

Environmental pollution narrative



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on Environmental Pollution Air pollution – Courtesy Nasa The environmental pollution affect the health of more than 100 million people worldwide.

Pollution is the contaminant into a natural environment, usually by humans.

The specific types of pollution are Land pollution, Air Pollution, Water pollution (Oceans, rivers, ground water) , Plastic pollution, Noise pollution, Light pollution, space Ozone layer and many more.

In India the increasing economic development and a rapidly growing population that has taken the country from 300 million people in 1947 to more than one billion people today is putting a strain on the environment, infrastructure, and the country's natural resources. Industrial pollution, soil erosion, deforestation, rapid industrialization, urbanization, and land degradation are all worsening problems. Overexploitation of the country's resources be it land or water and the industrialization process has resulted environmental degradation of resources.

Environmental pollution is one of the most serious problems facing humanity and other life forms on our planet today. India's per capita carbon dioxide emissions were roughly 3, 000 pounds (1, 360 kilograms) in 2007, according to the study. That's small compared to China and the U. S. , with 10, 500 pounds (4, 763 kilograms) and 42, 500 pounds (19, 278 kilograms) respectively that year. The study said that the European Union and Russia also have more emissions than India. India is among the world's worst performers when it comes to the overall environment.

We rank 125 of 132 countries. Even Pakistan and Bangladesh are less polluted than we are. A study released earlier this year by the environmental

research centres of Columbia and Yale showed that India was at the bottom of the heap when it came to air pollution. | Air pollution kills more people than AIDS and malaria combined A recent study by the World Health Organization found that air pollution is a huge killer (a silent killer), probably bigger than we suspected. More... Internet emits 830 million tonnes of carbon dioxide

Internet and other components of information communication and technology (ICT) industry annually produces more than 830 million tonnes of carbon dioxide (CO₂), the main greenhouse gas, and is expected to double by 2020, a new study has found. The skies over North India The skies over North India are seasonally filled with a thick soup of aerosol particles all along the southern edge of the Himalayas, Bangladesh and the Bay of Bengal. – NASA research findings. Space Shuttle view of haze and pollution over Northern India swept in from Tibet. Credit: NASA| |

India and US clean energy pact: India and the U. S. on November 8, 2010 inked an agreement to establish a bilateral energy cooperation programme to promote clean and energy-efficient businesses, Indian and U. S. companies inked joint venture deals worth \$175 million in the renewable energy sector. The US President Barack Obama and Prime Minister Manmohan Singh announced the setting up of Joint Clean Energy Research and Development Centre. The proposed centre is part of the Partnership to Advance Clean Energy (PACE), which forms the core of the “ green partnership”.

Funding for the centre is expected from national budgets and the private sector. Each government proposes to commit \$25 million over the next five years.. “ Now the Indian consumer is increasingly conscious of the benefits of environmentally friendly and sustainable practices... 86% Indian consumers surveyed, place faith in energy efficient products and appliances, followed by recyclable packaging (79%),” Global Online Environment and Sustainability Survey by Nielsen said on August 29, 2011.

Air Pollution India has the worst air pollution in the entire world, beating China, Pakistan, Nepal and Bangladesh, according to a study released during this year’s World Economic Forum in Davos. Of 132 countries whose environments were surveyed, India ranks dead last in the ‘ Air (effects on human health)’ ranking. The annual study, the Environmental Performance Index, is conducted and written by environmental research centers at Yale and Columbia universities with assistance from dozens of outside scientists. The study uses satellite data to measure air pollution concentrations.

The World Health Organization estimates that about two million people die prematurely every year as a result of Air pollution , while many more suffer from breathing ailments, heart disease, lung infections and even cancer. Fine particles or microscopic dust from coal or wood fires and unfiltered diesel engines are rated as one of the most lethal forms or air pollution caused by industry, transport, household heating, cooking and ageing coal or oil-fired power stations. There are four reasons of air pollution are – emissions from vehicles, thermal power plants, industries and refineries.

The problem of indoor air pollution in rural areas and urban slums has increased. CNG is not without environmental drawbacks says a new Central Pollution Control Board study on January 05, 2011. The study says burning CNG has the highest rates of potentially hazardous carbonyl emissions. The study also made a case for regulating CNG and other fuels for methane emissions. Methane, a greenhouse gas, is a key contributor to climate Change. Among the study's finds were that retrofitted CNG car engines emit 30% more methane than original CNG engines.

Almost all CNG car engines in India are retrofitted. One major study in September 2011 found that components of diesel exhaust including particulate matter can cause biologic responses that are related to Asthma this exposure is associated with the inflammatory and immune responses involved in asthma. Studies conducted in various parts of the world have revealed a strong link between type 2 diabetes and cardiovascular diseases and continuous exposure to ultra fine particulate matter present in the air. Particulate matter in the air which is very fine and is less than 2.5 microns in size is called PM_{2.5} and has been known to cause diabetes and cardiovascular diseases. Indian air pollution has been blamed for its dry monsoon season, but a scientist has revealed that European pollution may also play a part in it. The volume of the summer monsoon has been weakening since the 1950s. And Yi Ming of Princeton University in New Jersey claimed his experimental models suggest that the effect of European aerosol pollution accounts for about half the drop in the volume of monsoon rainfall – the other half is down to pollution over south

Asia. | Arctic sea ice set to hit record low Arctic sea ice is set to hit a record low by the end of the month, latest satellite data has shown. Scientists at the US National Snow and Ice Data Center said that the sea ice extent was tracking below the previous record low, set in 2007. The latest figures show that on August 13 ice extent was 483, 000 sq km below the previous record low for the same date five years ago. The ice is expected to continue melting until mid-to late September, the ‘ BBC News’ reported. More..

Himalayan glaciers are melting, says IPCC research The Himalayan glaciers are melting after all, according to new research released by the Intergovernmental Panel on Climate Change (IPCC) on December 5, 2011. The research was released in an effort to draw a line under the embarrassing mistakes made about the effects of Global Warming on the region in the past. The reports, presented at the UN climate change talks in Durban were brought together by the the Kathmandu-based International Centre for Integrated Mountain Development (ICIMOD).

Plant that suck up pollutants from soil Chinese experts have successfully used a plant to clean arsenic pollution from the soil. The Chinese fern, whose scientific name is *Pteris vittata* L, has a “ strong capacity” to extract arsenic from the soil, a researcher said on May 31, 2012. Plants reduce indoor air pollution| | Coal pollution: India’s environmental problems are exacerbated by its heavy reliance on coal for power generation. “ More than 80 per cent of energy is produced from coal, a fuel that emits a high amount of carbon and greenhouse gases. said Bikash. According to IMF chief Christine Lagarde on July 10, 2012 said pollution from coal generation plants causes about 70, 000 premature deaths every year in India. Andhra Pradesh, the coastal state

of eastern India is experiencing a coal-plant construction boom, including the 4, 000-MW Krishnapatnam Ultra Mega Power Project, one of nine such massive projects in planning or under construction in country. On August 23, 2011 the Jharkhand State Pollution Control Board has ordered the closure of 22 BCCL mines in the underground fire zone of Jharia.

BCCL had taken over most of the 103 mines from private owners. Hence, none of them had got environmental clearances. Most of the coal mines under the JSPCB's scanner were located in Jharia. The 2, 640-MW Sompeta plant proposed by Nagarjuna Construction Company and the 2, 640-MW Bhavanapadu plant proposed by East Coast Energy have both provoked large nonviolent protests that have ended in police attacks, including four deaths of local residents. As of May 2011, the Sompeta plant had been cancelled and the Bhavanapadu plant had been placed on hold by officials, with corruption investigations continuing.

On April 12, 2011 the Ministry of Environment and Forests (MoEF) has tightened pollution monitoring norms for power projects with a generation capacity of 500 Mw and above, integrated steel plants with a capacity of 1 million tonnes per annum and cement plants with a capacity of 3 million tonnes per annum. Polluting industrial units: On May 26, 2011 the Haryana State Pollution Control Board has ordered closure of 639 polluting industrial units in 2010-11 and directed the highly polluting industries to set up continuous online monitoring stations to ensure compliance of standards of air emissions.

The Government has launched prosecution against 151 polluting units in the Special Environment Courts in Faridabad and Kurukshetra, and made 9, 239 units install pollution control devices. Brick kilns are noxious sources of pollution: India's 100, 000 brick kilns are noxious sources of pollution, particularly soot, and working them means a life that is always nasty, frequently brutish and often short. But on top of this social evil is an environmental one.

The exhaust from the kilns mixes with diesel emissions and other fumes to form a vast brown smog, known as an atmospheric brown cloud, which is up to 3km thick and thousands of kilometres long. Two of its main ingredients, the small carbon particles which the soot is composed of, and ozone, a triatomic form of oxygen, are important contributors to the greenhouse effect, and thus to climate change. Among other negative effects, the cloud is therefore thought to be accelerating the retreat of Himalayan glaciers, which are found at a similar altitude.

Aircraft pollutants: According to a study published in the journal Environmental Science and Technology (EST) in the first week of October 2010, almost 8, 000 people will die due to aircraft pollutants this year, and 3, 500 of them would be from India and China. A recent report by MIT researchers says that the harmful pollutants emitted by an aircraft at an altitude of 35, 000ft are fatal for people. The report says that nitrogen and sulphur oxides emitted by aircraft at 35, 000ft combine with other gases in the atmosphere to create noxious particulate matter. Vehicle emissions are responsible for 70% of the country's air pollution.

The major problem with government efforts to safeguard the environment has been enforcement at the local level, not with a lack of laws. Air pollution from vehicle exhaust and industry is a worsening problem for India. Exhaust from vehicles has increased eight-fold over levels of twenty years ago; industrial pollution has risen four times over the same period. The economy has grown two and a half times over the past two decades but pollution control and civil services have not kept pace. Air quality is worst in big cities like Kolkata, Delhi, Mumbai, Chennai, etc.

According to the Society of Indian Automobile Manufacturers, India's auto production has doubled from 7 million units in fiscal year 2004 to over 14 million units in year 2010 largely on the back of a buoyant domestic market. Bangalore holds the title of being the asthma capital of the country. Air pollution in the city continues to rise due to vehicular emissions and dust from construction activities, according to the "Environment Report Card of Bangalore 2012". It says the number of vehicles on the city roads have exceeded 3.7 million and there has been a consistent increase in the number vehicles at an average of 8% per year.

CHENNAI: Exhaust from vehicles, dust from construction debris, industrial waste, burning of municipal and garden waste are all on the rise in the city. So are respiratory diseases, including asthma. At least six of the 10 top causes of death are related to respiratory disease, says Dr D Ranganathan, director (in-charge), Institute of Thoracic Medicine. Mumbai: Not only are levels of Suspended Particulate Matter above permissible limits in Mumbai, but the worst pollutant after vehicular emissions has grown at an alarming rate. The levels of Respirable Suspended Particulate Matter (RSPM), or dust, <https://assignbuster.com/environmental-pollution-narrative/>

in Mumbai's air have continued to increase over the past three years. The air pollution in Mumbai is so high that Mumbai authorities have purchased 42,000 litres of perfume to spray on the city's enormous waste dumps at Deonar and Mulund landfill sites after people living near the landfill sites complained of the stench. The Deonar landfill site, one of India's largest, was first used by the British in 1927. Today, the festering pile covers more than 120 hectares and is eight stories high. Bhopal: Bhopal gas tragedy was the greatest industrial disaster in the world that took place at a Union Carbide pesticide plant in the Indian city of Bhopal, Madhya Pradesh.

At midnight on 3 December 1984, the plant accidentally released methyl isocyanate (MIC) gas, exposing more than 500,000 people to MIC and other chemicals. The first official immediate death toll was 2,259. The government of Madhya Pradesh has confirmed a total of 3,787 deaths related to the gas release. Others estimate 8,000-10,000 died within 72 hours and 25,000 have since died from gas-related diseases, making it the deadliest man-made environmental disaster in history. The effects of air pollution are obvious: rice crop yields in southern India are falling as brown clouds block out more and more sunlight.

The brilliant white of the famous Taj Mahal is slowly fading to a sickly yellow. In the "Tajmahal Case" a very strong step was taken by Supreme Court to save the Tajmahal being polluted by fumes and more than 200 factories were closed down. Birds and species affected: Studies conducted by the high altitude zoology field station of the Zoological Survey of India (ZSI) based in Solan town of Himachal Pradesh have recorded a drastic fall in butterfly numbers in the western Himalayas, famous for their biodiversity.

The population of 50 percent of the 288 species recorded in the western Himalayas, Himachal Pradesh and Jammu and Kashmir, have declined more than half in just 10 years according to World Environment Day 2012. |

Diesel exhaust fumes can cause cancer: WHO Diesel engine exhaust fumes can cause cancer in humans and belong in the same potentially deadly category as asbestos, arsenic and mustard gas, World Health Organization (WHO) experts said on June 15, 2012. Outside of Europe and India, diesel engines are almost entirely confined to commercial vehicles.

German carmakers are trying to raise awareness for diesels in the United States, where the long distances traveled on highways suit diesel engines. U. S. proposes tighter rules on soot pollution The Obama administration proposed stricter standards to control harmful soot from heavy industry on June 15, 2012, a move expected to save lives Diesel exhaust from trains and ships, as well as construction operations, have made soot a problem. Also high air pollution may rise due to power generation from coal, considering the sheer scale of the capacity addition;

Ozone exposure could trigger heart attacks Pollutants from vehicles, power plants, industry, chemical solvents and consumer products create ground level ozone by reacting in the presence of sunlight. Recent studies have linked acute exposure to ozone and death but little is known about the underlying pathways responsible, the journal Circulation reports on June 26, 2012. International Ozone Day The brilliant white of the Taj Mahal is slowly fading to a sickly yellow.

In the famous “ Tajmahal Case” a very strong step was taken by Supreme Court to save the Taj Mahal Taj being polluted by fumes and more than 200 factories were closed down. Multi-storeyed residential buildings stand behind an expanse of slums in Mumbai Indian Coast Guard: The green crusaders also play the role of environmental crusaders| | Indoor air pollution: Indoor air pollution is the most important cause of chronic obstructive pulmonary disease (COPD) in India, says a prevalence study conducted by Pune-based Chest Research Foundation (CRF) and the Imperial College, London in November 2010.

Over 700 million people in India suffer from high levels of indoor air pollution affecting women and young children as 75 per cent homes use biomass fuel like wood, crop residue and dung cakes. The National Institute of Environmental Health Sciences (NIEHS) is working to understand how exposures to environmental agents trigger diseases such as Asthma, and these diseases can be prevented, diagnosed and treated. Additionally, the NIEHS is developing and testing new technologies to help determine environmental triggers and reduce asthma symptoms.

River water Pollution Contaminated and polluted water now kills more people than all forms of violence including wars, according to a United Nations report released on March 22, 2010 on World Water Day that calls for turning unsanitary wastewater into an environmentally safe economic resource. According to the report — titled “ Sick Water? ” — 90 percent of wastewater discharged daily in developing countries is untreated, contributing to the deaths of some 2. 2 million people a year from diarrheal diseases caused by unsafe drinking water and poor hygiene.

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At least 1.8 million children younger than 5 die every year from water-related diseases. Fully 80 percent of urban waste in India ends up in the country's rivers, and unchecked urban growth across the country combined with poor government oversight means the problem is only getting worse. A growing number of bodies of water in India are unfit for human use, and in the River Ganga, holy to the country's 82 percent Hindu majority, is dying slowly due to unchecked pollution.

New Delhi's body of water is little more than a flowing garbage dump, with fully 57 percent of the city's waste finding its way to the Yamuna. It is that three billion liters of waste are pumped into Delhi's Yamuna (River Yamuna) each day. Only 55 percent of the 15 million Delhi residents are connected to the city's sewage system. The remainder flush their bath water, waste water and just about everything else down pipes and into drains, most of them empty into the Yamuna.

According to the Centre for Science and Environment, between 75 and 80 percent of the river's pollution is the result of raw sewage. Combined with industrial runoff, the garbage thrown into the river and it totals over 3 billion liters of waste per day. Nearly 20 billion rupees, or almost US \$500 million, has been spent on various clean up efforts. The frothy brew is so glaring that it can be viewed on Google Earth. Much of the river pollution problem in India comes from untreated sewage.

Samples taken recently from the Ganges River near Varanasi show that levels of fecal coliform, a dangerous bacterium that comes from untreated sewage, were some 3,000 percent higher than what is considered safe for

bathing. | | Pollution by Bricks of clay India's brick kilns are noxious sources of pollution, particularly soot, There are 100, 000 kilns which turn out the 200 billion bricks made each year in India. The exhaust from the kilns mixes with diesel emissions and other fumes to form a vast brown smog, known as an atmospheric brown cloud, which is up to 3km thick and thousands of km. ong. Metal Pollution On Lakes Indian researchers say that heavy metal pollution of lakes has a significant detrimental impact on people and ecosystems that rely on such bodies of water. Bhopal gas tragedy The greatest industrial disaster in the world | Groundwater exploitation Groundwater exploitation is a serious matter of concern today and legislations and policy measures taken till date, by the state governments (water is a state subject) have not had the desired effect on the situation.

Groundwater Quality and Pollution is most alarming pollution hazards in India. On April 01, 2010 at least 18 babies in several hamlets of Bihar's Bhojpur district have been born blind in the past three months because their families consume groundwater containing alarming levels of arsenic, confirmed by Bihar's Health Minister Nand Kishore Yadav on Wednesday, 31st March 2010 confirmed the cases of blindness in newborns in arsenic-affected blocks of the district.

According to the World Health Organization on World Water Day 2012, on March 22 each year, an estimated four billion people get sick with diarrhea as a result of drinking unsafe water, inadequate sanitation, and poor hygiene. Nearly two million people die from diarrhea each year, and many of them children under the age of five, poor, and living in the developing world.

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Improper disposal of solid waste, both by the public and Bruhat Bangalore Mahanagara Palike (BBMP) is causing direct contamination of groundwater, according to Dr M A Farooqui, scientist, Central Ground Water Board (CGWB).

Plastic Pollution Plastic bags, plastic thin sheets and plastic waste is also a major source of pollution. A division bench of Allahabad High Court, comprising Justice Ashok Bhushan and Justice Arun Tandon, in May 03, 2010 had directed the Ganga Basin Authority and the state government to take appropriate action to ban the use of polythene in the vicinity of Ganga in the entire state. Also Plastic Bag Pollution in the country is the biggest hazards.

On August 2, 2010, seeking to know whether a fine should be imposed on paan masala or gutkha packet manufacturers for polluting and choking the drainage systems, the Supreme Court has directed the Union government to file its reply in six weeks. From January 20, 2011 sale of plastic or polythene bags has been banned in the vicinity of rivers or any other water body after Uttar Pradesh Governor B L Joshi gave his assent to an ordinance in this regard. The Governor has given his assent to UP Plastic and Bio-Degradable Garbage and Waste (Use and Disposal) Ordinance which makes areas around river and water bodies no-polythene zone,” he said. Municipal solid waste India’s urban population slated to increase from the current 330 million to about 600 million by 2030, the challenge of managing municipal solid waste (MSW) in an environmentally and economically sustainable manner is bound to assume gigantic proportions .

The country has over 5, 000 cities and towns, which generate about 40 million tonnes of MSW per year today. Going by estimates of The Energy Research Institute (TERI), this could well touch 260 million tonnes per year by 2047. Municipal solid waste is solid waste generated by households, commercial establishments and offices and does not include the industrial or agricultural waste. Municipal solid waste management is more of an administrative and institutional mechanism failure problem rather than a technological one.

Until now, MSW management has been considered to be almost the sole responsibility of urban governments, without the participation of citizens and other stakeholders. The Centre and the Supreme Court, however, have urged that this issue be addressed with multiple stakeholder participation. Cities in India spend approximately 20% of the city budget on solid waste services.

Pollution due to Mining New Delhi-based Center for Science and Environment (CSE) on December 29, 2007 said mining was causing displacement, pollution, forest degradation and social unrest.

According to the Centre for Science and Environment (CSE) report the top 50 mineral producing districts, as many as 34 fall under the 150 most backward districts identified in the country. The CSE report has made extensive analysis of environment degradation and pollution due to mining, wherein it has said, in 2005-06 alone 1. 6 billion tonnes of waste and overburden from coal, iron ore, limestone and bauxite have added to environment pollution. With the annual growth of mining at 10. per cent and 500-odd mines awaiting approval of the Centre, the pollution would increase manifold in the coming years. The mines of Mahanadi Coal Fields and NTPC

draw about 25 Cr litres of water per day from the River Brahmani and in return they release thousands of gallons of waste water, which contains obnoxious substances like Ash, Oil, Heavy Metals, Grease, Fluorides, Phosphorus, Ammonia, Urea and Sulphuric Acid, into the River Nandira (A tributary of River Brahmani). The effluents from chlorine plant cause chloride and sodium toxicity to the river Rushikulya – the lifeline of southern Orissa.

The Phosphoric Fertilizer Industry discharges effluent containing Nitric, Sulphuric and Phosphoric acids into river Mahanadi. ToI reported on March 2, 2012 that in Goa the open cast extraction of iron ore has created a degraded environment with several resultant ills of air and ground water pollution and severe social impacts. Environmentalists say that severe damage to the state's verdant landscape in the form of deforestation, ground and surface water pollution and damage to agricultural land and beaches in a worrisome area of concern.

The Supreme Court on February 25, 2011 ordered a probe by its committee into alleged illegal mining in Bellary and other forest areas of Karnataka. A bench headed by Chief Justice S. H. Kapadia asked the apex court- appointed Central Empowered Committee to conduct the probe and file its report within six weeks. The explosive report of Lokayukta on July 28, 2011 uncovered major violations and systemic corruption in mining in Bellary. Environmental degradation in this region in terms of plundering forest land and complete violation of air and water pollution standards have been devastating .

Due to illegal mining in Bellary tanks and natural streams are polluted. There is evidence of perennial rivers drying up and complete devastation of roads

and other infrastructure due to transportation of iron ore. Despite stone mining's links to several occupational diseases such as pneumoconiosis, silicosis, tuberculosis, asbestosis and asthma, abject poverty keeps driving villagers in many parts of the Rajasthan state to illegal mining. Rajasthan is the largest producer of dimensional stones in the country. The state produces 5 crore tonnes a year.

An aluminum refinery in Orissa blithely continues to pollute the surrounding villages, despite the recommendations of the Supreme Court's Central Empowered Committee that it be closed since it poses environmental and health hazards. Rengopalli in the east and west cells of the Red Mud pond built for the refinery's alkaline waste disposal. Red Mud, which is the final waste product from bauxite. In the currently operational west cell, a ton of toxic waste is dumped for every ton of alumina produced in the refinery. | |

UN Climate Summit 2011 in Durban

UN climate Summit commenced on November 28, 2011, in Durban, South Africa run for two weeks. Millions ask EPA on Pollution Limits Three million Americans have written comments on August 15, 2012 asking the Environmental Protection Agency to implement tougher national standards to limit industrial carbon pollution from new coal-fired power plants. Margie Alt, executive director of Environment America, one of the groups that organized the campaign, says the signatures are the combined result of environmental and health groups around the nation, and calls the responses in favor of pollution limits overwhelming.

Dal Lake is dying Dal Lake once the most beautiful lake in India now it has halved in size in a generation to about 12 square kilometres, and, clogged by weeds, its average depth is now 1.2 metres, in some places a 10th of what it was. Dal Lake's water, which still provides the city of Srinagar with the bulk of its drinking water, has been found to contain dangerous levels of arsenic and lead. Fish stocks are dwindling and the lake vulnerable to massive algal bloom outbreaks. Currently, 1200 houseboats have permits, but they are unconnected for sewage or garbage disposal.

About 70,000 people call the lake home, and depend on it for their livelihoods. Statistics meets environment The 22nd Annual Conference of The International Environmetrics Society from January 3 to January 6, 2012 held Hyderabad. Over 70 foreign and national delegates presented over 130 papers highlighting problems and solutions related to environmental conservation. The topic for this year's conference is 'Environmental challenges facing Developing and Developed countries in a globalised world: Quantitative approaches to Comprehensive Solutions'.

Hong Kong worst air pollution Hong Kong urged residents to stay indoors on August 2, 2012 as the city choked under the worst cloud of man-made air pollution the city has ever recorded, officials said. "This is the worst air pollution reading we've seen since Hong Kong started recording air pollution in 1999, except for the dust storm," Y. F. Chau said. | In Jharkhand there are abundant coalmines, most of the coalmines are situated in Hazaribag, Chatra, Palamau, Rajmahal, Dhanbad and Ranchi district. Mighty Damodar River and its tributaries flow through these coalmines.

Due to extensive coal mining and vigorous growth of industries in this area water resources have been contaminated. Thousands of villagers in Orissa are facing serious health risks as a “ cocktail of toxic residue” leaks from an aluminium refinery, Amnesty International warned June 1, 2011. Amnesty said it has video footage showing toxic residue spilling onto the roads from the main red mud pond of the Vedanta aluminium refinery. Due to large scale illegal mining in India and in The Aravalli hills Range in Rajasthan and Haryana the forest cover has been depleted 90 percent and drying up wells and affecting agriculture. The governments remain silent in these years. Due to media and public protest the Supreme Court on February 20, 2010 directed cancellation of 157 mining leases operating in Rajasthan’s eco-sensitive Aravalli Hills. On August 24, 2010 the Ministry of Environment and Forest (MoEF) has rejected permission for the Anil Agarwal promoted Vedanta mining project in Orissa. In a statement, the ministry has said that “ the forest clearance for Vedanta stands rejected”.

The Saxena committee report accused the Vedanta smelters in Orissa, including the Posco Integrated Steel project in Orissa, which, at Rs 56, 000 crore is the single-largest foreign direct investment in India, the Jindal thermal power plant in Chhattisgarh (Rs 10, 000 crore), hydroelectric projects on Bhagirathi in Uttarakhand and the Navi Mumbai airport in Maharashtra (Rs 7, 972 crore). Pollution due to biomedical waste Pollution due to biomedical waste is likely to spread disease dangerous to life and making atmosphere noxious to health.

In early April, 2010 a machine from Delhi University containing cobalt-60, a radioactive metal used for radiotherapy in hospitals, ended up in a scrap

yard in the city. The death from radiation poisoning of a scrap yard worker in Delhi has highlighted the lax enforcement of waste disposal laws in India. The International Atomic Energy Agency said it was the worst radiation incident worldwide in four years. India being used as a dumping ground for hazardous waste, from foreign countries. Twenty containers with goods were detained by the officials of Special Intelligence and Investigation Branch attached to the Customs Department here recently.

Packs of broken toys, used diapers, empty perfume bottles, used battery cells, thermocol, used aluminum foil packing materials and coloured surgical gloves were found in the containers. It could also lead to contamination and spread of communicable diseases. Pollution due to e-Waste A UN environmental conference in Cartagena, Colombia, attended by more than 170 countries in October 2011, has agreed to accelerate a global ban on the export of hazardous waste, including old electronics and discarded computers and mobile phones, from developed to developing countries.

Environmental campaigners, who have been battling to broker a deal on the dumping of toxic waste for more than 20 years, said they were “ ecstatic” about this “ major breakthrough”. “ All forms of hazardous waste including that sent for recycling, to obsolete electronic waste, will be banned from leaving wealthy countries destined for developing countries. ” The UNEP report “ Recycling – from E-Waste to Resources” was released on the Indonesian island of Bali on February 22, 2010 at the start of a week-long meeting of officials and environmentalists.

According to the report's authors by 2020 e-waste in South Africa and China will have jumped by 200-400 per cent from 2007 levels, and by 500 per cent in India. India produces about 3, 80, 000 tonnes of e-Waste per annum, which includes only the waste generated out of television sets, mobile phones and PCs, a major chunk of which comes from organizations. E-waste produced in India includes over 100, 000 tonnes from refrigerators, 275, 000 tonnes from TVs, 56, 300 tonnes from personal computers, 4, 700 tonnes from printers and 1, 700 tonnes from mobile phones.

The un-organized recycling sector which fails to practice eco-friendly e-Waste recycling methods release large amount of toxic chemicals. The toxic gases and the large volume of Electronic Waste Adds environmental Pollution in India India imports almost 50, 000 tonnes of e-waste yearly. It generated 330, 000 tonnes of e-waste in 2007 and the number is expected to touch 470, 000 tonnes by 2011, according to a study on e-waste assessment conducted jointly by MAIT and the German government's sustainable development body GTZ. in April 2010. Noise pollution Noise pollution is a type of atmospheric pollution.

It constitutes a real and present danger to people's health and can produce serious physical and psychological stress. Researches have proved that a loud noise during peak marketing hours creates tiredness, irritation and impairs brain activities so as to reduce thinking and working abilities. It affects sleep, hearing, communication, mental and physical health. It may even lead to the madness of people. High noise levels can contribute to cardiovascular effects in humans, a rise in blood pressure, and an increased incidence of coronary artery disease.

In animals also noise can increase the risk of death by altering predator, interfere with reproduction and navigation, and contribute to permanent hearing loss. A paper by federal scientists and Cornell University researchers published in October 2012 estimates that in the last 50 years, the area where the whales can effectively communicate in Stellwagen Bank and surrounding waters off Massachusetts has fallen by two-thirds because of the noise. The main source of noise pollution are automobiles, loudspeakers, firecrackers burst during festivals, industries, low-flying aircrafts, In India there is Noise Pollution Control Rule 2000 under Environment Protection Act 1996. Delhi's air is choking with pollutant PM 2.5 The CSE report claimed that Delhi are reeling under concoction of pollutants like nitrogen and carbon monoxide (CO). Patients complaining of chest and throat infections have shot up in the past two weeks. Experts have blamed high pollution levels in the Capital for this. Delhi's air is choking with pollutant PM 2.5 that is only 2.5 microns in diameter and is very very small particle. Being so small, it escapes emission apparatus prescribed by Euro II and III. Any kind of combustion, especially of vehicular origin, contains this particle. If PM 2.5 is not regulated it will ensure major health hazards. The number of Asthma patients will rise and in future there may huge rise of lung cancer cases also. The toxic value of PM 2.5 is such that metals like lead present in the PM 2.5 get inhaled deeper into lungs which deposits there. The children are most affected by depositing lead due to inhaling the poisonous air.

The increasing amount of PM 2.5 is like a poison in the air we breathe. Toxic smog is set to engulf Delhi once again this winter after a six-year respite because of the huge number of new cars clogging the roads. New Delhi adds

nearly 1, 000 new cars a day to the existing four million registered in the city, almost twice as many as before 2000. Pollution levels and the levels of nitrogen oxides have been increasing in the city to dangerous levels, which is a clear sign of pollution from vehicles. Of these it is the diesel cars that are responsible for the pollution.

Diesel emissions can trigger asthma and even cause lung cancer. A survey by the Central Pollution Control Board and the All India Institute of Medical Sciences survey showed that a majority of people living in Delhi suffered from eye irritation, cough, sore throat, shortness of breath and poor lung functioning. One in 10 people have asthma in Delhi. Worse, the winter months bring respiratory attacks and wheezing to many non-asthmatics who are old, who smoke, have respiratory infections or chronic bronchitis.

Greenhouse Gas Emissions India emits the fifth most carbon of any country in the world.

At 253 million metric tons, only the U. S. , China, Russia, and Japan surpassed its level of carbon emissions in 1998. Carbon emissions have grown nine-fold over the past forty years. In this Industrial Age, with the ever-expanding consumption of hydrocarbon fuels and the resultant increase in carbon dioxide emissions, that greenhouse gas concentrations have reached levels causing climate change. Going forward, carbon emissions are forecast to grow 3. 2% per annum until 2020. To put this in perspective, carbon emissions levels are estimated to increase by 3. % for China and by 1. 3% for the United States. India is a non-Annex I country under the United Nations Framework Convention on Green house gases and climate Change, and as such, is not required to reduce its carbon emissions. An historical

summary of carbon dioxide (CO₂) emissions from fossil fuel use in India is increasing rapidly and causes global warming. All inhabitants of our planet have an equal right to the atmosphere, but the industrialized countries have greatly exceeded their fair, per-capita share of the planet's atmospheric resources and have induced climate change.

The most developed countries possess the capital, technological and human resources required for successful adaptation, while in the developing countries, a large proportion of the population is engaged in traditional farming, that is particularly vulnerable to the changes in temperature, rainfall and extreme weather events associated with climate change. According to the UN Framework Convention on Climate Change and the Kyoto Protocol, the most industrialized countries are mainly responsible for causing climate change.

Thus equity requires that they should sharply reduce their emissions in order to arrest further climate change and allow other countries access to their fair share of atmospheric resources in order to develop. Pollution of Indian Seas Two merchant vessels — MSC Chitra and Khalijia-III collided off the Mumbai coast on August 7, 2010 causing an oil spill. Several containers from one of the vessels fell into the sea. Nearly 100 containers that fell into the waters following the collision between two merchant vessels off the Mumbai coast are still missing and two of them are carrying hazardous chemicals reported on August 17, 2010.

Describing the ship collision off the coast of Mumbai as a “freak accident”, environment minister Jairam Ramesh said that India has never seen an oil

spill like the one resulting from the incident.. A first-ever exercise on March 25, 2010, the countrys 7500-km-long coastline will be surveyed to demarcate areas vulnerable to sea erosion, high tide and waves in order to help government take measures in protecting community living in such pockets. The Cabinet Committee of Economic Affairs (CCEA) approved a Rs , 156 -crore Integrated Coastal Zone Management (ICZM) project which among other things cover coastline survey, capacity building of the people living near to coast, and demarcation of sensitive and hazardous zones. The ship Platinum-II arrived in Indian waters on 8 October, 2009 The ministry of environment and forests said it inspected Platinum-II and found the ship contained toxic material. The Platinum-II – formerly known as SS Oceanic or the SS Independence – was destined for the Alang ship- breaking yard. It is Asia largest ship-breaking yard and known as the “ graveyard of ships”.

It said many of the workers tested showed early signs of asbestosis – an incurable disease of the lungs. An unknown ship dumped tons of waste oil into the sea off Goa, creating tar balls that were heaping on Goas famed beaches September 1, 2010, officials said. | | Environmental pollution and Asthma As per World Health Organisation (WHO) projections, an estimated 100 million more Asthma patients would be added to the list of existing patients by 2025, mainly due to environmental pollution and lack of awareness towards the disease and its morbidity. Noise pollution and animals

Researchers say increasing amounts of underwater noise, largely from shipping traffic, are enveloping rare right whales in “ acoustic smog” that makes it harder for them to communicate. Planting Neem trees is his passion

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By planting one Neem Tree in your life you can contribute as much as Rs 6-7 crore towards environment protection! Calculations by 53-year-old Muralidhar Belkhode reveal that a single tree like Neem, which has an average life of 50 years, releases at least a cylinder full of oxygen daily and absorbs enough carbon dioxide gas to do environment cleaning operations worth Rs 7. crore in half a century. . Dams the latest culprit in global warming Recently Researchers have documented the role dams play in Global Warming and the surges of greenhouse gases as water levels go up and down. Bridget Deemer, doctoral student at Washington State University (WSU)- Vancouver, Canada, measured dissolved gases in the water column of Lacamas Lake in Clark County and found methane emissions jumped 20-fold when the water level was drawn down.. A tribe woman near the mining site of Vedanta -waste in India Indian dedicated satellite to monitor pollution. Eco- Monitors Over 10, 000 schoolchildren are virtually on the prowl in the hills of Himachal Pradesh, ready to teach a lesson or two on non-biodegradable waste plastic bottles and bags. | Indian satellite to monitor green house emission A dedicated satellite would be launched with the support of Indian Space Research Organisation (ISRO) by 2012 to monitor Indias greenhouse gas emission, Union Minister for Environment and Forests Jairam Ramesh said. Currently, Japan and European countries have this satellite but by 2012 we will have a dedicated satellite that will monitor greenhouse gas emission across the country and globe,” Ramesh said on March 13, 2010 at IIT-Powai. “ The objective is to study the impact of climate change, fallout of greenhouse gas emissions on the environment by monitoring it through satellite technology,” he said. Another satellite for protection and development of the forest cover in India would be ready by

2013. As the forests are getting depleted at a rapid pace elsewhere in the world, there seems to be a need for a satellite,” Ramesh said.

Environmental Pollution and chronic diseases In an Indo-US joint workshop, on September 05, 2008 at Chandigarh, Prof S K Jindal said it has been globally recognised that environmental factors, have important links with infectious as well as non-infectious diseases of both acute and chronic nature. “ The WHO estimates that 24 per cent of global disease burden and 23 per cent of all deaths can be attributed to environmental factors.

The burden is more on the developing than the developed countries. ” He said: “ In developing countries, an estimated 42 per cent of acute lower respiratory infections are caused by environmental factors. ” ; The major burden of these hazards is borne by the lungs. Bronchial Asthma and other allergies; chronic obstructive lung disease, respiratory infections including tuberculosis and occupational lung diseases are some of the common problems with a strong environmental risk which, account for a large disease burden all over the world, including in India.

Extensive studies to gauge the effects of environmental factors on the human health. needed. According to New England Journal of Medicine, 2007, even a short exposure to traffic fumes can increase your chances of Heart Disease, including heart attack. People who exercise in areas where there is heavy traffic may be especially at risk, researchers say. Doctors at AIIMS, Delhi said on October 28, 2010 the incidence of rising strokes among the youngsters. “ Lifestyle, environmental changes, growing pollution are the major causes for the increase,” said Dr Kameshwar Prasad, professor, neurology, AIIMS.

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This gaseous air-pollutant along with other noxious gases emitted from the burning of fire-crackers on the eve of Diwali or Holi Festival aggravates the risk of triggering an attack in 30 mn asthmatics in India and also has the potential to cause new cases of asthma. Mahatma Gandhi on Environmental pollution Mahatma Gandhi had said that nature has enough to satisfy everyone's need but has not enough to satisfy man's greed. Sadly our ever-expanding greed has put us in such precarious situation. Will we realise it? The policy of industrialisation had helped rich to become richer and poor become poorer.

The disparity has widened. It is the democratic system followed in the country which has forced our policy-makers to think of growth for all. That is why we are hearing plans for inclusive growth. Industrialisation is not without price. All these have a direct bearing on environmental pollution leading to climatic change. We are all witness to the deleterious effects of climate change. The whole world is now anxious to repair the damage. Invasive alien species Invasive alien species are species whose introduction and/or spread outside their natural habitats threatens biological diversity.

They occur in all groups, including animals, plants, fungi, bacteria and viruses, and can affect all types of ecosystems. They can directly affect human health. Infectious diseases are often traced to IAS imported by travellers or vectored by exotic species of birds, rodents and insects. IAS also have indirect health effects on humans as a result of the use of pesticides and herbicides, which pollute water and soil. The biggest casualty of such species has been our rich biodiversity, and threats to food security.

MIKANIA MICRANTHA, is of the most prominent invasive aliens in India. It is a major threat in many parts of the country, it grows 8 to 9 cm a day and muzzles small plants and chokes larger trees as coconut and oil palm.

Parthenium: Parthenium Hystrophorous a poisonous plant The parthenium now occupies 50 lakh hectares in the country and has become a major health hazard for people and animals. PROSOPIS JULIFLORA : Vilayati babul(prosopis juliflora) was introduced in India in last century as a very promising species for the afforestation of dry and degraded land.

But now it has emerged as a noxious invader that can grow in diverse ecosystems, enable it to wipe out other plant species in its surroundings.

Pollution trading India may let power companies start trading renewable-energy credits in May in a push to create a multibillion-dollar market to encourage reductions in greenhouse-gas emissions. The estimates trade in renewable energy credits could rise to as much as \$10 billion by 2020. India is pressing ahead with its own efforts to fight climate change after last month's Copenhagen talks failed to reach a new global climate treaty.

The move puts the world's fourth-largest emitter ahead of China and other developing nations in creating a domestic emissions-trading market to boost investment in solar, wind and other clean-energy projects. India is the second-largest generator of carbon credits in the United Nations Clean Development Mechanism, the world's second-biggest greenhouse-gas trading market. Certified Emissions Credits, or CERs, issued for pollution-cutting projects in India are sold to businesses in Europe and elsewhere seeking to meet either mandatory or voluntary limits. | | Parthenium Hystrophorous

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Green Cars of Future Zero Pollution Motors is the company with a vision, and is working on creating a car that needs nothing more than compressed air to take drivers where they want to go. French visionaries, Motor Development International (MDI), conceived the idea of “ compressed -air vehicles. ”

Solar cars use photovoltaic (PV) cells to convert sunlight into Environmental pollutio electricity.

Toxic Release Per capita emission in 2007-08 in select cities across the world (in a study in October 2009)::

Jamshedpur – 2. 76 tonnes Gargaon – 2. 33 tonnes Kolkata – 1. 83 tonnes Delhi – 1. tonnes

Faridabad – 1. 58 tonnes Bangalore – 0. 82 tonnes Washington DC- 19. 7

tonnes Beijing, China – 6. 9 tonnes London, UK – 6. 2 tonnes Source: www.

newscientist. com and ICLEI study| Poverty is the biggest polluter During his

meet with editors on July 01, 2011 Prime Minister Manmohan Singh remarked

that “ poverty is the biggest polluter” and India needs to achieve a balance

between environment and development – industrialization. Indira Gandhi, the

former prime minister announced at the United Nations’ first environmental

conference, in 1972, that “ Poverty is the biggest polluter. Those sentiments

were echoed by the prime minister, but Manmohan Singh have forgotten

that Indira Gandhi created the country’s environmental governance structure

during her tenure as prime minister. It was Indira Gandhi’s intervention that

supported the call stop a hydro-electric project in Silent Valley, Kerala –

saving an ecosystem rich in biodiversity. It was Indira Gandhi’s concern that

Mussorie, the queen of the hills, was being stripped naked by limestone

mining that led the Environment Ministry to take action.

The poor live in the places polluted by the rich, they do not cause the

pollution. And they live in polluted places because they are displaced from

their homes in rural areas where they had lived sustainably for millennia. India's economy of sustenance is being uprooted by means of violence in order to enable POSCO to export our iron-ore and steel. In June, 2011 it was the women and children of Govindpur, Dinkia and Nuagaon in Orissa who laid down in front of the police in the scorching sun in an effort to stop the land grab.

To farmers, tribals who form the bulk of protesters as POSCO agitation against land acquisition land is far more economically essential than a job of a petty unskilled worker in a factory. The most polluted places in India Vapi in Gujarat and Sukinda in Orissa is among the world's top 10 most polluted places, according to the Blacksmith Institute, a New York-based nonprofit group. Vapi returns to top, is again most polluted in country according to Central Pollution Control Board's interim report on May 21, 2012.

Vapi : Potentially affected people: 71, 000 -Pollutants: Chemicals and heavy metals due to its Industrial estates. Sukinda: Potentially affected people: 2, 600, 000. -Pollutants: Hexavalent chromium due to its Chromite mines. The most polluted cities in India As many as 51 Indian cities have extremely high air pollution, Patna, Lucknow, Raipur, Faridabad and Ahmedabad topping the list. An environment and forest ministry report, released on September 14, 2007 has identified 51 cities that do not meet the prescribed Respirable Particulate Matter (RSPM) levels, specified under the National Ambient Air Quality Standards (NAAQS).

In 2005, an Environmental Sustainability Index (ESI) placed India at 101st position among 146 countries. Taking a cue from the finding, the Central

Pollution Control Board (CPCB) formulated NAAQS and checked the air quality, which led to the revelation about air quality in leading cities.

According to the report, Gobindgarh in Punjab is the most polluted city, and Ludhiana, Raipur and Lucknow hold the next three positions. Faridabad on the outskirts of Delhi is the 10th most polluted city, followed by Agra, the city of Taj Mahal.

Ahmedabad is placed 12th, Indore 16th, Delhi 22nd, Kolkata 25th, Mumbai 40th, Hyderabad 44th and Bangalore stands at 46th in the list. The Orissa town of Angul, home to National Aluminium Company (NALCO), is the 50th polluted city of the country. Emissions of gaseous pollutants: satellite data Scientists and researchers from around the world gathered at ESRI, ESA's Earth Observation Centre in Frascati, Italy, recently to discuss the contribution of satellite data in monitoring nitrogen dioxide in the atmosphere.

Using nitrogen dioxide (NO₂) data acquired from 1996 to 2006 by the Global Ozone Monitoring Experiment (GOME) instrument aboard ESA's ERS-2 satellite, Nitrous oxide emissions over India is growing at an annual rate of 5.5 percent/year. The location of emission hot spots correlates well with the location of mega thermal power plants, mega cities, urban and industrial regions. Emissions of gaseous pollutants have increased in India over the past two decades. According to Dr Sachin Ghude of the Indian Institute of Tropical Meteorology (IITM), rapid industrialization, urbanization and traffic growth are most likely responsible for the increase.

Because of varying consumption patterns and growth rates, the distribution of emissions vary widely across India. Is nuclear energy a solution of global warming? India a country of 1.1 billion people currently gets only a fraction of its electricity from nuclear power. Now the US atomic trade pact with India and an atomic energy pact with France, India can fight global warming with clean nuclear energy. Nuclear energy has been recognized as a clean as CO₂ to the atmosphere after its reaction that could damage our environment.

It is also known that nuclear energy has reduced the amount of greenhouse gas emission, reducing emissions of CO₂ for about 500 million metric tons of carbon. Indian Civil Liability for Nuclear Damage Bill, 2010 is meant to pave the way for India to sign International Atomic Energy Agency (IAEA's) Convention on Supplementary Compensation (CSC) for Nuclear Damage, 1997. The question that stares citizens in the face is: whether or not the proposed liability Bill and the pre-existing IAEA's compensation treaty in the supreme interest of present and future generation of Indians?.

As on August 23, 2010 among the 18 amendments suggested to the Nuclear Liabilities Bill is one that leaves a window open for private operators of Nuclear plants. The standing committees had expressed its opinion against private operators. India needs to learn appropriate lessons from the worst nuclear accidents of Japan and take additional safeguards, but the country cannot abandon its nuclear energy programme, said Minister for Environment and Forests Jairam Ramesh on March 20, 2011.

Jaitapur, the site for India's largest nuclear power plant has taken again a violent turn on April 13, 2011 against the proposed nuclear power plant. Even as the world debates nuclear energy, here at ground zero in Jaitapur, the land has been taken over and the people have refused to accept any cheques of compensation from the State government. More.. Nuclear power plants in India

Pollution due to Distilleries

The distillery sector is one of the seventeen categories of major polluting industries in India.

These units generate large volume of dark brown coloured wastewater, which is known as 'spent wash'. Spent wash contains high organic pollutants such as Total Dissolved Solids (TDS) – 85000 to 95, 000 mg/l, Biochemical Oxygen Demand (BOD) – 45, 000 to 60, 000 mg/l and Chemical Oxygen Demand 80, 000 to 1, 20, 000 mg/l. Thus, the distillery wastewater causes serious pollution problems in the recipient water bodies when discharged, resulting in depletion of dissolved oxygen in water and adverse affect on aquatic life, fish, phytoplankton etc.

Also, it pollutes groundwater and drinking water when discharged on land. Application of distillery wastewater for irrigation of crops causes soil pollution i. e. salinity. The Government has notified environmental standards for the distillery sector under the Environment (Protection) act, 1986. The Government is also encouraging the distilleries to achieve zero discharge of effluent. This information was given by Shri Jairam Ramesh in Lok Sabha on August 4, 2010.

Reduce pollutions: suggestions

Projects to save Agra monuments back on track

The growing threat from pollution to India's prized monuments,

including the Taj Mahal, has prompted the authorities to speed up action on March 22, 2011. The project aims to insulate the world heritage monuments, including Fatehpur Sikri, Agra Fort and the Taj Mahal. A set of eight schemes to control pollution and save these monuments has been submitted for clearance from the state government before being presented to the Planning Commission to include them in the 12th Five Year Plan (2012-2017).

World Bank Cooperation on India's Green Agenda India and the World Bank agreed on January 13, 2011 to further strengthen their partnership to advance India's green-growth agenda. The Bank will now support to strengthen Indian capacity of Central Pollution Controls Board, State Pollution Control Boards and biodiversity conservation in addition to other various projects for which financial support have already been given. India to build advanced coal-fired power plant Indian scientists aim to built an advanced ultra-super critical coal-fired power plant in the next six years.

Once realised, the plant is expected to put India in a very select group of nations having the technology which would reduce the amount of pollution when compared with the current thermal power plants. Green Court launched India launched a " green" court on October 19, 2010 to make polluters pay damages as it steps up its policing of the country's environmental laws. Environment Minister Jairam Ramesh said India was only the third country in the world after Australia and New Zealand to set up such a tribunal. This is the first body of its kind (in India) to apply the polluter pays principle and the principle of sustainable development," Ramesh told reporters in New Delhi. National Action Plan on Climate Change The Centre has made a provision of Rs. 25, 000 crore to mitigate the effects of climate

change, a serious problem that India will face in the coming decades, Minister of State for Environment and Forests Jairam Ramesh told the Rajya Sabha on August 21, 2010. Besides, the Finance Ministry has also sanctioned Rs. 5, 000 crore as recommended by the 13th Finance Commission to tackle this serious problem,” Mr.

Ramesh said About 220 scientists from 120 research institutions were working on assessing the impact of climate change on agriculture, water, health and forests. National Clean Energy Fund (NCEF) – for funding research and innovative projects in clean energy technology. Allocation for National Ganga River Basin Authority has been doubled in 2010-11 to Rs. 500 crore. The “ Mission Clean Ganga 2020” under the National Ganga River Basin Authority (NGRBA) with the objective that no untreated municipal sewage or industrial influent will be discharged into the National river has already been initiated. |