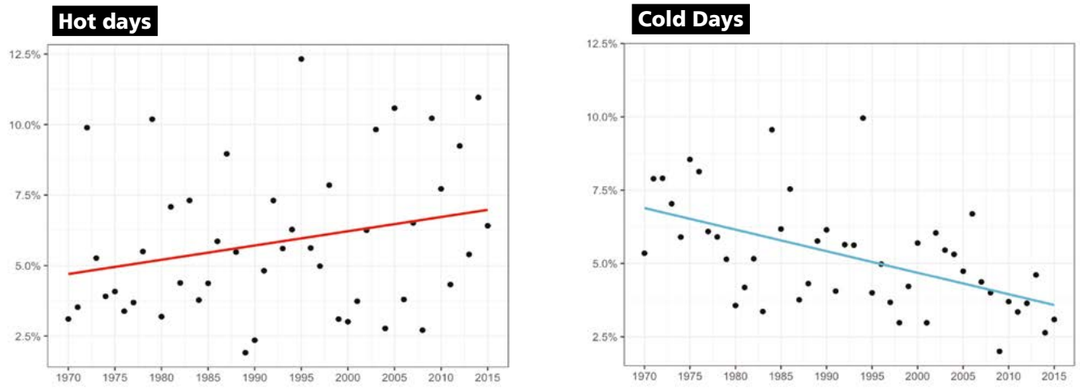
Average precipitation by cropping season (millimeters)



EXTREME STRESS

A rise in the number of days with extremely high temperatures, and a corresponding decline in the number of days with low temperatures

Very hot and cold days during the monsoon (% of total days)

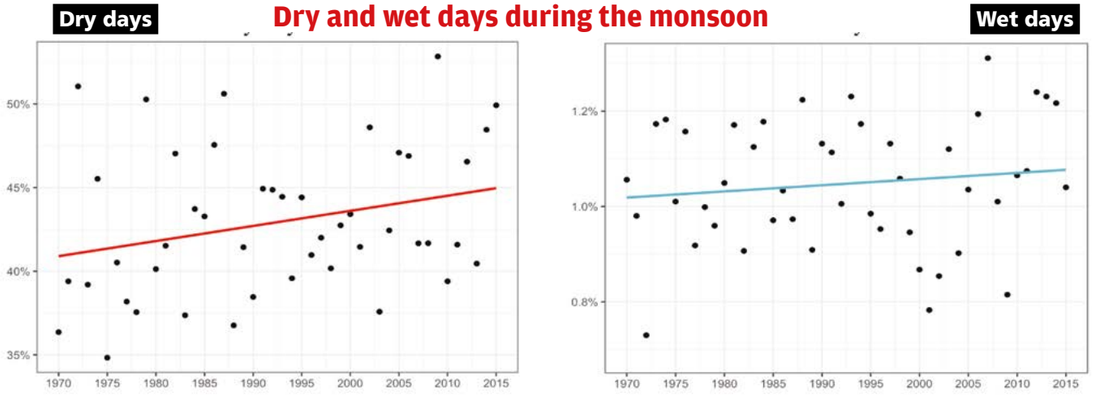


Source: Economic Survey 2017-18, Ministry of Finance

BAD FOR FARMING

The proportion of dry days (rainfall less than 0.1 mm per day), as well as wet days (rainfall greater than 80 mm per day) has increased steadily over time. Thus, the imprint of climate change clearly manifested in the increasing frequency of extreme weather outcomes

Dry and wet days during the monsoon



CLIMATE CHANGE CRIPPLES FARM YIELD

Extreme temperature shocks, when a district is significantly hotter than usual, result in a 4 per cent decline in agricultural yields during the kharif season and a 4.7 per cent decline in rabi yields. Similarly, extreme rainfall shocks, when it rains significantly less than usual, can reduce kharif yields by 12.8 per cent, and rabi yields by 6.7 per cent. Unirrigated areas—defined as districts where less than 50 per cent of cropped area is irrigated—bear the brunt of the vagaries of weather

Impact of weather shocks on agricultural yields (% decline)

	Extreme Temperature Shocks	Extreme Rainfall Shocks
Average Kharif	4.0%	12.8%
Kharif, Irrigated	2.7%	6.2%
Kharif, Unirrigated	7.0%	14.7%
Average Rabi	4.7%	6.7%
Rabi, Irrigated	3.0%	4.1%
Rabi, Unirrigated	7.6%	8.6%

Source: Economic Survey 2017-18, Ministry of Finance

From State of India's Environment in figures 2017

India's average temperature in 2016 was **1.2 degrees celcius** higher than the average temperature between 1901 and 1930

1,500 people died due to extreme weather events in 2016

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MORE ON CLIMATE

Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C: draft summary for policymakers | January 2018
Intergovernmental Panel on Climate Change (IPCC)
The leaked version of a the draft of the UN Special Report on 1.5 Degrees warns that global warming is set to breach the lower limit for warming of 1.5 degrees set under the Paris Agreement. The final report will be released in the late 2018

Economic Survey 2017-18 | January 2018
Ministry Of Finance
The annual document gives an account of the performance of India's economy during the ongoing fiscal while also providing projections for the upcoming financial year 2018-19

The Emissions Gap Report 2017 | October 2017
United Nations Environment Programme (UNEP)
The report reveals large gap between government pledges and the reductions needed to prevent dangerous global warming

WMO statement on the state of the global climate in 2017 | March 2018
World Meteorological Organization
The report provides detailed information to support the international agenda on disaster risk reduction, sustainable development and climate change

UN Climate Change Annual Report 2017 | May 2018
United Nations Framework Convention on Climate Change
The UN Climate Change first-ever annual report lays out the key 2017 achievements and pointing to the future of the climate change process

Temperature and humidity based projections of a rapid rise in global heat stress exposure during the 21st century | December 2017
Environmental Research Letters
The combined effects of rising heat and humidity will affect India the most in the world close to the end of the century, warns this new study

Natural catastrophes and man-made disasters in 2017: a year of record-breaking losses | April 2018
Swiss Re
At US $144 billion, the insured losses from natural and man-made disasters worldwide in 2017 were the highest ever recorded in a single year

RELATED WEBSITES

Ministry of Environment, Forests and Climate Change

India Meteorological Department (IMD)

United Nations Framework Convention on Climate Change (UNFCCC)

Intergovernmental Panel on Climate Change

World Meteorological Organization

STATE OF WILDLIFE
POACHING AND SEIZURES

Even as the Centre, in October 2017, released the new National Wildlife Action plan (2017-2031) for wildlife conservation, poaching continues unabated. In 2017, at least 476 wild animals from 27 species were reported to have been killed due to poaching

32,750
total wildlife crimes and mortality reported till March 31, 2018

465
Species that were poached in India

17,893
live tortoise and turtles seized in 2017

PRETTY BAD
43 species recorded poaching or seizures in 2017

PEACOCK
Poached | 166
Articles seized | 6 live and unspecified quantity of feathers

MONKEY
Poached | 31
Articles seized | NA

WILD BOAR
Poached | 29
Articles seized | 99 kg meat + 8 legs + unspecified quantity of meat and hair

LEOPARD
Poached | 56
Articles seized | 96 skins + 3 skin pieces + 3 skulls + 1 skeleton + 5 kg bones + 15 pieces of bones + 3 canines + 77 claws + 8 molar teeth + unspecified quantity of bones, claws and meat (seizure represents 103 leopards)

SPOTTED DEER
Poached | 29
Articles seized | 13 skins + 18 kg meat + 5 legs + 3 heads + 22 antlers + Unspecified quantity of meat

BLUE BULL
Poached | 22
Articles seized | 122 kg meat

Source: Wildlife Protection Society of India

TIGER
Poached | 21
Articles seized | 8 skins + 1 skeleton + 64.5 kg bones + 154 pcs of bones + 1 toe + 24 teeth + 89 whiskers + unspecified quantity of skin cut pieces and claws (seizure represents 17 tigers)

RHINOCEROS
Poached | 13
Articles seized | 2 horns & 6 unverified horns

SLOTH BEAR
Poached | 12
Articles seized | 9 claws

ELEPHANT
Poached | 18
Articles seized | 153.44 kg ivory + 17 tusks + 25 ivory pieces + 1 ivory idol + 1 live elephant + 1 tooth + bones

SAMBAR
Poached | 13
Articles seized | 1 skin + 121 kg meat + 8 pieces of antlers + 50 kg antlers + unspecified quantity of meat

BLACK BUCK
Poached | 11
Articles seized | 3 skins+ 3 skin pcs + 1 carcass + 2 heads + 2 horns + 5 kg meat + unspecified qunatity of meat and bones

JUNGLE CAT
Poached | 9
Articles seized | Unspecified quantity of skins

MONITOR LIZARD
Poached | 6
Articles seized | 15 live + 1 dead + 337 penis + unspecified quantity of meat

CHINKARA
Poached | 5
Articles seized | 1 skin + 4 skulls + 2 body parts + unspecified quantity of meat

INDIAN PORCUPINE
Poached | 7
Articles seized | 1 skin + unspecified quantity of quills and meat

BISON
Poached | 5
Articles seized | 35 kg meat

COMMON MONGOOSE
Poached | 5
Articles seized | 58,585 hair brushes + unspecified quantity of hair brushes

JACKAL

Poached | 5

Articles seized | 6 skins + 1 head + 1 live + 3 kg meat

BARKING DEER

Poached | 2

Articles seized | 3 skins + 4 skulls + 1 head + 1 horn + 4 live + 10 kg meat + unspecified quantity of bone & hair

GANGETIC DOLPHIN

Poached | 1

Articles seized | NA

MOUSE DEER

Poached | 1

Articles seized | Unspecified quantity of meat

COBRA

Poached | NA

Articles seized | 28 live

COMMON OTTER

Poached | NA

Articles seized | 4 skins

FLAMINGO

Poached | NA

Articles seized | 4 live + 2 dead

HOG DEER

Poached | 3

Articles seized | 2 antlers + unspecified quantity of meat

HYENA

Poached | 2

Articles seized | NA

PALM CIVET

Poached | 2

Articles seized | 1 skin

LION

Poached | 1

Articles seized | NA

PANGOLIN

Poached | 1

Articles seized | 23.18 kg scales + 153 pieces of scales + 4 live

CLOUDED LEOPARD

Poached | NA

Articles seized | 3 skins + unspecified quantity of bones

FALCON

Poached | NA

Articles seized | 9 live

GHARIAL

Poached | NA

Articles seized | 4 live

HIMALAYAN BLACK BEAR

Poached | NA

Articles seized | 57 gall bladders + 1 skin + 1 head

HIMALAYAN TAHR

Poached | NA

Articles seized | 5 kg bones + 2 kg meat

SEA CUCUMBER

Poached | NA

Articles seized | 4,143 kg sea cucumber + 550 kg of pocessed sea cucumber

TOKAY GECKO

Poached | NA

Articles seized | 97 live

INDIAN EAGLE-OWL

Poached | NA

Articles seized | 3 live

LEOPARD CAT

Poached | NA

Articles seized | 2 skins

MUSK DEER

Poached | NA

Articles seized | 1 musk pod + 4 teeth

SAND BOA SNAKE

Poached | NA

Articles seized | 33 live

STAR TORTOISE

Poached | NA

Articles seized | 4,247 live

FRESH WATER TURTLE & TORTOISES

Poached | NA

Articles seized | 13,646 live + 1 dead + 7 kg carapace + 3 pieces of carapaces + unspecified quantity of meat & carapaces

Source: Wildlife Protection Society of India

From State of India's Environment in figures 2017

16 states face regular tiger and elephant attacks

67% elephants are outside protected areas

29% tigers are outside protected areas

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MORE ON WILDLIFE

Third National Wildlife Action Plan 2017-31 | October 2017
Ministry of Environment, Forests and Climate Change
The document spells out the future road map for wildlife conservation. The third action plan comes after the first plan in 1983 and second from 2002 till 2016

Right of passage: elephant corridors of India | August 2017
Wildlife Trust of India
The conservation reference series publication brings together, in its second edition, a comprehensive listing of India's 101 elephant corridors as listed and mapped by elephant experts in consultation with all state forest departments that are part of the elephant range in the country

Synchronized elephant population estimation India 2017 | August 2017
Ministry of Environment, Forests and Climate Change
The census report reveals an expansion in elephant areas, even while the jumbo population remained "stable" at 27,000

Performance Audit on Administration of National Parks and Wildlife Sanctuaries in Karnataka | July 2017
Comptroller and Auditor General of India
The audit report focuses on administration of National Parks and Wildlife sanctuaries. It covers forest cover dynamics, human-wildlife conflicts, restoration of corridors, commercial activities in and around the protected areas, eco-tourism, encroachment, poaching, forest fires, weed management, road kills, research and deficiency in preparation of management plans

Disrupt: wildlife cybercrime – uncovering the scale of online wildlife trade | May 2018
International Fund for Animal Welfare
The report highlights the scale and nature of the online trade in protected live animals and animal products, as well as the threat this trade poses to their survival

MORE ON WILDLIFE

Black spotted turtle trade in Asia II: a seizure analysis | May 2018
TRAFFIC
The report shows that over 10,000 Black spotted turtles have been seized in two years, eclipsing numbers recorded in a previous six-year study

Global assessment on biodiversity and ecosystem services | March 2018
The Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES)
The report says that human well-being is at risk and suggests options to protect and restore nature and its vital contributions to people

RELATED WEBSITES

Wildlife Institute of India

The Wildlife Protection Society of India (WPSI)

National Tiger Conservation Authority/Project Tiger

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

The Convention on International Trade in Endangered Species of Wild Fauna and Flora

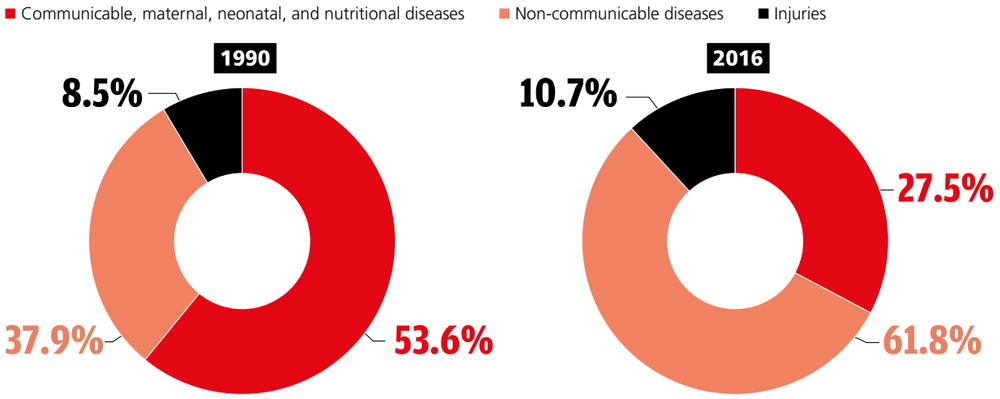
World Wildlife Fund

STATE OF HEALTH DISEASE BURDEN

The contribution of most non-communicable diseases (NCDs) to the total disease burden has increased all over India in the past 26 years (1990-2016)

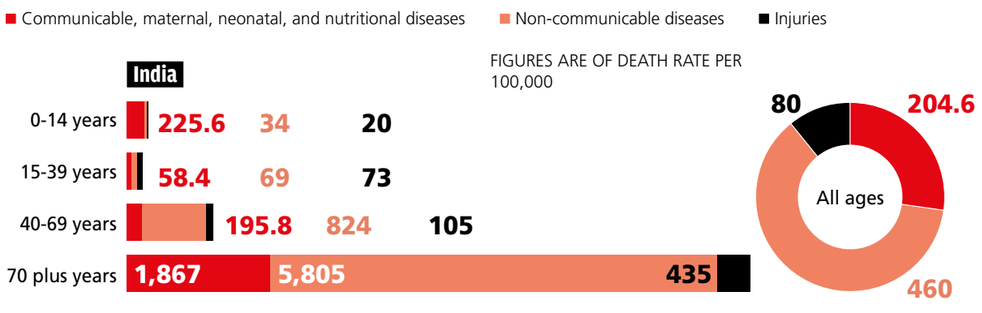
Contribution of major disease groups to total deaths

The proportion of all deaths in India due to NCDs increased from 37.9% to 61.8%



Distribution of deaths from major disease groups by age

Non-communicable diseases are the primary reason for deaths in 40-69 years and 70 plus years, the two age groups with the highest death rates



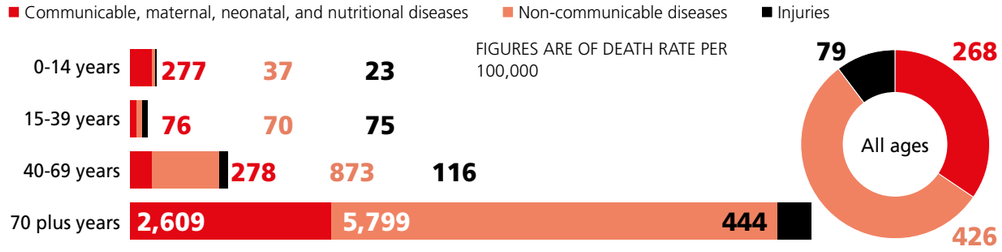
Source: India: Health of the Nation's States, November 14, 2017

EMPOWERED ACTION GROUP (EAG) STATES

A group of eight states—Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttarakhand, and Uttar Pradesh—that receive special development effort attention from the Government of India

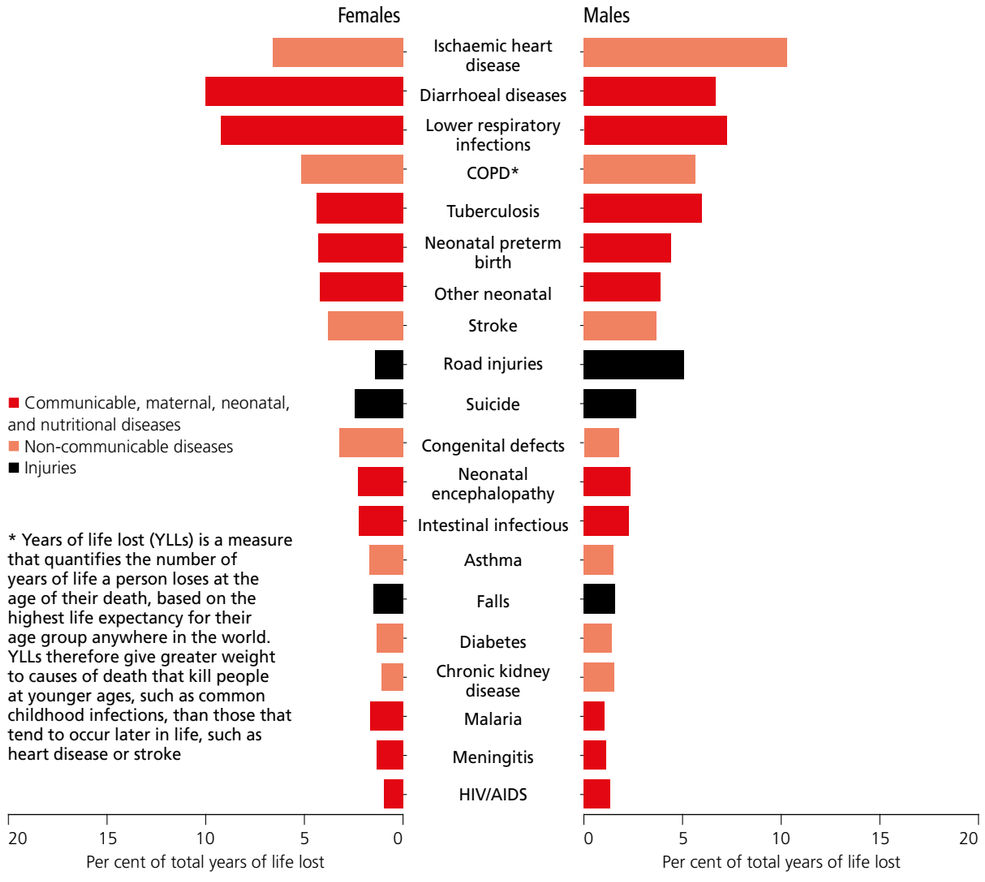
Distribution of deaths from major disease groups by age

The death rates due to communicable, maternal, neonatal, and nutritional diseases are higher than the national average



Leading individual causes of years of life lost by gender in 2016

Ischemic heart disease, an NCD, is the leading cause in the EAG states



* Years of life lost (YLLs) is a measure that quantifies the number of years of life a person loses at the age of their death, based on the highest life expectancy for their age group anywhere in the world. YLLs therefore give greater weight to causes of death that kill people at younger ages, such as common childhood infections, than those that tend to occur later in life, such as heart disease or stroke

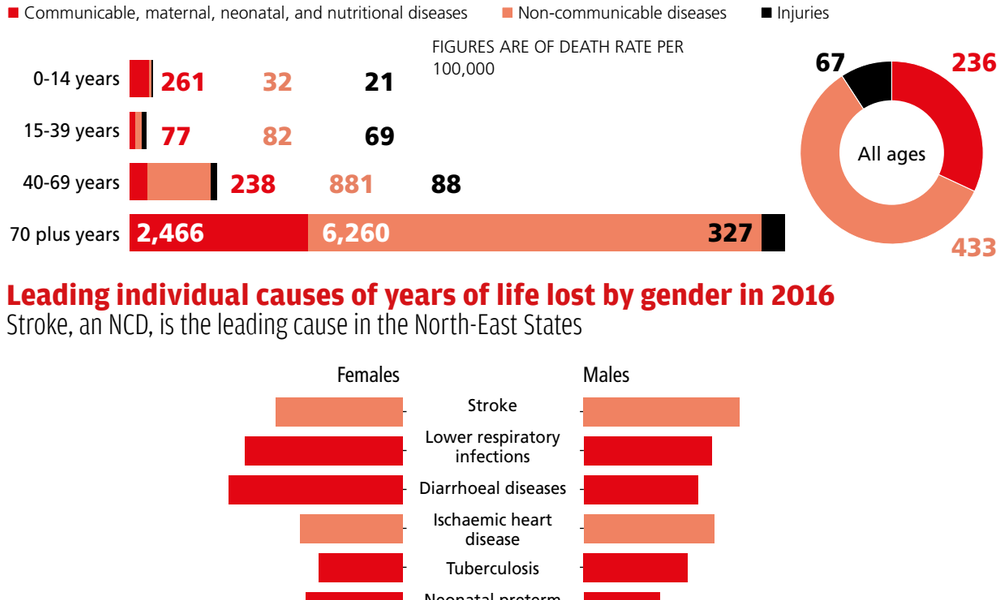
Source: India: Health of the Nation's States, November 14, 2017

NORTH-EAST STATES

This includes Assam, Meghalaya, Arunachal Pradesh, Mizoram, Nagaland, Tripura, Sikkim, Manipur

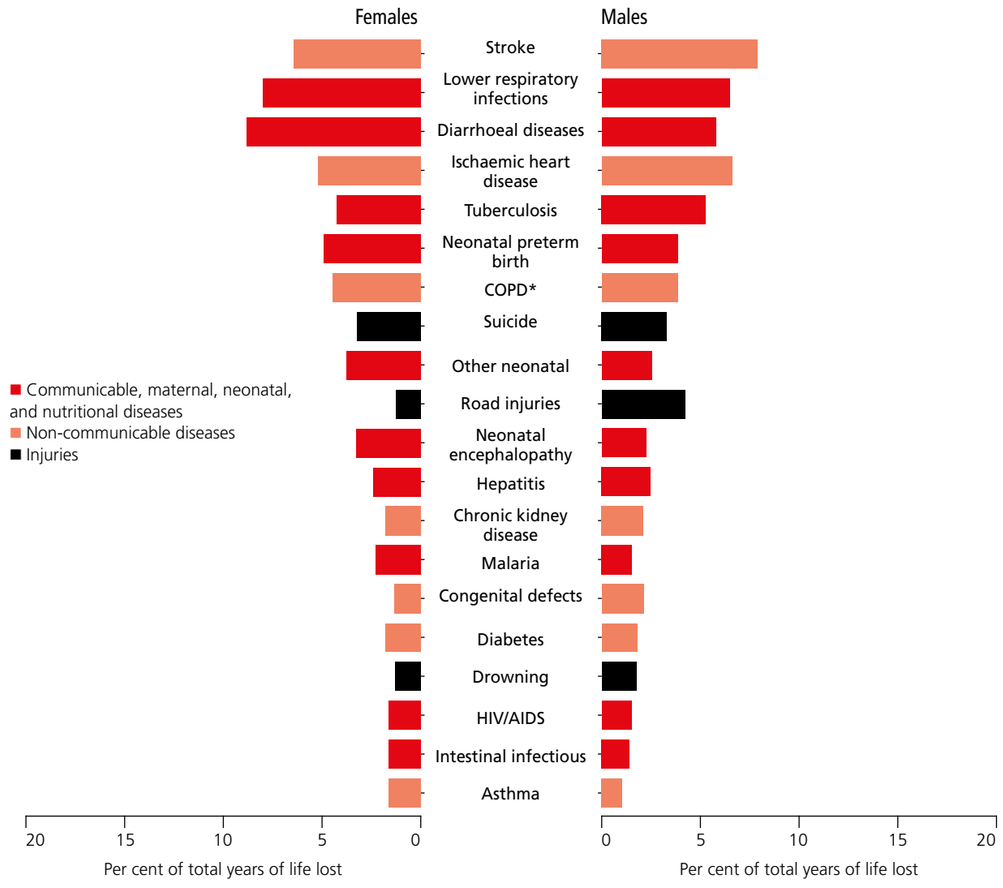
Distribution of deaths from major disease groups by age

The death rates due to communicable, maternal, neonatal, and nutritional diseases are higher than the national average



Leading individual causes of years of life lost by gender in 2016

Stroke, an NCD, is the leading cause in the North-East States



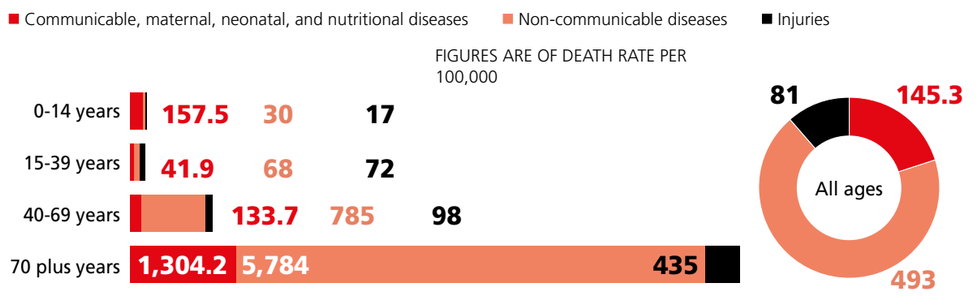
Source: India: Health of the Nation's States, November 14, 2017

OTHER STATES: 20 STATES AND UTS

This includes Gujarat, Andhra Pradesh, Delhi, Haryana, Jammu and Kashmir, Karnataka, Maharashtra, Telangana, Union Territories other than Delhi, West Bengal, Goa, Himachal Pradesh, Kerala, Punjab and Tamil Nadu

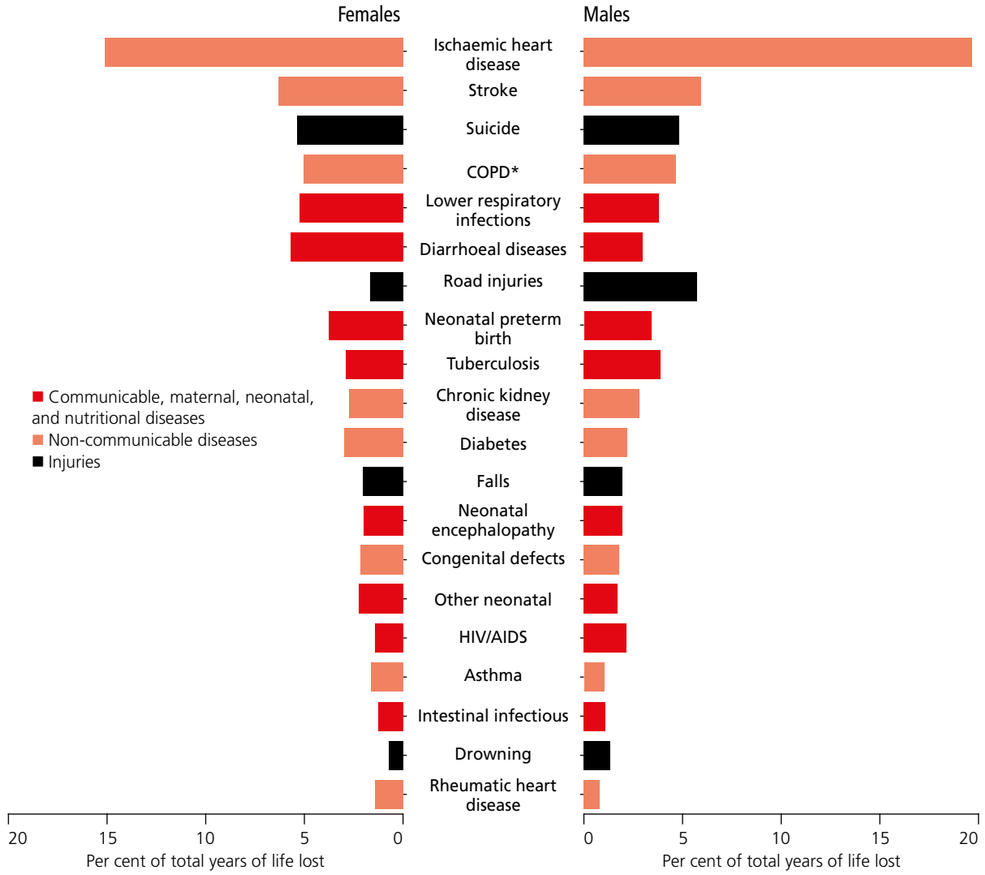
Distribution of deaths from major disease groups by age

The death rates due to non-communicable diseases are higher than the national average



Leading individual causes of years of life lost by gender in 2016

Ischemic heart disease, an NCD, is the leading cause in the Other states



Source: India: Health of the Nation's States, November 14, 2017

STATE OF HEALTH

NON-COMMUNICABLE DISEASES

The death rate due to non-communicable diseases was over two times that due to communicable, maternal, neonatal, and nutritional diseases in India in 2016. Cardiovascular diseases were the primary reason behind deaths in India

In 2016

61.8% of all deaths were due to non-communicable diseases (NCDs)

27.5% of all deaths were due to communicable, maternal, neonatal, and nutritional diseases

Share of major NCDs in total deaths (2016)

28.1% cardiovascular diseases

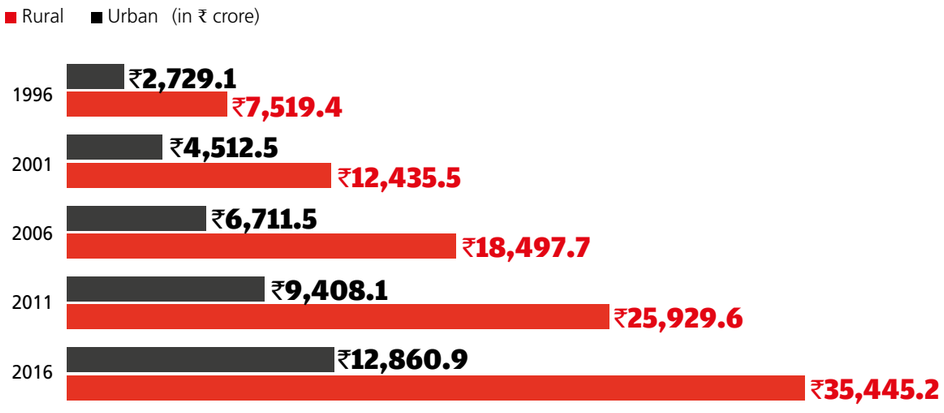
10.9% chronic respiratory diseases such as chronic obstructive pulmonary disease (COPD)

8.3% Cancer

6.5% Diabetes, urogenital, blood, and endocrine diseases

COUGHING OUT MONEY

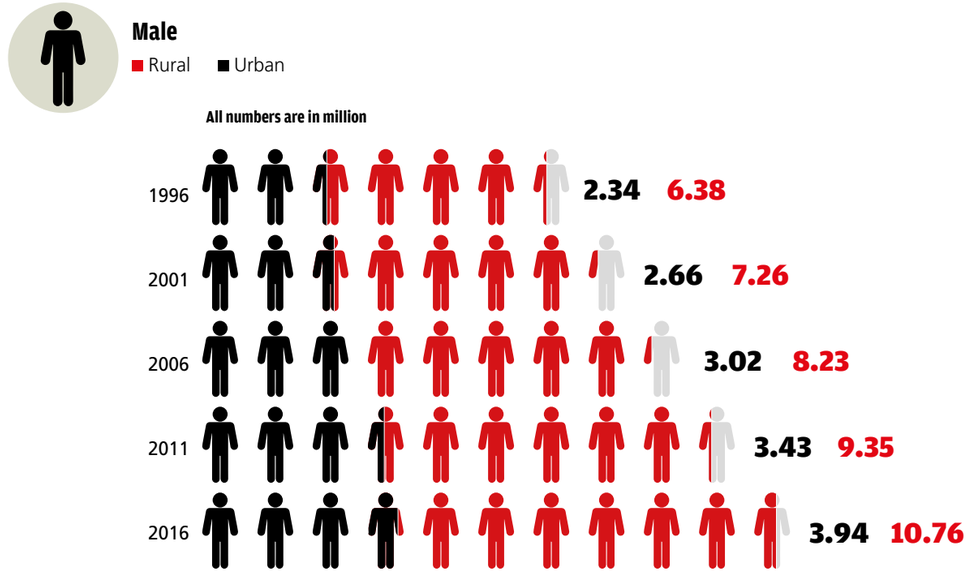
The total cost of treatment for COPD has annually increased by nearly five times in the past two decades

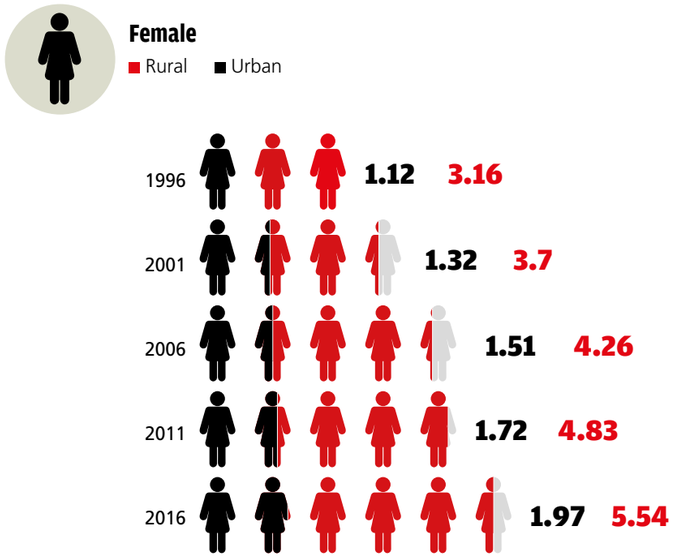


Source: India: Health of the Nation's States, November 14, 2017 and Report of the National Commission on Macroeconomics and Health, 2005

RURAL RISK

Rural male are at high risk of COPD





Source: Report of the National Commission on Macroeconomics and Health, 2005

HEART BROKEN

26 per cent of all deaths in India happen due to cardiovascular diseases. Men and the young are at a higher risk

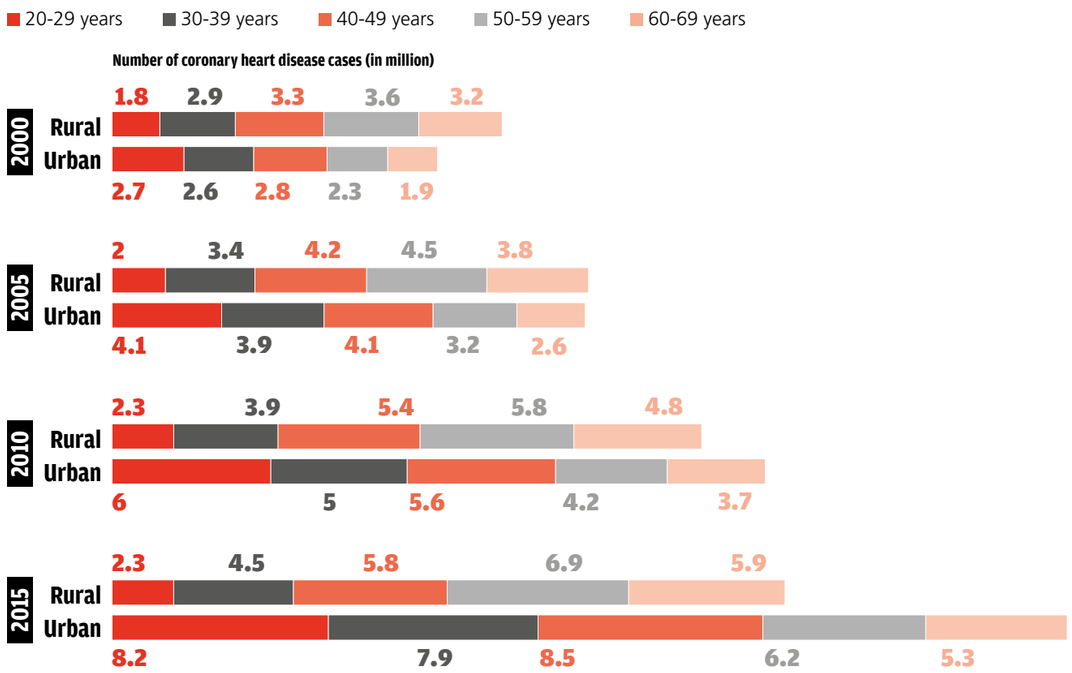
40 million
Heart patients in India

21 million
Rural

19million
Urban

WHO SHOULD WORRY

In urban India, young and middle-aged people are at risk; in rural areas, the elderly population is at risk

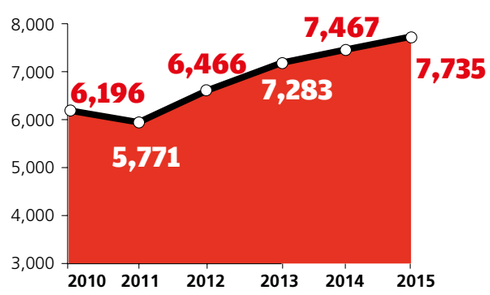


Source: Union Ministry of Health & Family Welfare

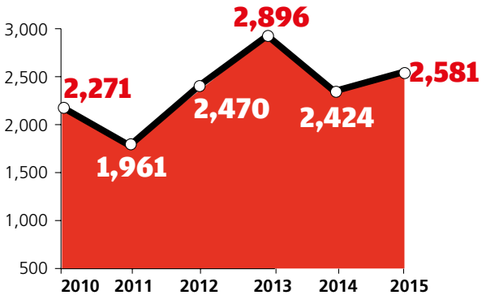
MORTAL PROBLEM

In 2015, 74 per cent of deaths due to heart attacks happened in just five states

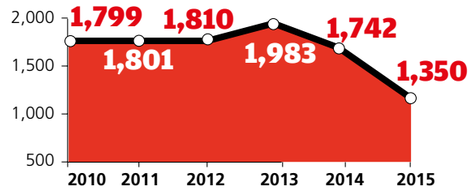
1 Maharashtra



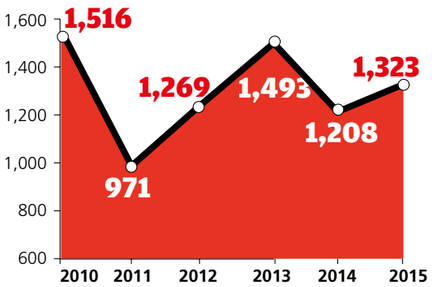
2 Gujarat



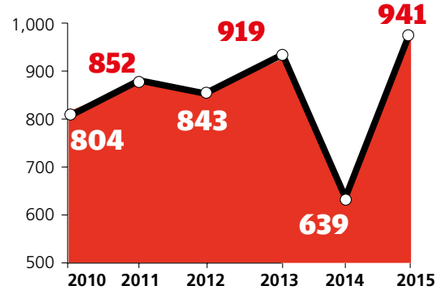
3 Kerala



4 Tamil Nadu



5 Madhya Pradesh



All India

Deaths due to heart attacks are growing

2010	17,563
2011	16,565
2012	18,522
2013	19,930
2014	18,309
2015	18,819

Men at higher risk

Deaths due to heart attacks in 2015

Male **16,636**

Female **2,183**

Source: Report on medical certification of cause of death 2015, Ministry of Home Affairs

GROWING MALIGNANCY

Breast and cervical cancers among women and head, neck, lung and gastrointestinal cancers among men represent more than 60 per cent of the incidence burden in India

By 2020*

1.73 million

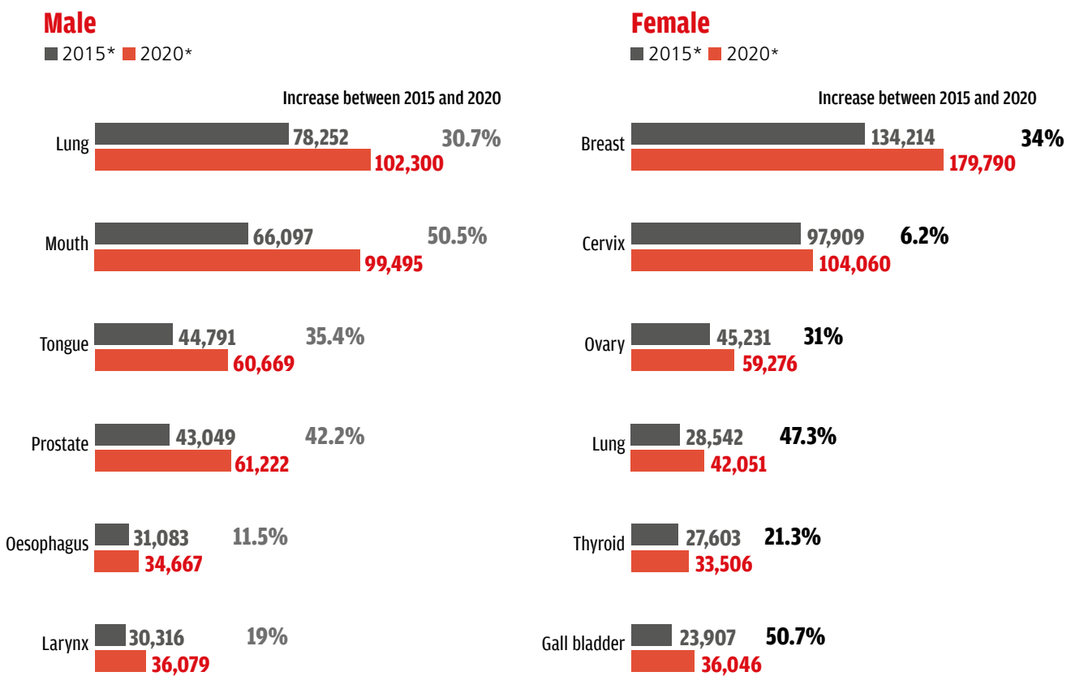
India's projected annual cancer cases

Male
0.87 million

Female
0.86 million

TO GET WORSE WITH TIME

The six most common cancer types in men and women are projected to increase by 25.6 per cent and 21.4 per cent respectively by 2020



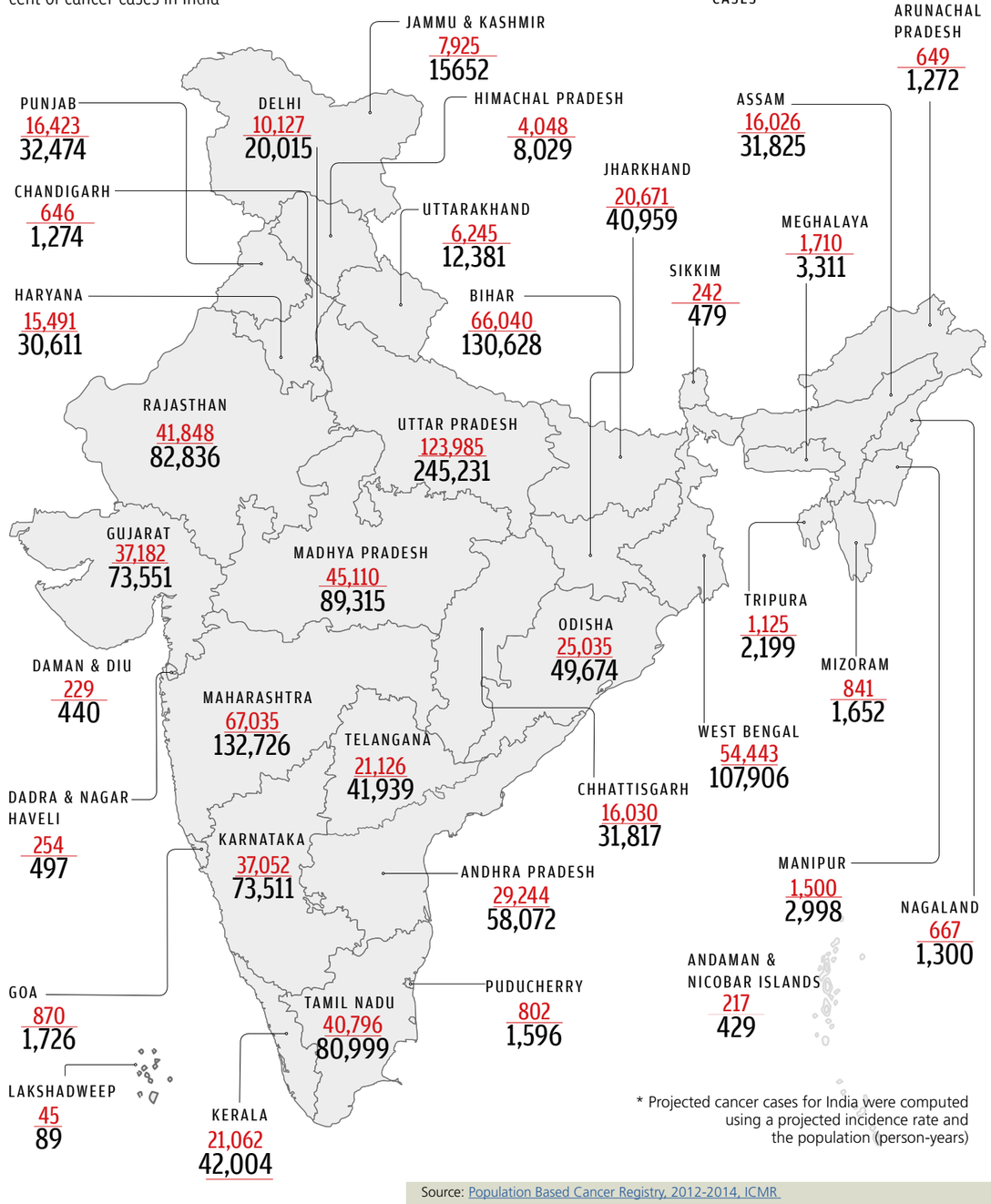
* Projected cancer cases were computed using a projected incidence rate and the population (person-years)

Source: Population Based Cancer Registry, 2012-2014, ICMR

SPREAD OF CANCER

Four states—Uttar Pradesh, Maharashtra, Bihar and West Bengal—account for 42 per cent of cancer cases in India

India 2016*
DEATHS **732,921**
1,451,417 CASES



* Projected cancer cases for India were computed using a projected incidence rate and the population (person-years)

Source: Population Based Cancer Registry, 2012-2014, ICMR

SUGAR SURGE

Every 12th Indian is a diabetic. But these are underestimates

69.2 million
Indians have diabetes

52.1%
Indians with diabetes who are undiagnosed

1.02million
Deaths due to diabetes in 2015

HIGH ON DIABETES, LOW ON INVESTMENT

While India ranks second in the number of diabetes patients, the country does not feature in the top 10 countries investing to fight the chronic disorder

Top countries with highest number of children (0-14 years) with type 1 diabetes (2015)

USA	India	Brazil	China	The UK	Russia
84,100	70,200	30,900	30,500	19,800	18,500

Top countries with highest number of adults with diabetes in 2015 (in million)

China	India	USA	Brazil	Russia	Mexico
109.6	69.2	29.3	14.3	12.1	11.5

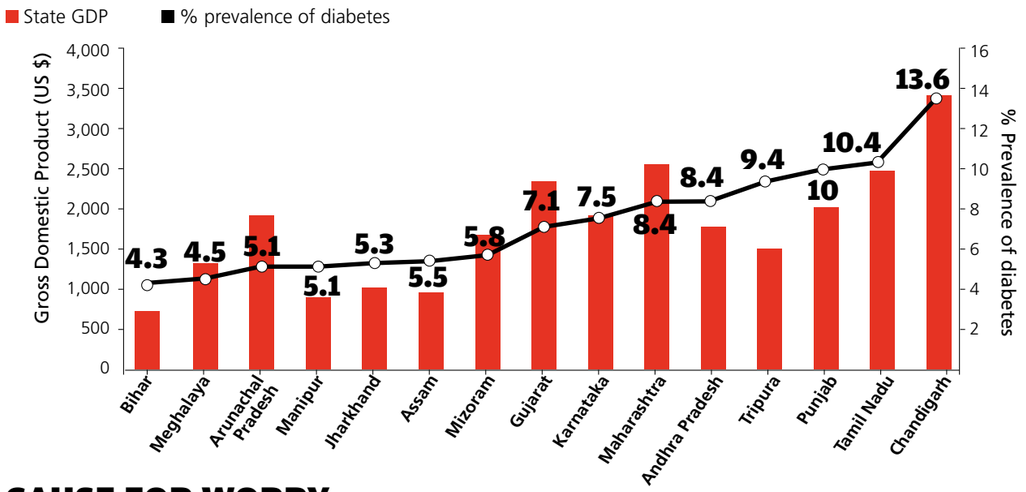
Top countries spending on diabetes-related health expenditure (in billion US$, 2015)

US	China	Germany	Japan	Brazil	France
320	51	35	29	22	19

Source: DIABETES ATLAS Seventh Edition 2015, International Diabetes Federation

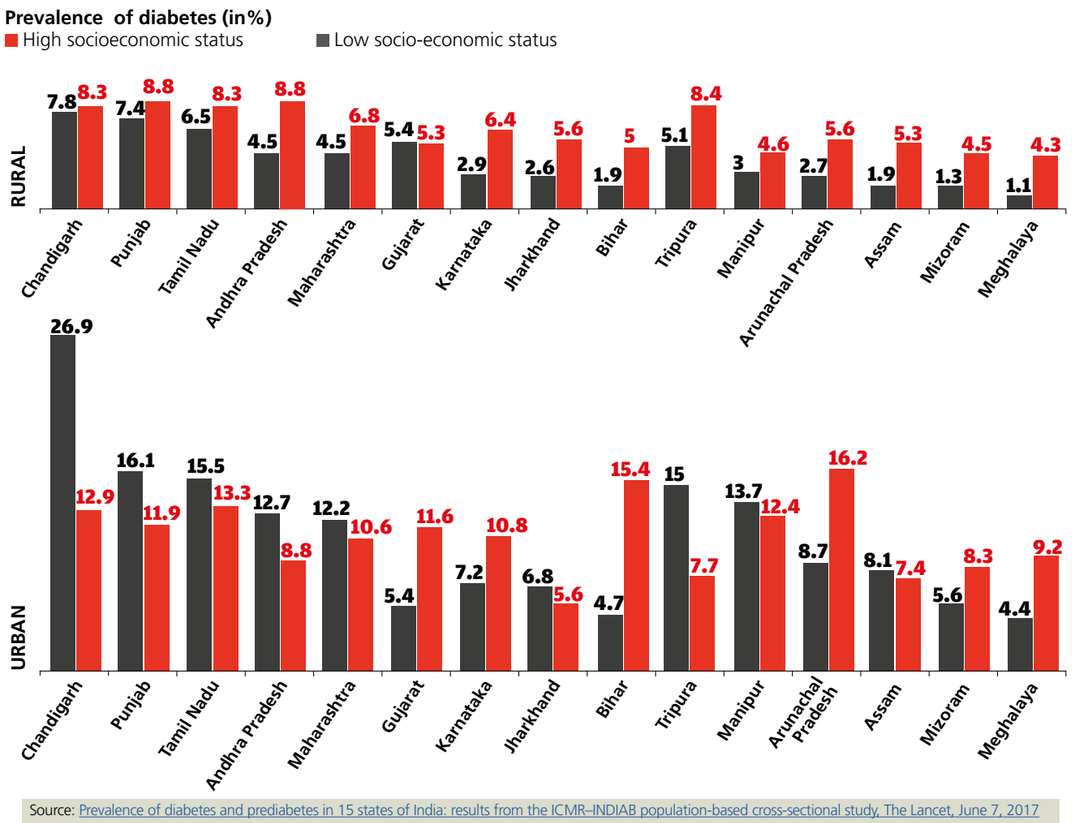
RICH STATES ARE AT HIGH RISK

States with high GDP show high prevalence of diabetes



CAUSE FOR WORRY

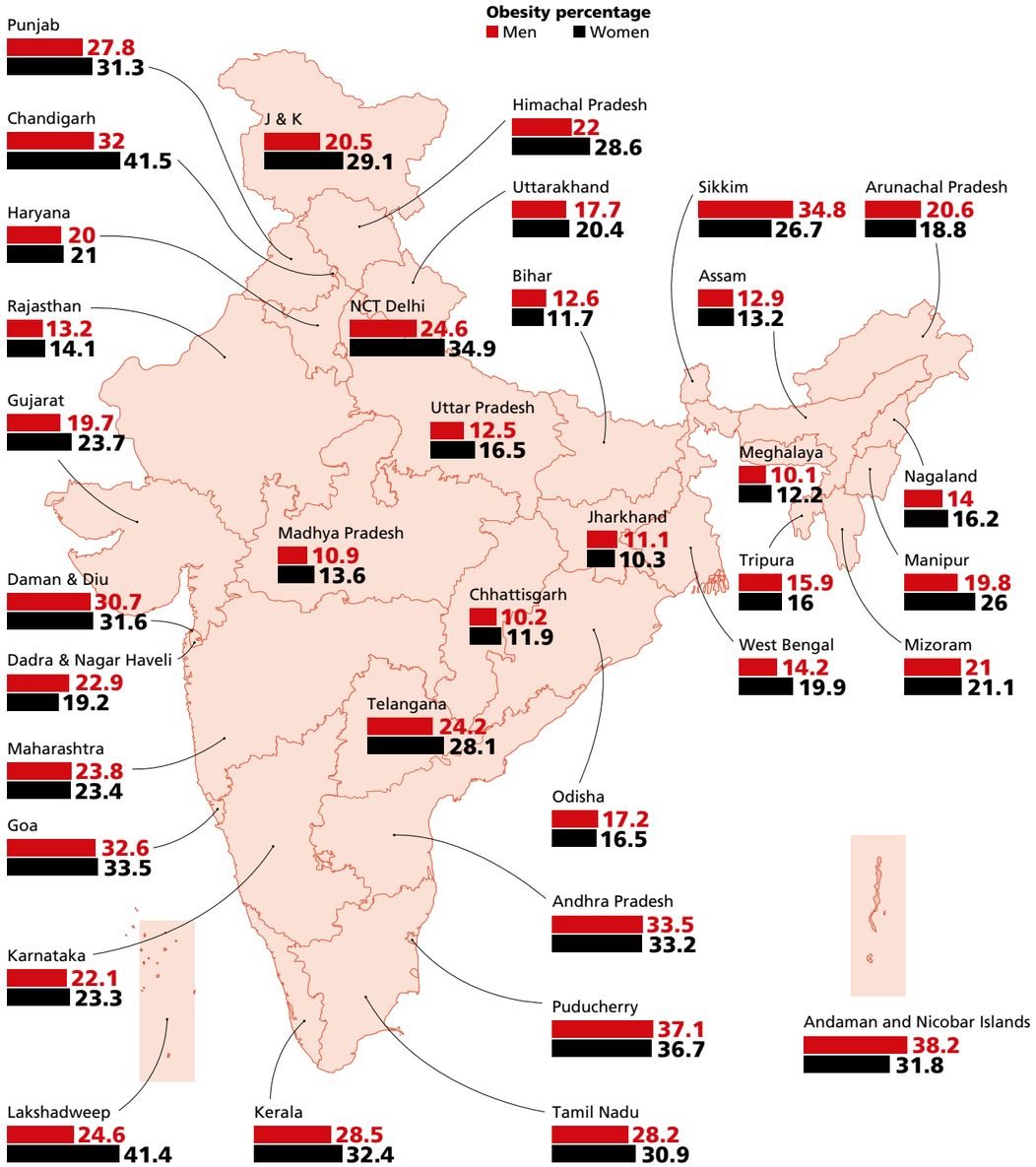
The poor in urban areas and the rich in rural areas are at the highest risk



Source: Prevalence of diabetes and prediabetes in 15 states of India: results from the ICMR–INDIAB population-based cross-sectional study, The Lancet, June 7, 2017

TOO MUCH WEIGHT

Overweight or obesity in men and women during 2015-16 in states and Union Territories (in %)



Source: National Family Health Survey-4, 2015-16

From State of India's Environment in figures 2017

Between 2004-05 and 2011-12

28.8% Increase in processed food consumption in rural India

14.5% Increase in processed food consumption in urban India

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MORE ON HEALTH

India: Health of the Nation's states - the India state-level disease burden initiative | November 2017
Indian Council of Medical Research (ICMR)
The report is the most recent and comprehensive assessment of the diseases causing the most premature deaths and disability in each state, the risk factors responsible for this burden, and their time trends in a single standardised framework.

Healthy states, progressive India: report on the ranks of States and Union Territories | February 2018
NITI Aayog
The report ranks states and Union territories innovatively on their year-on-year incremental change in health outcomes, as well as, their overall performance with respect to each other

National Health Accounts Estimates for India 2014-15 | October 2017
Ministry of Health and Family Welfare
The report presents National Health Accounts (NHA) Estimates for India for 2014-15. National Health Accounts is a tool to describe health expenditures and flow of funds in both government and private sector in the country

National Family Health Survey (NFHS-4), 2015-16: India | December 2017
Ministry Of Health And Family Welfare
The report provides crucial information on reproductive and child health, including socio-economic characteristics of the usual members of household and visitors, fertility, family planning, water and sanitation, health insurance, deaths in the last three years preceding the survey nutrition, lifestyle, HIV/AID, certain non-communicable diseases (NCDs), and many other topic

Report on medical certification of cause of death 2015 | June 2017
Office Of The Registrar General
The 2015 report is the 42nd in the series of the publication presenting statistics on causes of death obtained through the Civil Registration System under the Registration of Births and Deaths Act, 1969

State of Global Air 2018 | April 2018
Health Effects Institute
The report uses new tools such as satellite data and better monitoring to estimate the numbers of people exposed to air polluted above the levels deemed safe by the World Health Organization

Burden of Packaged Food on Schoolchildren: Based on the CSE Survey 'Know Your Diet' | March 2018
Centre For Science And Environment (CSE)
The survey report throws light on the current dietary habits of urban Indian schoolchildren and shows that the policymakers and regulators at the Central and state levels have a key role in containing NCDs related to diet in India

RELATED WEBSITES

Ministry of Health and Family Welfare, India

Indian Council of Medical Research

Ministry of Women & Child Development

Rashtriya Swasthya Bima Yojana

National Vector Borne Disease Control Programme

STATE OF EMPLOYMENT MGNREGA

Despite making grounds over the past year, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) continues to delay wages and mandatory compensation for the wage delay. On May 18, 2018, the Supreme Court, in response to a public interest petition, directed the Centre, in consultation with states, to prepare an "urgent time bound mandatory programme" to make the payment of wages and compensation to the workers under the scheme

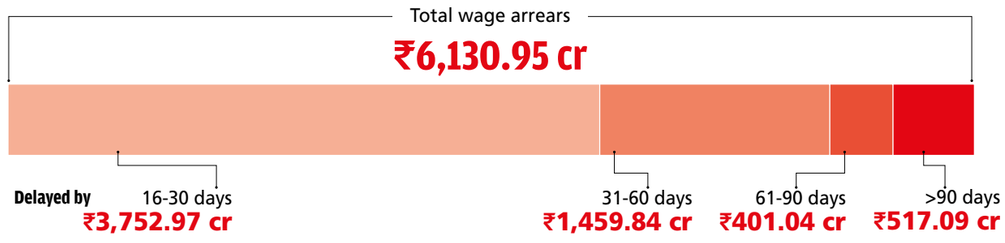
DELAY IN WAGES

₹6,130.95 cr
Total delayed payment in 2017-18

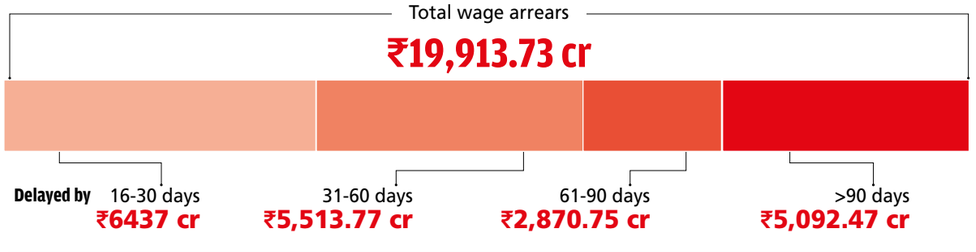
₹19,913.73 cr
Total delayed payment in 2016-17

WHAT THE SCHEME GUARANTEES | Payments should be paid to workers within 15 days of generation of the muster roll

2017-18



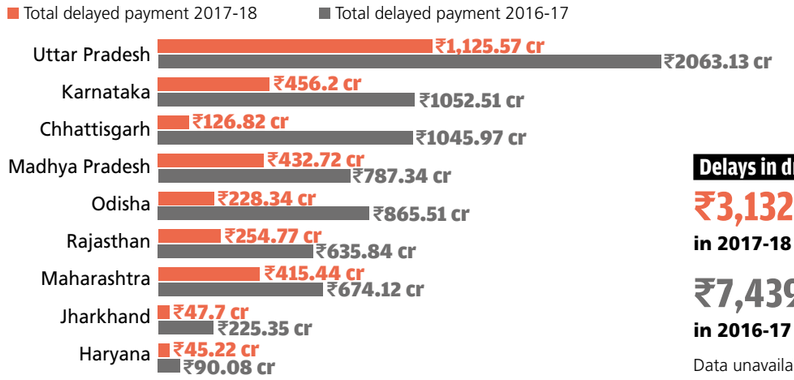
2016-17



Source: MGNREGA website; Updated till May 23, 2018

WAGE DELAYS IN DROUGHT-PRONE STATES

Wages of over 37% of the workers in the drought-hit states got delayed



Delays in drought-hit states

₹3,132.78 cr
in 2017-18

₹7,439.85 cr
in 2016-17

Data unavailable for Andhra Pradesh

DELAYS IN COMPENSATION

Close to ₹1cr compensation amount due in 2017-18

WHAT THE SCHEME GUARANTEES | People whose wages have been delayed are entitled to compensation for each day of delay till the wages are deposited into their accounts

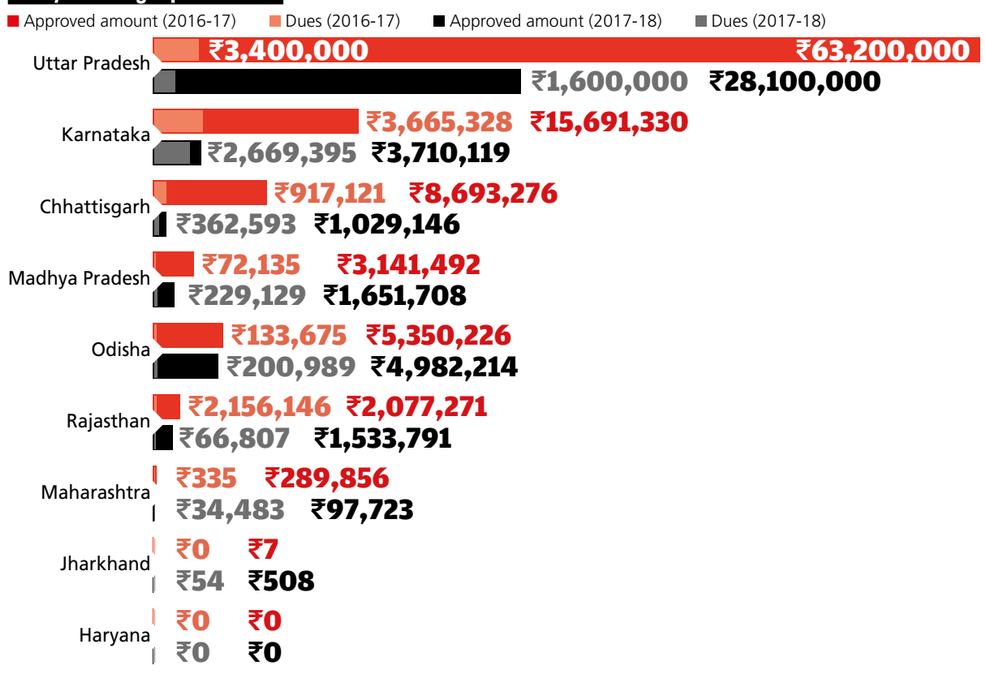
₹21.28 cr
Total approved compensation amount (2016-17)

₹3.09 cr
Total compensation amount due (2016-17)

₹6.52 cr
Total approved compensation amount (2017-18)

₹0.93 cr
Total compensation amount due (2017-18)

Delays in drought-prone states



Source: MGNREGA website; Updated till May 23, 2018

From State of India's Environment in figures 2017

12 million young Indians join the workforce every year

184 per 1,000 people with a graduation or higher degree aged 18-29 years are jobless

22 per 1,000 people who are illiterate and in the age group of 18-29 years are jobless

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MORE ON EMPLOYMENT

Supreme Court judgement regarding implementation of the Mahatma Gandhi National Rural Employment Guarantee Act, 2005 | May 2018
Supreme Court of India
The Supreme Court has directed the Central Government through the Ministry of Rural Development, in consultation with the State Governments and Union Territory Administrations to prepare an urgent time bound mandatory program for the payment of wages and compensation to the workers

Guaranteed employment or guaranteed income? | April 2018
Center for Global Development
The paper reviews the arguments for and against both employment guarantees and income guarantees when viewed as rights-based policy instruments for poverty reduction in a developing economy, with special reference to MGNREGA programme in India

National Policy on Skill Development| 2015
Ministry of Labour & Employment
The policy acknowledges the need for an effective road map for promotion of entrepreneurship as the key to a successful skills strategy

Payroll Reporting in India – A Formal Employment Perspective | April 2018
Ministry of Statistics & Programme Implementation
The report presents the number of new subscribers who have availed benefits under three major schemes, namely, the Employees' Provident Fund, Employees' State Insurance Scheme and the National Pension Scheme

World Employment and Social Outlook 2018: greening with jobs | May 2018
International Labour Organization (ILO)
The report examines environmental sustainability in the world of work. It focuses on how climate change and environmental degradation will impact the labour markets, affecting both the volume and quality of employment, and quantifies the shifts expected to take place within and between sectors

Women and men in the informal economy: A statistical picture | April 2018
International Labour Organization (ILO)
The third edition of this work provides, for the first time, comparable estimates on the size of the informal economy and a statistical profile of informality in all its diversity at the global and regional levels

MORE ON EMPLOYMENT

South Asia economic focus, Spring 2018: jobless growth? | April 2018
The World Bank
The analysis shows that rapid growth alone will not be sufficient to bring South Asian employment rates to the levels observed elsewhere in the developing world

World employment and social outlook: trends for women 2018 – global snapshot | March 2018
International Labour Organization (ILO)
This "global snapshot" looks at the progress (or lack thereof) made during the past decade and assesses women's labour market prospects by examining the gaps between men and women according to a selection of ILO statistical indicators, namely labour force participation, unemployment, informal employment and working poverty

Global Employment Trends for Youth 2017: Paths to a better working future | November 2017
International Labour Organization (ILO)
Incorporating the most recent employment trends for young women and men, this report sets out the youth labour market situation around the world

RELATED WEBSITES

Ministry of Labour & Employment

Mahatma Gandhi National Rural Employment Guarantee Act

Pradhan Mantri MUDRA Yojana (PMMY)

International Labour Organization

STATE OF
LEGISLATORS
SAANSAD ADARSH GRAM YOJANA

The scheme, launched by Prime Minister Narendra Modi on October 11, 2014, with much fanfare, is fast losing its sheen. Of the 796 Members of Parliament (MPs) from both Lok Sabha and Rajya Sabha, 703 had adopted villages in phase I, in phase II, just 466 out of 786 Parliamentarians identified villages. And in the ongoing third phase, just 172 of 784 Parliamentarians have so far identified villages. In Uttar Pradesh (UP), of 108 MPs (both houses) 56 per cent have not adopted villages. In Maharashtra, 88 per cent of the 67 MPs have so far not identified villages for adoption.

One of the reasons MPs are shying away from identifying villages is because the scheme does not have dedicated budgetary allocations. MPs are expected to funnel money to adopted villages through the convergence of 21 ongoing schemes such as Indira Awaas Yojana for rural housing, Pradhan Mantri Gram Sadak Yojana, and Beti Bachao Beti Padao

What is Saansad Adarsh Gram Yojana

The scheme aims at improving the standard of living in villages through holistic growth. An *adarsh gram* (ideal village) should evolve out of people's shared vision, using their capacities and available resources to the best extent possible, duly facilitated by the Member of Parliament, the Gram Panchayat, civil society and the government machinery.

Under the scheme, each Parliamentarian should develop one village by 2016 (phase I) and then identify two more to be developed by 2019. The scheme has entered its third phase, but only a handful of Parliamentarians have identified their villages so far

88%
Rajya Sabha MPs are yet to identify villages under phase III of the scheme

74%
Lok Sabha MPs are yet to identify villages under phase III of the scheme

Source: Saansad Adarsh Gram Yojana website; Updated till May 17, 2018

MINISTERS WHO HAVE GIVEN THE SCHEME A MISS

46 per cent of Union ministers have not identified a village in phase III

CABINET MINISTERS

D V Sadananda Gowda
Minister of Statistics and Programme Implementation

Nitin Jairam Gadkari
Minister of Road Transport and Highways; Minister of Shipping; and Minister of Water Resources, River Development and Ganga Rejuvenation

Anant Geete
Minister of Heavy Industries and Public Enterprises

Suresh Prabhu
Minister of Commerce and Industry; and Minister of Civil Aviation

Arun Jaitley
Minister without Portfolio

Ravi Shankar Prasad
Minister of Law and Justice; and Minister of Electronics and Information Technology

Ananthkumar
Minister of Chemicals and Fertilizers; and Minister of Parliamentary Affairs

Chaudhary Birender Singh
Minister of Steel

Thaawar Chand Gehlot
Minister of Social Justice and Empowerment

Smriti Zubin Irani
Minister of Textile

Prakash Javadekar
Minister of Human Resource Development

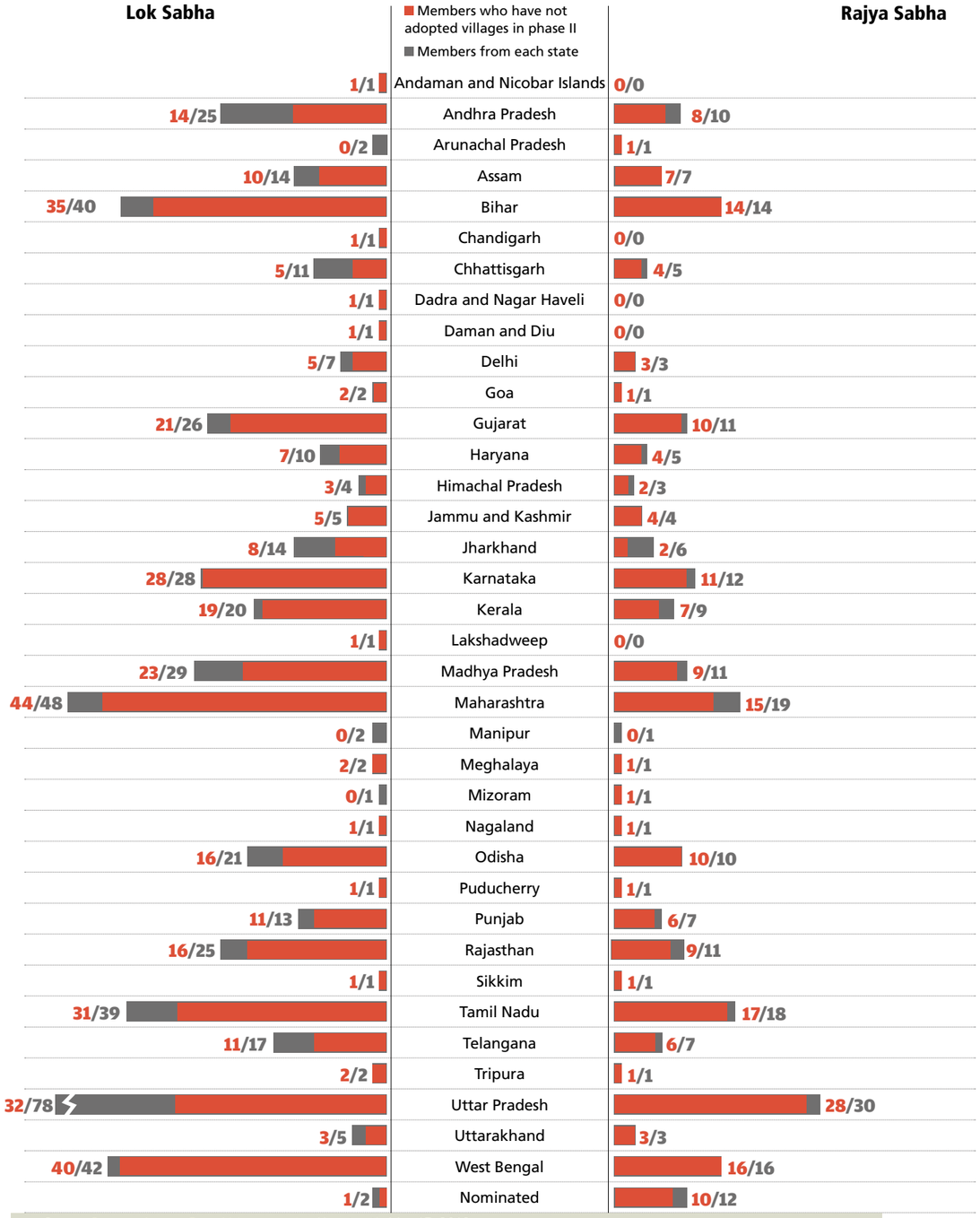
Dharmendra Pradhan
Minister of Petroleum and Natural Gas; and Minister of Skill Development and Entrepreneurship

MINISTERS OF STATE	
Radhakrishnan P.	Minister of State in the Ministry of Finance; and Minister of State in the Ministry of Shipping
S S Ahluwalia	Minister of State in the Ministry of Electronics & Information Technology
Ramdas Athawale	Minister of State in the Ministry of Social Justice and Empowerment
Vishnu Deo Sai	Minister of State in the Ministry of Steel
Hansraj Gangaram Ahir	Minister of State in the Ministry of Home Affairs
Haribhai Parthibhai Chaudhary	Minister of State in the Ministry of Mines; and Minister of State in the Ministry of Coal
Rajen Gohain	Minister of State in the Ministry of Railways
Krishan Pal	Minister of State in the Ministry of Social Justice and Empowerment
Shiv Pratap Shukla	Minister of State in the Ministry of Finance
Ashwini Kumar Choubey	Minister of State in the Ministry of Health and Family Welfare
Sudarshan Bhagat	Minister of State in the Ministry of Tribal Affairs
Virendra Kumar	Minister of State in the Ministry of Women and Child Development; and Minister of State in the Ministry of Minority Affairs
Sadhvi Niranjan Jyoti	Minister of State in the Ministry of Food Processing Industries
Jayant Sinha	Minister of State in the Ministry of Civil Aviation
Mansukh L Mandaviya	Minister of State in the Ministry of Road Transport and Highways; Minister of State in the Ministry of Shipping; and Minister of State in the Ministry of Chemicals and Fertilizers
Anupriya Patel	Minister of State in the Ministry of Health and Family Welfare
Subhash Ramrao Bhamre	Minister of State in the Ministry of Defence
Gajendra Singh Shekhawat	Minister of State in the Ministry of Agriculture and Farmers Welfare
MINISTERS OF STATE (INDEPENDENT CHARGE)	
Shripad Yesso Naik	Minister of State (Independent Charge) of the Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH)
Jitendra Singh	Minister of State (Independent Charge) of the Ministry of Development of North Eastern Region; Minister of State in the Prime Minister's Office; Minister of State in the Ministry of Personnel, Public Grievances and Pensions; Minister of State in the Department of Atomic Energy; and Minister of State in the Department of Space
Giriraj Singh	Minister of State (Independent Charge) of the Ministry of Micro, Small and Medium Enterprises.
Raj Kumar Singh	Minister of State (Independent Charge) of the Ministry of Power; and Minister of State (Independent Charge) of the Ministry of New and Renewable Energy
Alphons Kannanthanam	Minister of State (Independent Charge) of the Ministry of Tourism

Source: Saansad Adarsh Gram Yojana website; Updated till May 17, 2018

NOT SO IMPORTANT FOR OUR PARLIAMENTARIANS

Lok Sabha members from 13 states/UTs and Rajya Sabha members from 16 states/UTs have not identified villages in phase III



Source: Saansad Adarsh Gram Yojana website; Updated till May 17, 2018

STATE OF LEGISLATORS

MPLAD SCHEME

Just 53% funds of the Member of Parliament Local Area Development (MPLAD) scheme have been utilised so far. Under the scheme where each Parliamentarian has the choice to suggest to the district collector for works to be taken up in his/her constituency, Parliamentarians have recommended 79 per cent of the funds. At the same time the 14 Cabinet ministers from the Lok Sabha have failed to spend close to 51 per cent of their funds. The performance of the parliamentarians from the Union Territories has been the poorest as they have managed to spend only 38 per cent of the allocated funds. The performance of the parliamentarians from states was marginally better at 53 per cent

Too much to handle

₹13,575 cr
Funds available between 2014 and 2019

₹10,792 cr
Funds recommended by MPs

₹8,688 cr
Funds released

₹7,236 cr
Funds utilised till May 14, 2018

Source: Ministry of Statistics and Programme Implementation; List updated till May 14, 2018 and excludes the 12 Cabinet ministers from Rajya Sabha

Slowing down | How effective has been the scheme

STEP 1

A Lok Sabha MP gives his choice of Nodal District to the Ministry of Statistics and Programme Implementation and sends a copy to the state government and to the District Magistrate. The Rajya Sabha MP can choose any district in his/her state of election as Nodal District. Nominated Members of Rajya Sabha and Lok Sabha can choose any district in the country as Nodal District

STEP 2

Each MP will recommend works up to the annual entitlement during the financial year to the concerned District Authority (DA), which gets the projects sanctioned as per state government procedures

% of funds recommended by MPs
In states
78.8
In UTs
79.5

STEP 3

The Union ministry releases the funds to DA and informs the State Nodal Department about the same

% of funds released
For states
64
For UTs
46.2

STEP 4

DA implements the schemes and sends status reports to the Union ministry and the State Nodal Department

% of funds spent by DA
In states
53
In UTs
38

CABINET MINISTERS WITH POOR MPLAD PERFORMANCE

While none of the ministers from Lok Sabha could spend the entire amount, the prime minister's performance was 48 per cent

The period of analysis is 2014-19 and each minister was eligible to spend ₹25 crore

Prime Minister and the Cabinet Ministers from Lok Sabha	Recommended by MPs (in ₹ cr)	Released by the Centre (in ₹ cr)	Spent by DA (in ₹ cr)	% spent
Ananthkumar	7.5	14.25	2.47	10%
Harsh Vardhan	7.5	28.77	5.06	20%
Uma Bharati	12.5	9.79	8.41	34%
Radha Mohan Singh	12.5	12.75	9.89	40%
Narendra Singh Tomar	12.5	13.33	10.77	43%
Narendra Modi	15.8	15	11.87	47.5%
Raj Nath Singh	15	15.08	12.1	48%
Nitin Jairam Gadkari	17.50	23.1	12.97	52%
Jual Oram	17.5	23.67	13.02	52%
Anant Geete	17.5	22.67	13.26	53%
Harsimrat Kaur Badal	17.5	16.41	14.53	58%
D V Sadananda Gowda	17.5	19.48	15.27	61%
Maneka Sanjay Gandhi	20	17.37	15.55	62%
Ramvilas Paswan	17.5	69.8	18.64	75%
Sushma Swaraj	22.5	20.39	19.61	78%

Source: Ministry of Statistics and Programme Implementation; List updated till May 14, 2018 and excludes the 12 Cabinet ministers from Rajya Sabha

MISSING OUT BY A LOT

Parliamentarians from 11 states and Union Territories have spent less than 50 per cent of their funds

States and Union Territories	Total amount available to MPs (in ₹ cr)	Amount recommended by MPs (in ₹ cr)	Amount released by the Centre (in ₹ cr)	Amount spent by DA (in ₹ cr)	% spent
States					
Daman & Diu	25	5.35	7.5	2.76	11%
Delhi	175	171.95	70	56.42	32%
Tripura	50	21.92	37.5	16.62	33%
Goa	50	33.37	22.5	18.13	36%
Uttarakhand	125	55.54	67.5	45.59	36%
Dadra & Nagar Haveli	25	35.81	10	9.4	38%
Jammu & Kashmir	150	86.71	77.5	64.24	43%
Karnataka	700	460.17	402.5	325.3	46%
Rajasthan	625	420.44	400	293.31	47%
Maharashtra	1200	1220.64	702.5	568.29	47%
Uttar Pradesh	2000	1204.53	1262.5	968.76	48%
Jharkhand	350	218.95	212.5	173.45	50%
Odisha	525	386.27	347.5	260.6	50%
Andaman & Nicobar Is	25	71.43	15	12.52	50%
Andhra Pradesh	625	500.35	342.5	315.33	50%
Lakshadweep	25	31.74	15	12.63	51%
Assam	350	204.49	232.5	180.02	51%
Kerala	500	552.89	310	267.98	54%
Puducherry	25	29.27	15	13.52	54%
Telangana	425	342.5	230	230.67	54%
Haryana	250	223.92	180	141.74	57%
Bihar	1000	987.57	592.5	568.85	57%
Punjab	325	230.09	247.5	188.52	58%
West Bengal	1050	832.75	722.5	612.99	58%
Gujarat	650	563.17	425	381.98	59%
Arunachal Pradesh	50	32.05	37.5	30.65	61%
Madhya Pradesh	725	577.61	535	451.15	62%
Tamil Nadu	975	774.54	700	615.36	63%
Sikkim	25	20.98	17.5	15.96	64%
Meghalaya	50	36.85	40	32.27	65%
Manipur	50	37.5	40	33.19	66%
Himachal Pradesh	100	74.27	80	68.54	69%
Chandigarh	25	16.98	17.5	17.52	70%
Nagaland	25	17.5	20	17.57	70%
Chhattisgarh	275	270.43	212.5	194.71	71%
Mizoram	25	18.25	20	17.82	71%
All India	13575	10792.27	8687.5	7236.23	53%

Source: Ministry of Statistics and Programme Implementation; As on May 14, 2018; The All India figures include Nominated Members

From State of India's Environment in figures 2017

Parliamentarians from **26 states** and **all the Union Territories** spent less than **50 per cent** of their funds under MPLAD scheme

Lok Sabha members from **27 states** and Rajya Sabha members from **21 states** have not identified their villages in phase II of Saansad Adarsh Gram Yojana

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MORE ON LEGISLATORS

Amendment to Saansad Adarsh Gram Yojana guidelines issued on 11th October 2014 | May 7, 2018
Ministry of Rural Development
The amendment says MPs can choose three additional villages by 2019 for development

State-wise expenditure details, MPLADS | 2017
Ministry of Statistics and Programme Implementation
The decade of MPLADS| Ministry of Statistics and Programme Implementation | 2017
This report showcases some of the outstanding assets created under MPLADS
http://www.mplads.gov.in/mplads/UploadedFiles/E-Book_510.html

Summary Report of Gram Panchayats for Saanjhi , Phase I, II and II
Ministry of Rural Development

Sankalan, Initiatives in SAGY Gram Panchayats | Ministry of Rural Development
A compendium of good initiatives under the Saansad Adarsh Gram Yojana Saansad Adarsh Gram Yojana

Saansad Adarsh Gram Yojana Guidelines | 2014
Ministry of Rural Development
This document presents the complete blueprint of the Saansad Adarsh Gram Yojana for each Member of Parliament to make one village of his or her constituency a Model Village by 2016 and two more model villages by 2019

Governance track record | 2018
Prime Minister's Office

BJP Election Manifesto 2014 (Sabka Saath, Sabka Vikas)

RELATED WEBSITES

Members of Parliament Local Area Development Scheme

Saansad Adarsh Gram Yojana (SAANJHI)

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