Enviro Monitor
November 2015

Trending topics

Climate change

- Bill Gates leads billionaires in $2-billion climate investment
- Climate talks: India wants focus on money raised
- International Solar Energy Alliance at COP21
- Websites on climate action and Clean Development Mechanism
- Carbon dioxide levels hit record high
- Mumbai, Kolkata among top 10 megacities under threat from rising sea levels
- Climate change is changing landscape of Ladakh

Air quality

- Vehicular smoke chokes Delhi in winter, dust major summer killer
- Environment ministry asks Haryana, Uttar Pradesh and Delhi to enforce ban on burning waste
- Pollution in Delhi: Companies like Google and Coca-Cola equip workplaces with purifiers
- TNPCB to add 25 air quality monitoring stations

Water pollution

- AIIMS study finds traces of antibiotics in Yamuna water
- Gomti flows above pollution level
- Harmful effluents in water of Uttar Pradesh rivers
- Amaravati groundwater highly polluted

Water stress

- Centre to expedite work on mapping groundwater
- Second time around, no water to drink in Marathwada
- Thane: Villagers construct weirs to overcome water scarcity
- How analytic tools are helping in fixing water woes

in Bengaluru, Kerala

- Indiscriminate use of groundwater for farming depleting water level in Western Rajasthan

Forests

- Government to set up panel to study forest ownership issue in NE
- Projects consume over 6k ha forest land in Maharashtra in three years
- Government allows mining in non-forest areas of forested mining blocks

CSR

- India tops in corporate responsibility reporting rates
- Business responsibility reports must for top 500 listed companies
- Bokaro Steel to develop 24 villages as part of CSR

Climate change

PARIS COP21

Bill Gates leads billionaires in $2-billion climate investment. Bill Gates led a group of philanthropists in vowing to plough $2 billion into clean energy through personal investments and a new fund to be set up next year. Gates, co-founder of Microsoft Corp, will be joined by 26 private investors and the University of California in the so-called Breakthrough Energy Coalition, he said in a briefing as United Nations climate talks begin in Paris. Other contributors include Africa's richest man, Nigerian businessman Aliko Dangote; Alabama Group Holding Ltd. chairman and founder Jack Ma and Hewlett Packard Enterprise Co Chief Executive Officer Meg Whitman.
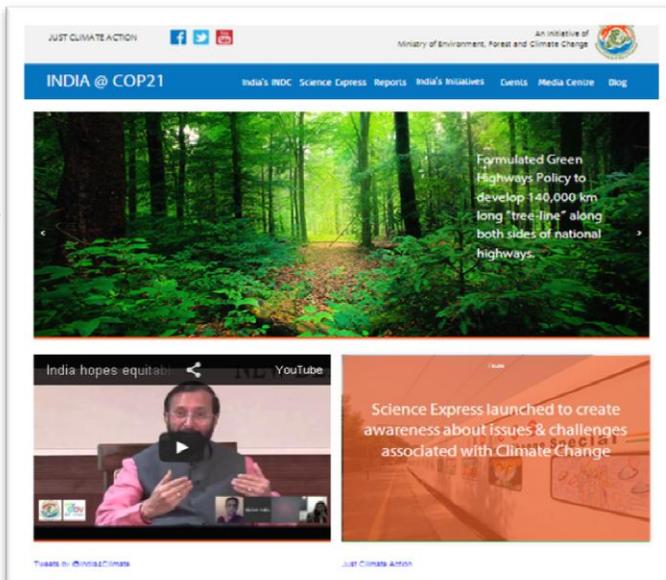
Climate talks: India wants focus on money raised. Rejecting attempts to force some developing countries to contribute money for climate finance, India has said the developed world must focus its energies on raising the money it has promised to mobilise instead of trying to shift its responsibilities elsewhere.

International Solar Energy Alliance at COP21. The initiative was launched at the UN Climate Change Conference in Paris on 30 November by Indian Prime Minister Mr Narendera Modi and French President Mr Francois Hollande. The alliance includes around 120 countries, with signatory nations mostly hailing from the tropics. Several European countries are also on board with the initiative, including France. The alliance, which has invited all countries located fully or partly between the tropics of Cancer and

Capricorn to join, is to function from the National Institute of Solar Energy in India, Gurgaon. The Centre will provide land and $30 million to form a secretariat for the Alliance, and also support it for five years.

Websites launched by India in the run-up to Paris.

India launched a comprehensive website detailing its plans to cut greenhouse gas emissions in a transparent manner ahead of the global climate change summit.

http://www.justclimateaction.org/

A new website has been launched by the National Clean Development Mechanism Authority in the Ministry of Environment, Forests and Climate Change that will capture the entire life cycle of CDM projects.

http://www.ncdmaindia.gov.in

Carbon dioxide levels hit record high. The World Meteorological Organization (WMO), in an annual accounting of greenhouse gas concentrations in the atmosphere, reported that average levels of carbon dioxide exceeded 400 parts per million in the early months of 2015, a rise of 43 percent over pre-industrial levels. The report was compiled data from 125 monitoring stations by the WMO's Global Atmospheric Watch program. Atmospheric carbon dioxide concentrations of 0.04 percent may not seem like much but it is enough to have already raised average global temperatures by a full degree Celsius, according to the UK's Met Office, with more warming on the way as the greenhouse gas lingers invisibly in the atmosphere, trapping heat, or mixing into the ocean, rendering its waters more acidic.

Mumbai, Kolkata among top 10 megacities under threat from rising sea levels. Mumbai and Kolkata are among the top 10 megacities across the world that face a serious threat due to rising sea levels owing to climate change, according to [Mapping Choices: Carbon, Climate, and Rising Seas, our Global Legacy](#), by Climate Central, a US-based research organisation. As many as 11 million people are at risk in Mumbai alone if the global temperature rises by 4°C. The report said that carbon emissions, causing 4°C of warming, could result into rise in sea levels that could submerge land, currently home to 470 to 760 million people. The report, however, added that aggressive carbon cuts, resulting in 2°C warming, could bring down the number of people who will get affected to 130 million. The study said a 4-degree celsius spike in temperature could precipitate a 9.3-metre rise in sea level in Kochi Urban Agglomeration and could lock in enough sea level rise to submerge land currently home to around 20.51 lakh people. Likewise, the water level would go up 9.4 per cent in Thiruvananthapuram and 9.2 per cent in Kozhikode affecting 16.61 lakh and 6.68 lakh people respectively.

According to the report, China faces maximum risk with 145 million people under threat due to rising sea levels, if emissions are not reduced.

Table. Top 20 countries affected by locked-in sea level rise from 4 °C warming, by total population, with comparisons to 2 °C warming

Country	2010 population below median locked-in sea level rise from different warming amounts (millions)		
	4 °C	2 °C	Difference
China	145	64	81
India	55	20	35
Bangladesh	48	12	36
Viet Nam	46	26	20
Indonesia	44	16	28
Japan	34	18	17
United States	25	12	13
Philippines	20	7	13
Egypt	19	9	10
Brazil	16	9	7
Thailand	15	6	10
Myanmar	12	5	7
Netherlands	11	10	1
Nigeria	8	4	4
Malaysia	7	2	5
Mexico	6	3	3
United Kingdom	6	4	2
Italy	5	3	2
South Korea	4	1	3
Taiwan	4	1	2

Source. Climate Central 2015

Climate change is changing landscape of Ladakh. Climate change is changing the landscape of Ladakh. The snowfall has come down significantly in the last couple of decades and the glacier is melting at a higher rate putting the lives of farmers at risk," said Chewang Norphel called the glacier man for creating

artificial glaciers in Ladakh to tide over the water shortage for irrigation. The excessive glacier melt is resulting in floods putting the lives of 80 per cent of farmers in the region at risk as glaciers are the primary source of water. The Snow and Avalanche Study Establishment (SASE), an institute under the Defence Research and Development Organisation (DRDO) has recently initiated "Him-Parivarthan", a project to assess the extent of the glacier melt.

Business Standard, 2 November 2015 | Mint, 10 November 2015 | DNA, 11 November 2015 | The New Indian Express, 12 November 2015 | The Times of India, 12 November 2015 | The Hindu, 29 November 2015 | Business Standard, 29 November 2015; Business Standard, 30 November 2015 | UNFCCC, 30 November 2015 | The Hindu, 1 December 2015 | Business Standard, 1 December 2015 | The Financial Express, 3 December 2015
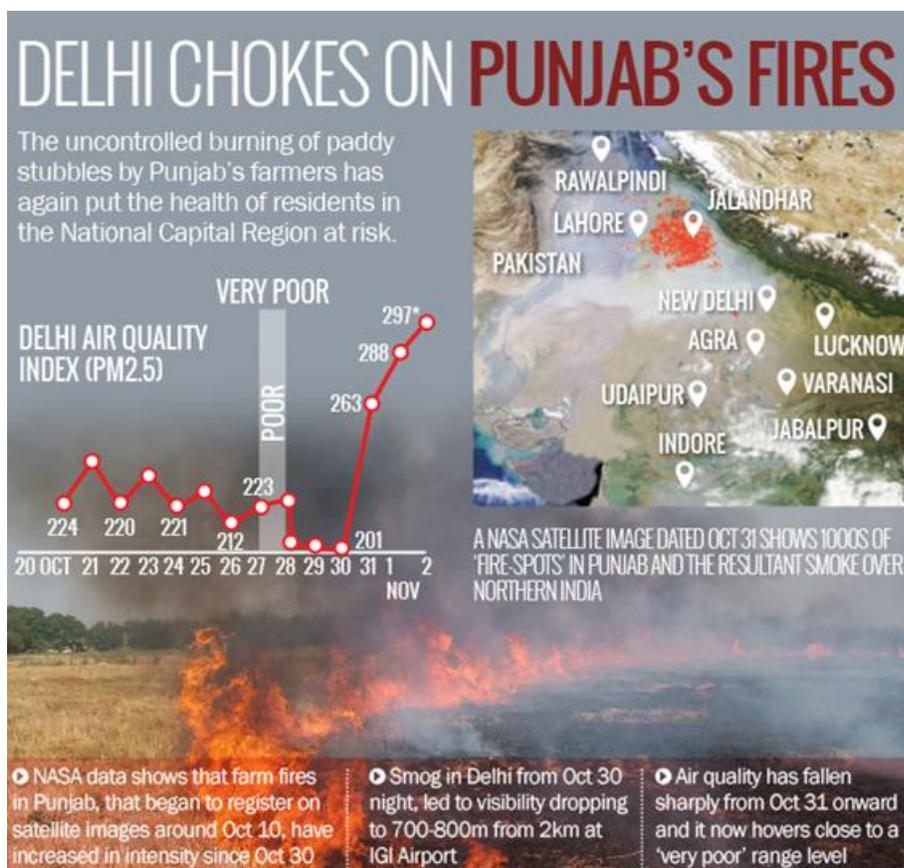
Air quality

Vehicular smoke chokes Delhi in winter, dust major summer killer. IIT Kanpur recently submitted the first draft of its "source apportionment study" commissioned by the Delhi environment department in 2011 to understand the causes of air pollution in Delhi so that suitable action could be taken. The draft, according to Delhi Pollution Control Committee, said that in winter vehicular emission and secondary particulates (particles that form in the atmosphere from other gaseous pollutants, particularly sulphur dioxide, nitrogen oxides, ammonia, and volatile organic compounds) constitute 60% of the pollutants. Around 30% is caused due to biomass, garbage and leaf burning. The remaining is dust.

Environment ministry asks Haryana, Uttar Pradesh and Delhi to enforce ban on burning waste. The environment ministry has directed the governments of Haryana, Uttar Pradesh and Delhi to take steps to enforce the ban on burning of all types of waste in urban areas. Describing Punjab as a "burning" food basket, two earth scientists have warned that the outflow of air pollution arising from burning crop residues is not only a threat to South Asian air quality but also "can modify atmospheric chemistry and climate dynamics globally." Thick smoke aerosol plumes from the burning may significantly affect atmospheric circulation, monsoon and El Nino-Southern Oscillation systems, precipitation patterns, glaciology and atmospheric heating over the Tibetan Plateau, says a report by Dr Ramesh Singh of the School of Earth and Environmental Sciences of Chapman University in California and Dr Dimitris Kaskaoutis of the School of Natural Sciences of Shiv Nadar University at Dadri in India.

A satellite image from NASA's Earth Observing System Data and Information System (EOSDIS) website shows 'fire spots', which denote blazes on the ground, all across Punjab and parts of northern Haryana. Haze can be seen enveloping a large region of northern India, including NCR.

DELHI CHOKES ON PUNJAB'S FIRES

The uncontrolled burning of paddy stubbles by Punjab's farmers has again put the health of residents in the National Capital Region at risk.

DELHI AIR QUALITY INDEX (PM2.5)

VERY POOR
POOR

224 220 221 212 223 201 263 288 297*

20 OCT 21 22 23 24 25 26 27 28 29 30 31 1 2 NOV

A NASA SATELLITE IMAGE DATED OCT 31 SHOWS 1000S OF 'FIRE-SPOTS' IN PUNJAB AND THE RESULTANT SMOKE OVER NORTHERN INDIA

RAWALPINDI — JALANDHAR — LAHORE — PAKISTAN — NEW DELHI — AGRA — LUCKNOW — UDAIPUR — VARANASI — INDORE — JABALPUR

- NASA data shows that farm fires in Punjab, that began to register on satellite images around Oct 10, have increased in intensity since Oct 30
- Smog in Delhi from Oct 30 night, led to visibility dropping to 700-800m from 2km at IGI Airport
- Air quality has fallen sharply from Oct 31 onward and it now hovers close to a 'very poor' range level

Source. The Times of India, 2 November 2015

Pollution in Delhi: Companies like Google and Coca-Cola equip workplaces with purifiers. Firms such as Google, Coca-Cola, Honeywell, Whirlpool and SAP Labs have started equipping their workspaces with air purifiers and some are offering them to employees at a discount at a time when respiratory diseases are on the rise in the Capital.

These companies now consider it important to take preventive measures to counteract the rising air pollution, especially during the winter months, in Delhi-NCR where respirable suspended particulate matter (RSPM) in the air is nearly 16 times higher than the prescribed limit set by the World Health Organization at 316 ig/m3, nearly twice that of Beijing, another highly polluted capital city.

TNPCB to add 25 air quality monitoring stations. The Tamil Nadu Pollution Control Board (TNPCB) will add 25 ambient air quality monitoring stations to its network in the State and the data updates will be available online. Vellore, Cuddalore, Trichy and Kancheepuram will each get two stations.

Places like Tiruvallur, Madurai, Coimbatore, Salem, Tirunelveli, Dindigul, Thanjavur, Tiruppur, Krishnagiri, Ooty, Ramanathapuram, Namakkal, Ariyalur, Karur, Pudukkottai, Virudhunagar and Nagapattinam will each get one station.

The Times of India, 2 November 2015 | NDTV, 5 November 2015 | The Economic Times, 10 November 2015 | The Hindu, 30 November 2015 | Mint, 1 December 2015

Water pollution

AIIMS study finds traces of antibiotics in Yamuna water. A recent AIIMS study has found elements of antibiotics in water samples collected from Yamuna river, which experts said can impact the aquatic ecosystem and may lead to drug resistance in microbes. Analysis was done for water samples collected from six different places on Yamuna river between Wazirabad and Kalindi Kunj under three classes of antibiotics -- Fluoroquinolone, used to treat respiratory and urinary tract infections, and Macrolides and Penicillin, a group of antibiotics used for a large range of bacterial infections like pneumonia, scarlet fever, rheumatic fever etc. Citing a related study, Dr Velpandian, professor in the pharmacology department of AIIMS said that a person consumes 2gm to 34gm of bioactive compounds in a month. These bioactive compounds, which could be antibiotic, drug or preservatives used in the food, total up to about 450 tonnes for a population of 1.7 crore in a year in Delhi alone. Bioactive compounds that are disposed of in water and their degraded products would be of interest while analysing the origin of diseases like diabetes and cancer, Dr Velpandian, said, adding that these bioactive compounds can also behave as Endocrine disrupters and can cause metabolic diseases.

Gomti flows above pollution level. The Gomti continues to flow polluted, with two of the indicators -- biological oxygen demand and dissolved oxygen -- remaining higher than the permissible limits. This has been revealed in the water quality survey report of the Uttar Pradesh Pollution Control Board between January and August this year.

Harmful effluents in water of Uttar Pradesh rivers. Large amounts of industrial effluents have been found in the groundwater and rivers flowing through several districts of Uttar Pradesh, Central Pollution Control Board (CPCB) told the National Green Tribunal (NGT). An affidavit filed by CPCB before a bench, headed by NGT Chairperson Swatanter Kumar, recommended to the state and concerned authorities to ensure the water bodies in six districts of Western Uttar Pradesh are not polluted by untreated industrial effluents and other harmful substances. As per an analysis report of some rivers including Hindon, enormous quantities of harmful substances including municipal and industrial effluents entering Hindon from the districts of Saharanpur, Muzzafarnagar, Shamli, Meerut, Baghpat, Ghaziabad and Gautam Budh Nagar, were found, which caused ground water contamination. The report said the water does not meet the prescribed standard of primary water quality criteria for bathing water as per Environment Protection Rules 1986.

According to CPCB, the four big rivers in Uttar Pradesh — Hindon, Yamuna, Kali and Krishni — have human and animal fecal matter several times the permissible limit.

Amaravati groundwater highly polluted. Indiscriminate use of chemical fertilisers and pesticides in horticultural and agricultural crops spread over 30,000 acres for decades have turned the groundwater in Amravati either saline or alkaline. Amaravati is a green field capital city and it will be built after dismantling agricultural and horticultural crops. A joint research study by Andhra University, Indian Institute of Remote Sensing and KL University has revealed that the groundwater in the villages that fall

under the capital city contain pollution indicators like total dissolved solids (TDS), nitrates and fluorides beyond the maximum limit prescribed by the Bureau of Indian Standards. The researchers also found high concentration of alkalinity, which ranged between 200 mg per litre to 400 mg per litre.

The Times of India, 2 November 2015 | The Times of India, 15 November 2015 | NDTV, 18 November 2015 | NDTV, 20 November 2015

Water stress

Centre to expedite work on mapping groundwater. The Centre has decided to expedite the task of mapping of aquifers for better management of water as groundwater is depleting fast due to over exploitation. The government is collecting aquifer data in five states and it will be extended across the states in a phased manner. It plans to spend Rs 3300 crore for the work and has already spent about Rs 400 crore. By the end of 13th five year plan (2017-2022), the government plans to complete the project, Secretary, Union Water Resources Ministry, Mr Shashi Shekhar said on the sidelines of Indo-European Water Forum-2015.

Second time around, no water to drink in Marathwada. By early December, as the "retreating" monsoon departs, it will leave behind reservoir storage levels at an unprecedented low in central Maharashtra's most arid districts of Marathwada. The post-monsoon groundwater surveys have shown that there are as many as 4189 villages where the ground water table has depleted by more than three metres from the average of the last five years. Of these, there are 3874 villages in 112 talukas, mostly in Marathwada, that have suffered the double whammy of critical ground water depletion as well as a rainfall deficit of more than 20 per cent. These 3874 villages have been marked out as "suffering a grave water scarcity" from October itself. The maximum number of these are in Beed district, where 880 villages have shown groundwater depletion of over 3 metres in comparison with the average of last five years. In October 2014, only 27 villages in Beed district had shown groundwater depletion by over 3 metres from the average. By March-April 2016, as the summer rolls in, as many 10,615 villages across the state will face a serious drinking water scarcity.

Thane: Villagers construct weirs to overcome water scarcity. With an aim to conserve water, over 800 weirs (a low wall or dam built across a stream or river) have been constructed by villagers across Thane district in the past two months. The construction of the weirs, done primarily in the villages under Murbad, Kalyan, Ambernath and Shahapur talukas, to collect flowing water in streams, rivers and rivulets has brought in considerable benefits to the farmers who are concerned about the coming months when they are likely face water shortage.

How analytic tools are helping in fixing water woes in Bengaluru, Kerala. India is facing a serious water crisis in view of its rapid population growth and economic development. IBM analytics technology is helping manage the complex water distribution systems in Bengaluru. The Bangalore Water Supply and Sewerage Board, which supplies water to nearly 800 sq. km of the city, is using IBM Big Data and predictive analytics technology to make water usage more efficient. This advanced technology helps to

manage increasingly complex water distribution systems. It monitors the flow of water, provides constant and detailed information regarding quantities, water levels, and much more regarding reservoirs, tanks, etc. in the city. IBM worked closely with BWSSB to create an operational dashboard, based on the IBM Intelligent Operations Centre, which serves as a command centre for monitoring, administering and managing the water supply networks.

Kerala Water Authority is also relying on analytic tools from Big Blue to achieve 100% equitable water supply. Kerala Water Authority, government of Kerala, is using IBM Analytics and Mobility solutions to analyse, monitor and manage water distribution in the city of Thiruvananthapuram.

Indiscriminate use of groundwater for farming depleting water level in Western Rajasthan. A section of farmers in the dry districts like Jodhpur, Bikaner and Barmer are growing water intensive unconventional crops, using groundwater indiscriminately even in the months of May and June, which is fast depleting the scarce resource rapidly from the region. A study by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) revealed that crops which require more than 3-10 irrigation cycles like groundnut, pomegranate, olives, wheat and cotton are being grown, aggravating the drought like situation, which is a common phenomena in the region. The normal agricultural pattern in western Rajasthan has been Kharif crops — bajra, pulses, guar, jowar, maize, sesame and groundnuts. These crops are grown in the summer season in June and July and require one or two irrigation cycle, which they receive during monsoon without hampering the water meant for drinking.

The Economic Times, 17 November 2015 | The Times of India, 20 November 2015 | The Financial Express, 23 November 2015 | The Indian Express, 28 November 2015 | The Economic Times, 29 November 2015 | The Times of India, 29 November 2015 | Deccan Herald, 30 November 2015

Forests

Government to set up panel to study forest ownership issue in NE. A committee will be set up to conduct a detailed study on the issue of forest ownership in Northeast region where vast areas of forests are privately-owned. The panel would work towards ensuring protection to forests and benefits to communities besides sustainable development. The Centre is likely to introduce Minimum Support Price for minor forest produce as is done in Madhya Pradesh, which will give justice to the people dependent on these produce.

Projects consume over 6k ha forest land in Maharashtra in three years. By jumping into the fast lane to grow more industrialised and in the frenzy to construct highways and dams, Maharashtra has sacrificed close to 6724 hectare forest land in the last three years, recent data from the ministry of environment and forests has revealed. The state has 20% forest cover covering 61,939 sq km. From 2012 till date, the Union government has accorded approvals for using over 1.24 lakh hectare forest land in the country for development activities, including those in urban areas. Of this collective area, 700 hectare was in Maharashtra in 2015.

The rate of diversion increased by 33% from 2012 to 2014. In 2015, of the 1.24 lakh hectare forest area diverted for developmental work, 700 hectare was in the state. Forest area in Maharashtra approved under the Forest (Conservation) Act, 1980 by the Union government for various developmental activities during the last three years i.e. 2012 to 2014 and current year is depicted below.

2012	2013	2014	2015	Total
1790.15 sq km	1845.11 sq km	2380.18 sq km	708.85 sq km	6724.29 sq km

Government allows mining in non-forest areas of forested mining blocks. The Union environment ministry has allowed mining to be started in the non-forest parts of forested coal blocks. According to a recent guideline, the forest conservation division of the ministry has allowed state governments to execute mining leases under the Mines and Minerals Act, 1957 for non-forest areas of forested coal blocks.

The Times of India, 2 November 2015 | Business Standard, 17 November 2015 | The Economic Times, 17 November 2015 | The Pioneer, 17 November 2015

CSR

India tops in corporate responsibility reporting rates. India leads corporate responsibility reporting rates in the world with 100%, up 27% from 2013, thanks to a mandatory requirement for large companies to do so, says a KPMG report. Besides India, the greatest increases in country specific corporate responsibility reporting rates since 2013 have been seen in Norway (over 17%), South Korea (over 25%) and Taiwan (over 21%), said the KPMG Survey of Corporate Responsibility Reporting 2015.

According to the report, as many as 79 per cent companies report on corporate responsibility in Asia Pacific, followed by 77 per cent in the Americas, and 74 per cent in Europe. Four emerging economies have the highest corporate responsibility reporting rates in the world: India, Indonesia, Malaysia and South Africa. The Asia Pacific region has overtaken others on corporate responsibility reporting rates, with India amongst the top 10 countries with the highest rate of corporate responsibility information, according to the survey.

All countries with a corporate responsibility reporting rate of 90% or above have mandatory reporting requirements -- India, Indonesia, Malaysia, South Africa, UK, France, Japan, Denmark and Norway.

Business responsibility reports must for top 500 listed companies. Top 500 listed companies will now be required to prepare annual business responsibility reports, covering their activities related to environment, stakeholder relationships, governance and other areas, according to Sebi. At present, top

100 listed firms are required to prepare their annual business responsibility reports. The move by the regulator is part of larger efforts to improve corporate governance practices and more transparency in terms of reporting of various socially-responsible activities carried out by listed entities.

Bokaro Steel to develop 24 villages as part of CSR. Bokaro Steel, which has witnessed intermittent protests by people affected by its projects over five decades, has started its programme to better living conditions in 24 villages. The SAIL subsidiary, as part of its corporate social responsibility programme, has installed 100 hand-pumps in the villages, set up solar lights and is conducting regular health camps for the affected families.

The Hindu Business Line, 25 November 2015 | The Financial Express, 26 November 2015 | The Times of India, 30 November 2015