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Green Files

Newsletter on Environment audit and sustainable development issues

International Centre for Environment Audit and Sustainable Development (iCED)

Green Files is a quarterly newsletter compiled by iCED Jaipur. This newsletter highlights issues on environment and sustainable development which can enable audit offices identify areas of audit concern. It comprises results of recent environmental conferences-national & international; "state in focus" where environment issues in a state are highlighted; critical appraisal of national environmental acts; snapshots of recent news on environment ; Supreme Court judgements on environment issues as well as recent national and international audit reports pertaining to environment and sustainable development.

We look forward to your suggestions to make Green Files more relevant. Contributions to the newsletter are also welcome. These can be mailed to iced@cag.gov.in.

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I. Lima Climate Change Conference - December 2014

(1) Background

The 20th session of the Conference of the Parties (COPs) and the 10th session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol took place from 1 to 14 December in Lima, Peru. The meeting took place over two weeks and was attended by over 190 countries.

(2) Objectives of the conference

- In Lima, governments meeting under the "Ad Hoc Work Group on the Durban Platform for Enhanced Action" (ADP) will define the scope and the type of contributions they will provide to the Paris agreement, along with clarity on how finance, technology and capacity building will be handled.
- Countries will put forward what they plan to contribute to the 2015 agreement in the form of Intended Nationally Determined Contributions (INDCs)[1] by the first quarter of 2015, well in advance of the Paris conference in December of next year.
- The Lima conference needs to provide final clarity on what the INDCs need to contain, including for developing countries who are likely to have a range of options from, for example, sector-wide emission curbs to energy intensity goals.
- As part of the "Lima Action Agenda", countries will decide how to maintain and accelerate cooperation on climate change by all actors, including those flowing from the Climate Summit in September, where many climate action pledges were made.

(3) Issues discussed

Progress was made in Lima on elevating adaptation onto the same level as the curbing and cutting of curbing greenhouse gas emissions. This is to be done through:

- Recognition that National Adaptation Plans (NAPs) offer an important way of delivering resilience.
- NAPs will now be made more visible via the UNFCCC website which should improve the opportunity for receiving backing.
- The green light was given for discussions with the Green Climate Fund (GCF) on how countries can be supported with their NAPs which should increase the number of these plans coming forward for support.
- A work programme was also established under the Committee—it has an array of actions areas, including enhancing the understanding of how loss and damage due to climate change affects particularly vulnerable developing countries and populations including indigenous or minority status ones.
- It will also seek to better the understanding of how climate change impacts human migration and displacement.
- Governments made progress on coordinating the delivery of climate finance and of the various existing funds.
- Further pledges were made to the Green Climate Fund in Lima by the governments of Norway, Australia, Belgium, Peru, Colombia and Austria--the pledges brought the total sum

[1] Under the U.N. Framework Convention on Climate Change (UNFCCC), countries across the globe committed to create a new international climate agreement by the conclusion of the Paris Climate Summit in December 2015. During negotiations, countries agreed to publicly outline what actions they intend to take under a global agreement well before the Paris Summit (and for those countries in a position to do so, by March 2015).These country commitments are known as Intended Nationally Determined Contributions (INDCs).

pledged to the Green Climate Fund to close to USD 10.2 billion.

- The government of Peru launched a new portal called the Nazca Climate Action Portal with support from the UNFCCC, to increase the visibility of the wealth of climate action among cities, regions, companies and investors, including those under international cooperative initiatives.

- The first ever Multilateral Assessment (MA) was launched in Lima marking a historic milestone in the implementation of the Measurement, Reporting and Verification of emission reductions under the UNFCCC as a result of decisions taken at previous COPs in Cancun, Durban and Doha.

- Countries meeting in Lima made progress on providing support to avoid deforestation. Colombia, Guyana, Indonesia, Malaysia and Mexico formally submitted information and data on the status of their greenhouse gas emission reductions in the forest sector to the UNFCCC secretariat following a similar submission by Brazil earlier in the year.

(4) Outcomes

More than a full day after the talks in Lima formally ended, delegates sealed the deal on two main tasks at COP20.

- They decided on a draft text which will be used as a basis for negotiations leading up to the December 2015 Paris summit called **Lima call for climate action**.

- They agreed on what information countries must share as they prepare their national climate action plans beyond 2020. Countries are now hard at work figuring out what targets and actions they can share by March or soon after.

Some of the most important outcomes were:

- The most inspiring development in Lima was support for a long-term effort to reduce emissions. Over 100 countries now advocate a long-term mitigation goal. This would send a strong signal that the low-carbon economy is inevitable.

- At last year's UN climate gathering in Warsaw, it was decided that every country should offer an Intended Nationally Determined Contributions, or INDCs, by March 2015 (for those in a position to do so). A key issue in Lima this year was how countries' proposed contributions will be presented and assessed before Paris. The outcome adopted is a very important step that requires countries to provide significant information when they put forward their proposed contributions, such as key details about the sectors and gases that are covered and methodological and accounting approaches. In addition, countries will have to describe how fair and ambitious their actions will be.

- The Lima talks were buoyed from the start by major contributions to the Green Climate Fund in the weeks before COP20. With additional contributions in the second week of the negotiations, the fund crossed the $10 billion mark. This was an important milestone to both demonstrate the confidence of donor countries in the GCF and build trust with developing countries that the funds would flow.

- The Lima conference arguably saw more serious attention to adaptation than any previous conference of the parties to the UNFCCC. Developing countries pushed for adaptation to get equal billing with mitigation in the Paris agreement, raising its profile to new heights. The strong interest in adaptation in Lima is connected with the urgent need to respond to severe climate impacts countries are already facing, from record-breaking floods and scorching heat waves to a steady increase in sea level rise. A hard-fought decision in Lima was whether to include

adaptation and mitigation in countries' national contributions. Some developed countries wanted to limit national contributions to mitigation only, but developing countries argued that their efforts to build resilience to climate impacts should be recognized. In the end, countries decided that adaptation can be included but offered limited guidance on what information should be provided on adaptation efforts. How these contributions might be assessed remains unclear. However, negotiators did achieve clarity in two areas: They agreed to improve the process of how national adaptation planning is reported and they affirmed a work plan to focus on the issue of loss and damage -- how to address the consequences of climate change that cannot be fully addressed through adaptation (i.e. the submergence of islands in sea water, the loss of crop varieties in a region, etc.). Over the next two years, countries will map out loss and damage activities and needs, develop analytic tools and share best practices. Countries decided to continue to share their experiences to curb emissions, identify the best policy options to achieve the highest mitigation potential and continue technical expert meetings about action through 2020.

Sources:- *http://www.iisd.ca/hlpf/hlpf2/intro.html http://newsroom.unfccc.int/lima/lima-call-for-climate-action-puts-world-on-track-to-paris-2015/, http://unfccc.int/2860.php, http://newsroom.unfccc.int/lima/lima-cop-to-lay-foundation-for-paris-2015-agreement/*

II. Lafarge Umiam Mining Private Limited vs Union of India & Ors (2011)

(1) Background

In the case of Lafarge Umiam Mining Private Limited v. Union of India & Ors. (2011), the Supreme Court[2] laid down guidelines to be followed in future cases in Part-II of its order dated 06.07.2011. It also called upon the Central Government to appoint a National Regulator under Section 3(3) of the Environment (Protection) Act (EPA), 1986 for appraising projects, enforcing environmental conditions for approvals and to impose penalties on polluters.

In the 2011 Lafarge Judgement, the Supreme Court had expressed its concern about the lack of regulatory mechanism to implement the National Forest Policy (NFP) 1988 and underscored the difficulties in relying solely on the impact assessment undertaken by the project proponent. Referring to Section 3 (3) of EPA, 1986 the Supreme Court found it was "incumbent" on the central government to constitute an appropriate authority in form of a regulator at the state and central levels to implement the NFP 1988 and for appraisal of project proposals, enforcement of clearance conditions and imposition of penalties for pollution.

In July 2011, in Lafarge Umiam Mining Private Limited (LUMPL) versus Union of India and others case, in the judgment delivered by then Chief Justice Kapadia, the court permitted mining but highlighted several deficiencies in the environmental and forest clearance processes. To improve these processes, it laid down certain guidelines for the Centre to follow. It also determined that it was "incumbent" on the Central Government to exercise its powers under EPA, in order to constitute a National Green Regulator for "appraising projects, enforcing environmental conditions for approvals and to impose penalties on polluters". The shortcomings such as the lack of accurate data on the status of the environment and baseline figures, excessive reliance by decision makers on the

[2] While refusing to interfere with the decisions of the Ministry of Environment and Forests (MoEF) granting site clearance, EIA clearance read with revised environmental clearance and Stage I forest clearance to the mining project of Lafarge Umiam Mining Private Limited.

data provided by project proponents, the absence of credible and independent impact assessment and poor appraisal of the environmental impact of proposed projects identified by the SC in the Lafarge judgment and reiterated now have been repeatedly highlighted by activists and civil society groups over the years. These shortcomings are merely illustrative of a larger set of problematic issues in the environmental clearance process.

The Solicitor General, while putting forward the government's point of view stated that so far as the National Forest Policy, 1988 was concerned, the same relates to forests and under Section 2 of the Forest (Conservation) Act, 1980 the duty of a Regulator has been cast upon the Central Government and cannot be delegated to any other authority. The Solicitor General also stated that sub-section (1) of Section 3 of EPA 1986 confers powers on the Central Government to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. He submitted that as an appropriate mechanism for appraising projects as well as monitoring and enforcing compliance of environmental conditions that govern Environmental Clearances is already in place, it is not necessary for the Central Government to appoint a National Regulator.

(2) Judgment

- Court ordered setting up of a national regulator with offices across the country to appraise projects, enforce environmental norms for approvals and penalise polluters by rejecting the Government's contention that it alone was the regulator under the Forest (Conservation) Act, 1980 (FCA) and that no one else could be appointed regulator.
- Granting two months' time to the Government for appointing a regulator with offices in as many states as possible, the Court underlined that the present mechanism under 2006 norms was "deficient" in many aspects. What is required is a regulator at the national level having its offices in all the states, which can carry out independent, objective and transparent appraisal and approval of the projects for environmental clearances and which can also monitor the implementation of the conditions laid down in the environmental clearances.
- The Court order put an end to the Government's attempt to hold on to its absolute authority to grant clearances, especially when it is already at loggerheads with the National Green Tribunal over environment-related orders.
- The Regulator so appointed under Section 3(3) of the EPA can exercise only such powers and functions of the Central Government under EPA as are entrusted to it and obviously cannot exercise the powers of the Central Government under Section 2 of the FCA, but while exercising such powers under the EPA, it will ensure that the National Forest Policy, 1988 is duly implemented.
- The Regulator will also be entrusted with the task of imposing penalties on the polluters, a task otherwise being performed by the NGT.
- The Central Government can, under Section 3(3) of the EPA, constitute an authority by an executive order. A Regulator set up by executive order under the EPA would have the power to only monitor projects and only with regard to environmental clearances. It would have the power to monitor projects to ensure compliance with the conditions prescribed while granting environmental clearance. The Central

Government could also empower the Regulator to set standards and prepare manuals.

(3) Significance of the Judgment

The regulatory structure envisaged by the SC has the Central Government retaining the final word, an issue that in itself merits further debate. But that apart, appraisal and monitoring functions must be given a more meaningful role in decision-making through careful design and empowerment of the new institution. The Regulator would provide scientific and technical expertise, such as undertake or oversee research on the carrying capacity. Besides improving compliance and enforcement of clearance conditions, it would standardize database and integrate it with the decision making process.

The shortcomings in the environmental clearance process identified by the Supreme Court have been highlighted on several occasions by members of the civil society, and even acknowledged by the high courts and the National Green Tribunal over the years. An important question that remains unresolved is: do national and state regulators provide an effective alternative to the current institutional structure? The Supreme Court presumes that setting up regulators is the ideal solution. The judgment does not discuss alternative reform scenarios nor does it consider the debates around introducing an autonomous regulator in a sector that affects a very wide array of stakeholders and interests. Difficult questions need to be asked, and answered. How will the regulator be designed, and empowered, to ensure independence? Further, why have similar regulatory design strategies that can ensure independence not been incorporated in the current system? Is a new institutional mechanism likely to produce a more environmentally, and socially, optimal result, than a reformed version of the current set-up?

The 2014 order emphasizes the need for independence in the appraisal and approval process. Even with a regulator to insulate decision-making from political interference may be very difficult – from the appointment process, to release of funds, to providing basic infrastructure – political motivations can weigh in at various levels. But apart from that, keeping important decisions in environmental governance entirely outside the purview of public pressure (ie, by excluding democratically elected persons from the process) may not be desirable The Supreme Court's direction to set up a regulator pre-empts debate on these issues amongst others. Can a new institution function efficaciously if other aspects of the EIA notification remain flawed? How would decision-making improve qualitatively? If the constitution of a regulator is indeed the preferred solution can an authority set up under Section 3(3) of the EPA be adequately empowered? What would being under "supervision and control of the central government" mean, and how would it have an impact on the authority's autonomy? Can such an authority impose penalties, when by an Act of Parliament such powers are given to the courts? What are the necessary checks to ensure that the regulator is not captured by political and/or private interests that are inimical to the protection of the environment? A more thorough examination of these questions would certainly have raised the credibility of any recommendation for a new institution.

One of the most significant expected benefits from a new regulator is that of increased independence in environmental decision-

making by protecting regulatory processes from unnecessary political interference, commercial/private influence and conflict of interests. These gains are expected because decisions are anticipated to be based primarily on assessment and appraisal by a neutral body with expertise in environmental issues. A new regulator might be in an advantageous position as it can institute decision-making processes that represent a clear break with the current system to uphold the letter and spirit of the law.

Sources:

http://supremecourtofindia.nic.in/outtoday/WC2021995.pdf; http://www.sci.nic.in/outtoday/wc2029506072011.pdf; http://pxvlaw.wordpress.com/2011/08/02/lafarge-judgment-stabilises-environmental-clearance-process/http://supremecourtofindia.nic.in/outtoday/WC2021995.pdf, http://www.epw.in/system/files/pdf/2014_49/26-27/Is_There_a_Case_for_an_Environmental_Regulator.pdf; http://www.ercindia.org/index.php/latest-updates/news/1022-appoint-national-environment-regulator-supreme-court

III. Critical discussion of rules/laws: The Air (Prevention and Control of Pollution) Act, 1981

(1) Background

The atmosphere consists of a mixture of many different gases, about 78 % of it is nitrogen, about 21 % is oxygen and the remaining 1 % is a mix of argon, carbon dioxide, methane, hydrogen, helium, neon, ozone and other gases in trace amounts. The atmosphere extends upward for roughly 160 kilometres (kms) above the surface of the earth. Troposphere is the lowermost layer of the atmosphere. Only about 12 kms thick, it is in this relatively thin layer of air that oxygen-dependent life is sustained, clouds are formed, weather patterns develop and most of our air pollution problems occur. The presence in air, beyond certain limits, of various pollutants discharged through industrial emission and from certain human activities connected with traffic, heating, use of domestic fuel, refuse, incinerations, etc., has a detrimental effect on the health of the people as also on animal life, vegetation and property.

Ambient (outdoor air pollution) in both cities and rural areas was estimated to cause 3.7 million premature deaths worldwide per year in 2012; this mortality is due to exposure to small particulate matter of 10 microns or less in diameter (PM10), which cause cardiovascular and respiratory diseases and cancers. People living in low and middle income countries disproportionately experience the burden of outdoor air pollution with 88% (of the 3.7 million premature deaths) occurring in low and middle income countries, and the greatest burden in the WHO Western Pacific and South-East Asia regions. The latest burden estimates reflect the very significant role air pollution plays in cardiovascular illness and premature deaths – much more so than was previously understood by scientists. Most sources of outdoor air pollution are well beyond the control of individuals and demand action by cities, as well as national and international policymakers in sectors like transport, energy, waste management, buildings and agriculture. Decisions were taken at the United Nations Conference on the Human Environment held in Stockholm in June, 1972, in which India also participated, to take appropriate steps for the preservation of the natural resources of the earth which, among other things, include the preservation of the quality of air and control of air pollution. To implement the decisions in so far as they relate to the preservation of the quality of air and control of air pollution, the

Air (Prevention and Control of Pollution) Act, 1981 was enacted.

(2) Main provisions of the Air (Prevention and Control of Pollution) Act, 1981 amended in 1987

i. Constitution of Central Pollution Control Board and State Pollution Control Boards: The Central Pollution Control Board (CPCB) constituted under Sec. 3 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974), will exercise powers and perform the function of prevention and control of air pollution under this Act. State Pollution Control Boards shall exercise the powers and perform the functions of the State Board for the prevention and control of air pollution under this Act.

ii. Power to declare air pollution control areas: After consultation with the State Board, State Government may declare any area/areas within the State as air pollution control area/areas for the purposes of this Act. State Government, after consultation with the State Board, may prohibit the use of such fuel in such area which, in its opinion may cause or is likely to cause air pollution. The State Government after consultation with the State Board, may direct that with effect from such date as may be specified, only approved appliances will be used in the premises situated in an air pollution control area. State Government, after consultation with the State Board, is of opinion that the burning of any material (not being fuel) in any air pollution control may cause health hazards it may, prohibit the burning of such material in such area.

iii. Power to give instructions for ensuring standards for emission from automobiles: To ensure that standards for emission of air pollutions from automobiles laid down by the State Board are complied with, the State Government in consultation with the State Board, shall give instructions necessary to the concerned authority in charge of registration of motor vehicles under the Motor Vehicles Act (4 of 1939) who shall be bound to comply with such instructions.

iv. Restrictions on use of certain industrial plants: No person can establish or operate any industrial plant in an air pollution control area without the previous consent of the State Board. If any person is operating any industrial plant in an air pollution control area before the commencement of Sec. 9 of the Air (Prevention and Control of Pollution) Amendment Act, 1987, for which no consent was necessary prior to such commencement, he may continue to do so for a period of three months from such commencement or, if he has made an application for such consent within the said period of three months, till the disposal of such application. Every person to whom consent has been granted by the State Board shall comply with the following conditions: (i) the control equipment of specifications approved by the State Board will be installed and operated in the premises where the industry is carried on or proposed to be carried on (ii) the existing control equipment, it any, shall be altered or replaced in accordance with the directions of the State Board (iii) the control equipment shall be kept at all times in good running conditions (iv) If due to any technological improvement or otherwise the State Board is of opinion that all or any of the conditions require variation (including the change of any control equipment) the State Board can vary all or any of such conditions after giving the person to whom consent has been granted an opportunity of being heard, and persons shall be bound to comply with the conditions.

v. Persons carrying on industry, etc., not to allow emission of air pollutants in excess of the standards laid down by State Board: No person operating any industrial plant, in any air pollution control area shall discharge/emit air pollution in excess of the standards laid down by the State Board.

vi. Power of entry and inspection: Any person empowered by a State Board shall have a right to enter any place for the purpose of examining and testing any control equipment, industrial plant, record, register, document or any other material object or for conducting a search of any place in which he has reason to believe that an offence under this Act has been committed.

vii. Power to take samples of air or emission: A State Board or any officer empowered by it in this behalf shall have power to take, for the purpose of analysis, samples of air or emission from any chimney, flue or duct or any other outlet in such manner as may be prescribed.

viii. State Air Laboratory: The State Government may establish one or more State Air Laboratories; or specify one or more laboratories or institutes as State Air Laboratories to carry out the functions entrusted to the State Air Laboratory.

(3) Critical analysis the Air Act

Air pollution is contamination of the atmosphere by physical, chemical or biological agents. Common sources of air pollution are industries, motor vehicles and household cooking fuels. The health effects of air pollution are exacerbation of asthma; increased incidence of respiratory infections, chronic bronchitis and chronic obstructive pulmonary disease; and increased mortality increase due to cardiovascular disease and cancers. Common pollutants of public health concern include particulate matter, sulphur dioxide, ozone and nitrogen dioxide. In India outdoor air pollution is a major concern in urban areas and indoor air pollution due to use of biomass as fuel for domestic purposes is the concern in rural areas. The burden of disease due to air pollution in India:

- Indoor air pollution: 4,88,200 deaths/year and 8 DALYs[3]/1000 capita/year with solid fuel use at 82% of households.
- Outdoor air pollution: 1,19,900 deaths/year and 1 DALY/1000 capita/year with mean urban particulate matter PM10 at 84 microgram/m3.

Outdoor air pollution has become the fifth largest killer in India after high blood pressure, indoor air pollution, tobacco smoking, and poor nutrition – says a new set of findings of the Global Burden of Disease report.

Assessment of Act

- One of the major sources of air pollution is vehicular pollution, the control of which is beyond the jurisdiction of most of the SPCBs. This makes it difficult to relate the trend movement in air pollution to the efficacy of SPCBs in containing the same.
- Significant proportion of polluting units, which have some treatment mechanism, do not comply with standards. The punitive action by SPCBs is more or less tied up with litigation and considerable proportion of cases is pending for more than a year. SPCBs are, sometimes, not able to exercise the powers to force compliance by stopping electricity supply or water because of interference by powerful pressure groups.

[3] Disability-adjusted life year (DALY) is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death.

- NAAQM (National Ambient Air Quality Monitoring) was initiated by CPCB in 1984 to monitor air pollution in 290 stations all over India. The percent of stations operational is quite low in Bihar, Haryana, Maharashtra and Karnataka. The frequency of monitoring under NAAQM is generally lower than the norms prescribed for this purpose. The low level of funding is an important factor behind the less-than-adequate monitoring regime.

- There are no apparent lacunae in the Air Act. However, this has not translated into zero air pollution. The reasons for the same are various aspects of enforcement of the Act.

- Inadequate processes for environmental decision-making and dispute resolution: Compliance is an integral part of the process of bargaining by which one gains access to resources. Effective compliance is largely dependent on the extent to which decision-making processes take into account and reflect the interests of the affected groups. An important function of environmental law should be the provision of a process by which decisions relating to the use of environmental resources are taken in a manner that provides a full accounting of all interests, costs and benefits. There is also a need for a process to prevent and mitigate environmental conflicts in an orderly fashion. Environmental disputes are often resolved through the intervention of the judiciary in constitutional litigation. Reliance on litigation places a burden on the court system, and also litigation is not accessible to all the affected groups.

- Insufficient infrastructure in MoEF, CPCB and SPCBs for implementation: Weak dissemination of law and the decisions made thereunder, insufficient monitoring of compliance because of lack of monitoring tools and technical and legal capacity to review compliance, inadequate capacity for effective inspection, taking remedial actions including following up in court, and a lack of continued legal training for the enforcement staff are also the factors responsible.

What is needed is:

- Make National Ambient Air Quality Standards legally binding in all regions: The national air quality planning and city action plans need a roadmap for each source of pollution and aggressive measures. Impose penalty on cities if air quality standards are violated.

- Prepare stringent vehicle technology and fuel quality roadmap, encourage in-use vehicle management: It is shocking that the terms of reference of the new committee that has been set up to propose the next Auto Fuel Policy Roadmap does not even include public health in its agenda. Make urgent timelines for Euro V and Euro VI emissions standards. Restrain dieselization.

- Control and cut increase in vehicle numbers by scaling up public transport, non-motorised transport, compact city planning and car restraint measures.

- Strengthen implementation plans for critically polluted notified areas.

- Account for health cost in decision making: Valuation of acute and chronic illnesses must be linked to decision on air pollution control measures.

- Put in place a public information system on daily air quality with health advisories and implement smog alert and pollution emergencies measures.

Source:

http://www.moef.nic.in/sites/default/files/No%2014%20%201981.pdf, http://cseindia.org/content/air-pollution-now-fifth-largest-killer-india-says-newly-released-findings-global-burden-dise, http://planningcommission.nic.in/reports/peoreport/cmpdmpeo/volume1/180.pdf

IV. Snapshots: Environment news

Illegal dumping chokes Sarakki lake

Illegal dumping of garbage and debris has posed a major threat to Sarakki lake in JP Nagar even as Karnataka High Court has directed the district authorities to restore the water body by removing encroachments. Every day, trucks line up at Sarakki Lake to dump debris and garbage. As a result, the extent of the lake is shrinking with each passing day. Residents even complained that the garbage contractors are setting the waste on fire instead of sending it to garbage processing units.

Hindon water unfit even for bathing, says pollution board

Effluent discharged from sugar and paper mills, slaughter houses, and chemical industries in Uttar Pradesh are deteriorating the water quality in the Hindon, so much so that the water is not fit for bathing according to Central Pollution Control Board (CPCB). This was in response to an affidavit submitted in a petition alleging that people from Gangnolli, Daha, Sankrod, Brouda and Sarthi villages were suffering from cancer due to discharge of highly toxic and harmful effluent in the Kali, Krishna and Hindon rivers of Western Uttar Pradesh.

Taj: the pollutants causing discolouration identified

Finally, the specific pollutants in the air that are responsible for the discolouration of the white marble of Taj Mahal have been identified. Particulate carbon and fine dust particles that are deposited on the marble are responsible for its browning. Both organic carbon and dust particles have the ability to preferentially absorb light in the blue region of the spectrum. The absorption of blue light by these pollutants in turn gives the marble surface a brown hue.

National Green Tribunal Steps in to Address Delhi's Worsening Air Quality

In May, the World Health Organisation declared that Delhi had the most polluted air among the 1,600 cities across 91 countries that it assessed. Despite this, there has been little tangible action by the authorities to curb the city's worsening air quality. In November 2014, an NGT bench headed by Chairperson Justice Swatanter Kumar put out a 14 point action plan that essentially puts the authorities on notice and asks them to step up to their task of ensuring that the Capital is better managed and more liveable for its residents.

Unregulated tourism takes toll on Naldehra hill's ecosystem

Increasing footfalls and unregulated movement of horses are taking a toll on the fragile ecosystem of Naldehra, located at a height of 2,044 metres, in Himachal Pradesh. The impact on environment includes degradation of vegetation and deodar trees, pollution and accumulation of waste, officials said. A forest official said the main causes for the decay of the forest are soil erosion and engraving of 'love signs' on the trunks of deodar trees with sharp edged weapons. Officials admit the vegetation in the area has been deteriorating due to unregulated grazing by the horses. Even the hoofs made the entire forest fragile with noticeable increase in soil erosion. The management of horse dung is also not regulated.

Mine leaseholders yet to pay for forestland use

The Odisha government stated in November 2014 that over 100 mine leaseholders have not paid additional net present value (NPV) on the forestland used by them. Only five mining leaseholders have deposited the NPV amount

partially as demanded. The State government had demanded Rs.91.47 crore as NPV from South Korean steel major POSCO of which the company has already paid Rs.72.68 crore. But it is yet to deposit Rs.18.79 crore.

Aravallis vanish on Raj-Haryana border as mining continues

The Supreme Court rulings which were considered sacrosanct, have failed to make any impact on the mining in the Aravallis. Despite several orders of the SC and the National Green Tribunal (NGT), banning mining in the Aravallis, it continues unabated, levelling the range and clearing the forests in Tijara. Now, one can easily see a gap of nearly 200 metre in the oldest mountain range near Tapukara. In Tijara alone mining has led to disappearance of forest and hills from 1,000 hectares of land and people have been forced to migrate as their farms have been rendered unfit for cultivation after mining. Over 20 km of forest right from Natnaul, Gawalda, Sarekala, Sarekhurd, Gandwa, Indore, Chhurpur, Kolawat to Silkhoh village on Haryana border has vanished.

Country loses huge chunk of forest to infrastructure projects

India lost a chunk of its forest wealth in the first six months of 2014 as regional offices and State Advisory Groups (SAGs) of the Environment Ministry approved 50 of the 65 proposals which required clearing of forest lands. While about 77 per cent of the projects were cleared, only one proposal was declined and seven deferred, an analysis by the environment impact assessment think tank EIA Resource and Response Centre (ERC) revealed. About 138.62 hectares (14.95 per cent) of forest land was cleared for diversion for non-forest uses in Gujarat. Maharashtra recommended the diversion of 98.42 hectares of forest cover.

Meghalaya no to chemical fertilizers

Meghalaya is doing away with chemical fertilizers and pesticides which reportedly causes millions of cases of pesticide poisoning every year, Chief Minister, Mukul Sangma, told the assembly. He said the government's agricultural department will help produce food that are safer and which adhere to the National Programme for Organic Production (NPOP) standards and that are nutritionally more acceptable.

Sand mining spelling doom of Gangetic dolphins

Eminent environmentalist Dr Anwaruddin Choudhury has said that activities like unregulated sand mining and fishing in rivers like Kulsi and the Brahmaputra have been affecting survival of the gangetic river dolphin (Platanista Gangetica) and that the Assam Government/environmental bodies should come out with an effective mechanism to conserve the endangered aquatic mammal. The bio-sonar signals emitted by the Gangetic dolphin do not get reflected by the monofilament fibre nets and hence it cannot detect the monofilament nets ahead of it and thus get entangled. Monofilament fibre nets should be banned in the Brahmaputra and other Gangetic dolphin habitats for conservation of the rapidly depleting species.

Himachal inks waste management agreement with Dutch firm

The Urban Development Department of Himachal Pradesh has signed an agreement with a Dutch company Nexus Novus for making itself a “waste free State” in the coming years. It would be a feasibility study agreement supported by the Netherlands government.

Contamination still hounds Bhopal residents

Thirty years after India’s worst industrial disaster in Bhopal, contamination owing to the leakage of poisonous gas from the Union

Carbide pesticide factory continues to affect residents. Studies by several institutions over the years have revealed soil and groundwater contamination. The clean-up of the Union Carbide plant is still pending due to legal disputes.

Brass city emerges as illegal e-waste disposal hub

The city of Moradabad is fast emerging as the new hub of unauthorized disposal of e-waste, exposing labourers as well as residents to killer toxic fumes. Hundreds of workers, including women and children, in several localities here burn motherboards and other discarded gadgets to extract small quantities of gold and silver therein. The hazardous activity fills up the area with choking fumes, causing serious health complications to not only the offenders but also residents in nearby areas.

Mercury ban in India within 6 to 10 years

India will have to phase out mercury within six to 10 years as the country has signed a global treaty - Minamata Convention - which makes it mandatory for the signatories to ban the use of the deadly nerve toxin in a phased manner.

Study lists 16 pollution hotspots in capital

Delhi-based NGO Toxics Link released a study identifying 16 pollution 'hotspots' in the city, where pollution — through illegal waste disposal, segregation, severe soil, water and air contamination — is proving to be fatal for residents. Many of the hotspots were engaged in illegal operations such as lead acid battery recycling, pickling and e-waste recycling, and were found to be releasing acids, emitting toxic fumes of lead, mercury etc. these hotspots are Prem Nagar, Wazirpur, Samaypur, Badli, Libaspur, Bhalswa, Ranhola Village, Najafgarh, Moti Nagar, Anand Parbat, Wazirpur, Mayapuri, Mustafabad, Mandoli, Shastri Park, Old Seelampur, Yamuna Vihar, Gokulpuri, Ghazipur and Okhla.

10 tigers missing from Pilibhit Reserve

More than 10 tigers are missing from Pilibhit Tiger Reserve. According to the tiger census report, in of 2010 the reserve had more than 40 tigers. In 2012, the tiger count was down to 30 and in 2013, the number has fallen to 23.

Polar bear population in frozen sea north of Alaska falls 40% in 10 years

The number of polar bears inhabiting a frozen sea north of Alaska declined by about 40% from 2001 to 2010, according to a study published on Monday. U.S. Geological Survey researchers and scientists from Canada and the United States found that bear survival rates in the south Beaufort Sea were particularly low from 2004 to 2006, when only two of 80 cubs monitored were known to have survived.

Red List: the world's most threatened species

Now in its 50th year, the International Union for Conservation of Nature (IUCN) red list assesses 76,199 species around the world - of which 22,413 are threatened. The 15 species below are either new additions or have changed status this year. They include Pacific bluefin tuna, Chinese pufferfish and an Australian butterfly that are all threatened with extinction, and the world's biggest earwig that is now extinct. The news is not very good for a bio diverse rich region like India as fifteen species of birds, eighteen species of reptiles and amphibians; and twelve species of mammals have entered the critically endangered category.

Maharashtra's new hill station set to come up in Pune's Mulshi

After the controversy-hit Lavasa and Aamby Valley, construction of Maharashtra's next new lakeside hill-township could begin soon in Pune's Mulshi taluka, with the state

environment authority granting environmental clearances. The State Environment Impact Assessment Authority (SEIAA) recently gave clearance for land and infrastructure development for the new hill station, spread over 5,914 acres. This would be the first new hill station to come up after Lavasa and Aamby Valley under the Maharashtra government's 18-year-old policy to build new hill stations.

WMO provisional statement on the Status of the Global Climate in 2014

The year 2014 is on track to be one of the hottest, if not the hottest, on record, according to preliminary estimates by the World Meteorological Organization (WMO). This is largely due to record high global sea surface temperatures, which will very likely remain above normal until the end of the year. High sea temperatures, together with other factors, contributed to exceptionally heavy rainfall and floods in many countries and extreme drought in others.

Environment regulator to be set up without penal powers

The Union government has finally agreed to set up an environment regulator that will have powers to appraise industrial projects. But it will not have powers to penalise violators of green laws. This development follows inter-ministerial and inter-state consultations over the months after a Supreme Court order to set up an autonomous body for appraising projects and authorising the body to penalise offenders. The regulator will have powers to appraise industrial projects for environment clearance. It would oversee the process of accreditation of environment impact assessment (EIA) and would ensure enforcement of the conditions stated in the environment clearances.

Source: *http://www.indiaenvironmentportal. org.in*

V. State in Focus: Jharkhand

Jharkhand shares its border with the states of Bihar to the north, Uttar Pradesh and Chhattisgarh to the west, Odisha to the south, and West Bengal to the east. The city of Ranchi is its capital and Jamshedpur is the largest and the biggest industrial city of the state. Jharkhand is famous for its rich mineral resources like uranium, mica, bauxite, granite, gold, silver, graphite, magnetite, coal (32% of India), iron, copper (25% of India) etc. Forests and woodlands occupy more than 29% of the state which is amongst the highest in India.

(1) Environment Scenario

(a) Forests

The state of Jharkhand has a unique relation with forests since ancient times. The word 'Jharkhand' connotes 'area of land covered with forests'. Various ethnic groups such as Munda, Oraon, Ho, Santhal, Paharia, Chero, Birjea, Asura and other have influenced their ecosystems by varying practices of agro-pastoralism over the years. Traditionally, these indigenous people have symbiotic relations with forests. Local festivals like Sarhul and Karma are customarily related with worshipping of trees. The recorded forest area of the state is 23,605 km^2 which is 29.61% of its geographical area. Reserved Forests constitute 18.5% and Protected Forests 81.28%. The forest cover in the state, based on interpretation of satellite data of November 2008-January 2009, is 22,977 km^2 which is 28.82% of the state's geographical area. In terms of forest canopy density classes, the state has 2,590 km^2 area under very dense forest, 9,917 km^2 area under moderately dense forest and 10,470 km^2 area under open forest.

(b) Biodiversity

The state Jharkhand of India is very rich in biodiversity due to its diverse physiographic and climatic conditions. Nearly 50% of the

country's minerals are located in the state - iron and coal being important among the main, but the mineral map and the forests overlap for the major minerals. The state possesses a wide variety of wildlife. The floristic diversity includes 97 species of trees, 46 varieties of shrubs and herbs, 25 types of climbers, parasites and orchids and 17 types of grasses. The major trees of the state are Shorea robusta (Sal), Delbergia sissioo (Sesum), Madhuca indica (Mahua), Acasia nilotica (babool), Azadirachta indica (Neem), Terminalia arjuna (Arjun), bombax ceiba (Semul) and Butea monosperma (Palas). 39 species of mammals, 170 avian species, 12 reptilian species including 8 snake species and 4 lizard species and about 21 insect species were reported from the forests of Jharkhand. The major mammalian fauna include tiger, leopard, sloth bear, elephant, wild boar, Indian bison, hyena, wild monkey and langur, deer and antelopes, wolf etc. In the year 2000, 45 mammalian species, 205 avian species, 15 reptilian species and 45 invertebrate species were recorded, whereas in 2005, the species diversity declined as 41 mammalian species, 201 avian, 14 reptilian and 43 invertebrate species and in the year 2010, the diversity found was 35 mammalian species with 168 avian and 11 reptilian species. Some of the reported threatened wildlife of Jharkhand are Asiatic elephant Elephas maximus (Endangered), sloth bear Melursus ursinus (Vulnerable) and Indian giant squirrel.

Some of the major issues that threaten biodiversity and Wildlife:-

- Un-sustainable harvests of living resources: Vegetation in the forest areas have been under constant threat because of the unsustainable exploitation in the form of illicit felling, firewood and fodder collection. Unsustainable use of medicinal plants and non-timber forest products to some extent have affected the regeneration capacity of a few species
- Habitat destruction and fragmentation
- Unfettered pollution and impacts of pollutants, and
- Competition with colonizing, often exotic, invasive species.

Jharkhand has one National Park and 11 Wildlife Sanctuaries covering 2,182.15 km^2 which constitutes 2.74% of the state's geographical area. Palamu Tiger Reserve is located in the state covering an area of 1,026 km^2.

(c) Waste management

Solid waste management

According to CPCB report of 2012, Jharkhand generates 1710 TPD of waste, collects 869 TPD and treats only 50 TPD. In 2012, Dhanbad generated 150 TPD, Jamshedpur 28 TPD, Ranchi 140 TPD. In Ranchi, Only 27000 households are being served for solid waste management (SWM) against the 1,44,000 total number of households in the city, covering only 10 wards. The coverage thus is only 18.75%. No proper sanitary landfill exists. There are no landfills or processing plants for waste in the state. All collected wastes are transported and dumped by tractors to the existing landfill site at Jhiri some 18 km away from the city.

Biomedical waste management

As many as 22 incinerators in Jharkhand are used for treating around 5,000 kg of bio-medical wastes generated per day from more than 700 medical facilities, including hospitals and nursing homes with a combined capacity of 16,866 beds. However, the board is yet to ascertain the quantity of medical waste treated every day in the incinerators installed at different locations in the State. The capital which is a hub for better medical treatment has only one operational incinerator which is working below the optimum capacity. In 2009, the state had 874 healthcare Facilities, with

19586 beds and 3 operational Common Bio-medical Waste Treatment Facility (CBWTF). However, only 294 were utilizing the CBWTF.

Hazardous waste

Jharkhand had in 2009, 3384 industries out of which 435 generated hazardous waste. All the 435 industries have applied for and received authorization. 237184 MTA (Metric tonnes per Annum) is generated out of which 23135 MTA are landfill-able, 9813 MTA are incinerable and 204236 MTA are recyclable. Hazardous waste generation in Jharkhand is 3.81% of total hazardous waste generated in India. Jamshedpur is 7th in the list of industries generating maximum hazardous waste in the country. The other districts in Jharkhand which also generate hazardous waste are Ranchi, Dhanbad, Hazaribag and Deogarh. Jharkhand do not have a Hazardous Waste TSDF (Treatment Storage and Disposal Facility) and also does not have a common incinerator. Disposal is done individually by industries generating the waste and is thus susceptible to unsafe disposal practices. There have also been reports of radioactive waste in Jadugoda area of East Singhbhum district from uranium mines being run by Uranium Corporation of India Limited (UCIL). Keeping in view the disastrous effect of Uranium Mining and also the safety and health of the workers working in Jadugoda Uranium Mining and people in and around Jadugoda Uranium Mining and surrounding places, the Jharkhand High Court took, on its own motion, a Public Interest Litigation against UCIL, government of Jharkhand, pollution control board etc., in February 2014.

E waste

MoEF promulgated E-waste Rules in 2011 which were put into force from May 1, 2012. A study done in February 2014 by researchers of International Journal of Computational Engineering Research in 8 districts of Jharkhand. The study showed that Household e waste generation is 11439.87 kg/year, for medium scale it is 1340.67 kg/year and for small scale it is 177.48 kg / year. The major e-waste generated in this segment is in TV followed by computers. The e-wastes figures from the Jamshedpur and Ranchi cities were largest compared to the cities of Ramghar showing the least one. Business organizations including offices generate e-waste to the tune of 72271.8 kg/year, 6151.59 kg/year and 2580.86 kg/year for large scale, medium scale and small scale, respectively. As the major business, official and educational organizations are situated in the Jamshedpur, Ranchi and Dhanbad cities the bulk users are in the computer and laptop segments. These sections show the major e-waste generations also. The small cities like Ramghar and Dumka generated lower e-waste in this segment. As per initial estimate 90-95 % of e-waste gets recycled in India in the informal sector which is performed and actuated in highly hazardous conditions.

(d) Water issues

Surface water pollution

River Ganga catches a stretch of 36 km of Jharkhand, from Sahebganj to Rajmahal. From the point of view of pollution control, River Damodar is the main tributary and River North Koel is the main sub-tributary of River Ganga from Jharkhand. It is pertinent to mention that the Rivers of Nalkari, Bhairavi, Bokaro, Konar, Garga, Jamunia, Katri, Khudia and Barakar are main tributaries of River Damodar in the State. Damodar rises in Jharkhand and covers a distance of around 300 kms in the State and then around a distance of 281 kms in West Bengal before it joins River Ganga (Hooghly) in West Bengal at Shyampur, Kolkata. River North Koel runs along the western boundary of the State. It joins River Sone, which joins River Ganga in upstream of Patna. The sewage of the township of Sahebganj and the effluents of from 9 mines and industries located here find ways to river **Ganga**. The sewage of the

townships of Medininagar and Garhwa and the effluents from 10 mines and industries find ways to **North Koel**. The sewage of the townships of Patratu, Ramgarh, Gomia, Bermo, Phusru, Bokaro, Chandrapura, Jharia, Dhanbad, Sindri, Koderma, Giridih and Chirkunda and the effluents from 94 mines and industries find ways to **Damodar** or its tributaries in Jharkhand. The sewage of Hazaribagh, Dumka, Deoghar, Chatra, Godda and Jamtara and the effluents from 69 mines and industries may find ways to River **Ganga** and its tributaries through surface run-off, during monsoon.

River Subarnarekha: While most rivers in the country are classified -- depending on the pollution load -- on a 'best designated use' basis, the Subarnarekha defies any classification, as the existing parameters do not include radioactivity. Radioactive waste enters the river through seepage from tailing ponds of the Uranium Corporation of India at Jadugoda. No standards have been met in their construction and no measures taken to control the emissions. Overflow and seepage from the tailing ponds ultimately ends into the streams that feed Subarnarekha. These radiations pose the greatest threat to human health, as they harm living cells, often leading to genetic mutation, cancer and slow death. Subarnarekha is also polluted by hazardous waste like metallic and dissolved toxic wastes from TISCO, Jamshedpur and HCL Ghatsila. Oil and slug deposits on the riverbed deter the growth of moss and fungi, vital food for fish, hindering the movement of Hilsa fish from the Bay of Bengal to Ghatsila. Between Mayurbhanj and Singhbhum districts, on the right banks of the Subarnarekha, are the country's richest copper deposits. Improper mining practices have led to uncontrolled dumping of overburden and mine tailings. During monsoons, this exposed earth flows into the river, increasing suspended solid and heavy metal load in the water, silting the dams and reservoirs. Quarrying of construction material, such as granite, basalt, quartzite, dolerite, sandstone, limestone, dolomite, gravel, and even sand, has created vast stretches of wasteland in the river basin.

River Damodar: About 130 million litre of industrial effluents and 65 million litre of untreated domestic water finds way to Damodar drainage system every day. A study of the area showed that one coal washery alone discharged about 45 tonnes of fine coal into the Damodar every day and there are as many as eleven coal washeries in the region with an installed capacity of 20.52 million tonnes annually. The release of different toxic metals like arsenic, mercury, chromium, nickel etc., from the coals and mine spoil heaps in Damodar and its tributaries have caused severe damage to water quality. Continuous dewatering by underground mines also affects water resources. In a 1998 report, the CPCB classified the river in Dhanbad as 'D', or heavily polluted. Many stretches of the Damodar and its tributaries resemble large drains carrying black, highly turbid water. The total suspended solid (TSS) count at most places along the upper and middle stretches of the river is 40-50 times higher than the permissible limit. For most part, between Rajrappa, in Hazaribagh district of Jharkhand, and Durgapur in West Bengal, the river carries a film of oil and grease from industrial effluents. Yet it continues to be the main source of water for many areas like North Karanpura to Jharia town. The Karo river in the West Singhbhum is polluted with red oxide from the iron ore mines of Noamundi, Gua and Chiria.

(e) Air Pollution

Mining and allied industries are the main sources of air pollution. Major air polluting industries in the state include thermal power plants, integrated steel plants, coke ovens, fertilizer plants, cement plants, refractories and other miscellaneous industries. Among

the steel plants, Bokaro steel plant recorded the highest emission load of 6.5 MT. Thermal power station and fertilizer plants did not have any electro static precipitator installed. The emission from hard and beehive coke oven plants are about 5.96 MT/ year while cement plants contribute about 1.2 MT/year. Dhanbad known for its rich deposits of coal and hordes of industries is also notorious for being the most polluted city of Jharkhand. In a study carried out by IIT Delhi, Dhanbad stood 13th among the 88 most critically polluted clusters of the country. The region consists of a high density of coal mines (103), coal washeries (8), captive thermal power plants (3), beehive coke oven plants (126), soft coke plants (25), refractory plants (72), coke briquette plants (25), stone crushers (110) and brick kilns (118). The Comprehensive Environmental Pollution Index (CEPI) calculated for the region was an astounding 78.63 (Air - 64.50, water – 59.00 and land – 65.50) and any industrial cluster with CEPI more than 70 is considered critically polluted. According to 2010 ambient air quality report by CPCB, the state has the highest annual average concentration of SO2 at 23µg/m3, followed by Maharashtra and Gujarat. It also ranks second to Delhi in the concentration of PM10 (fine particulate matter smaller than 10 microns). While the maximum annual average concentration in the national capital is 261µg/m3, Jharkhand notches 193µg/m3). And in terms of NO2, Jharkhand stands third with 39µg/m3 after West Bengal and Delhi. On a list of 10 national cities, Jamshedpur tops with an SO2 concentration of 35.4µg/m3. With regard to NO2 Jamshedpur, Dhanbad, Ranchi, Adityapur and West Singhbhum are critical areas.

(2) Laws and Polices

Some of these are:

- Air (Prevention & Control of Pollution) Act
- Forest Conservation Act,1980
- Wildlife Protection Act,1972
- Solid Waste Management Act
- Forest Right Act
- State Water Policy

(3) Environment Sustainability Index (ESI)

Environmental Sustainability Index (ESI) is a comparative analysis of environmental achievements, challenges and priorities among Indian states. ESI measures the potential of states to maintain their environment in the coming decades given the various environmental resources that a state is endowed with. Dimensions of sustainability both as historical conditions and present efforts are mapped through 40 indicators. Jharkhand ranks 27 in environment sustainability index; only Uttar Pradesh is below it signifying huge degradation of the environment.

Indicator	Score	Indicator	Score	Indicator	Score
Population Pressure	-0.41	Air Quality and Pollution	-1.16	Water Quality and Availability	0.02
Landuse and Agriculture	0.32	Forest and Biodiversity	0.20	Energy Management	-0.43
Environmental Budget	-0.62	Waste Generation and Management	-0.16	Impact on Human Health and Disaster	-0.94

Source: http://www.ijsrm.in/v2-i6/12%20ijsrm.pdf, http://ethesis.nitrkl.ac.in/3162/1/sonita.pdf, http://www.jsdmd.in/pdf/JhSDMP24MARCH.pdf, http://www.jharkhand.gov.in/forests, http://www.jspcb.org/, http://www.greenindiastandards.com/jharkand.php?stateid=15

VI. Audit Report: Himachal Pradesh – Social, General and Economic Sectors (non PSU) for the year ended March 2012 -- Hydro Power Development through Private Sector Participation

(1) Background

Power is a critical infrastructural requirement for the socio-economic development of the State and the country as a whole. The basic challenge for the power sector is to provide adequate power at economical cost, while ensuring reliability and quality of supply. Himachal Pradesh is extremely rich in hydropower resources. The State has about 25 % of the national potential in this respect. It has been estimated that about 23,000 MW of hydel power can be generated in the State by construction of various hydel projects on the five perennial river basins.

Recognising the importance of Hydro Power Sector as a key to the prosperity of the State, the State Government formulated its Hydro Power Policy in December, 2006 in order to promote efficient, ecological and environment friendly hydro power generation. The policy stipulated 4 pronged strategy through participation of State Sector, Central Sector, Joint Sector and Private sector in the development of hydro power in the State. As per National Electricity Policy of 2005 (NEP), Government of India (GOI) had laid maximum emphasis for full development of the feasible hydro power potential in the country and launched 50,000 Mega Watt (MW) hydro initiatives to be pursued vigorously. The State Government identified power potential of 23,000 MW through the hydro power sector. Against this, hydro power generation projects having capacity of 10131 MW were sanctioned for execution through Private Sector during 1991-92 to 2011-12.

(2) Audit objectives and criteria

The audit objectives were to ascertain whether:

- planning, identification of project sites; estimation of potential capacity; selection of Individual Power Producers (IPPs) and allotment procedures was efficient and effective;
- the implementation of IPP projects was efficient and effective;
- Effective monitoring mechanism at all levels

Audit criteria were drawn from procedures and impact parameters prescribed in the guidelines issued by the Union Ministry of Power, Union Ministry of Environment and Forests, Central Electricity Authority and the Central Water Commission from time to time relating to development of hydro power projects. Further, the criteria were determined in accordance with the system of allotment of projects as outlined in State's Hydro Power Policy of 2006 and monitoring mechanism prevailing for IPP projects.

(3) Audit findings

- Out of total 559 projects of 10131 Mega Watt (MW) capacity allotted during November 1991 to 2011-12, only 10 % projects with 1805.45 MW were completed and made operational during 1992 to 2011-12.
- Execution of 40 projects having total capacity of 315.35 MW could not progress well and suffered due to the reasons such as non-conduct of feasibility studies, non-approval of Detailed Project Reports by the department and Implementation Agreements (IA) by IPPs not signed within the prescribed time frame.

- IAs' of 27 small projects with aggregated capacity of 95.80 MW were signed between May 2000 and October 2008 but these remained incomplete.
- IPPs of 12 projects had deposited the necessary funds for compensatory afforestation but negligible afforestation was done.
- Plantation activity was highly deficient as in 58% projects no plantation had been done, posing severe hazards both for natural ecology and stabilization of hill slopes.
- As against the target of generation of 10131 MW power through 559 projects allotted to IPPs, the achievement 1805.45 MW only.
- In one out of 16 operational projects sampled, it was observed that river beds had completely dried up and adequate flow of water for sustenance of ecology and nearby groundwater aquifers was not available. In three out of 16 operational projects sampled, real time online continuous flow measurement and data logging device was not installed.
- No authority for management of Hydro Power Projects was established. Resultantly, the required checks over quality of construction and design of projects, safety and management system, release of water downstream etc. remained to be ensured.
- Though there was a provision to provide minimum 70% employment to bonafide Himachalis in the projects to be set up by IPPs, yet no efficient monitoring system existed to ensure compliance of the said provision.
- Multi-disciplinary committee under the chairmanship of the Chief Minister was to be constituted to monitor issues arising during the implementation of the projects such as employment related monitoring, relief and rehabilitation, implementation of Catchment Area Treatment Plan, Environmental Management Plan, restoration of facilities which got damaged because of implementation of the projects, quality control mechanism of the project, etc. but it was observed that such committee was not constituted in the State. The lackadaisical approach in this respect resulted in raising a number of local issues which halted the progress of projects.

(4) Audit recommendations

Major audit recommendations are as under:-

- Studies may be conducted with due diligence so that reliable data can be obtained for computation of power potential of projects.
- A high power Committee may be constituted at the State level to monitor the issues arising during the implementation of the projects, review the progress of local area development schemes and implementation of environment management plans for overall efficient execution of projects.
- The Department of Power/ Directorate of Energy of the State Government may be strengthened through creation of in-house expertise and capacity building in basic and core areas of functioning and reduce engagement of consultants.

Source:
saiindia.gov.in/english/home/Our_Products/Audit_Report/Government_Wise/state_audit/recent_reports/Himachal_Pradesh/2012/Report_2/Chap_1.pdf

VII. International Audit Report: USA: EPA Needs Better Information on New Source Review Permits

(1) Background and purpose of audit

Electricity generating units that burn fossil fuels supply most of the nation's electricity and are major sources of air pollution. Under

the Clean Air Act, the Environmental Protection Agency (EPA) establishes national ambient air quality standards for six pollutants which states, primarily, are responsible for attaining. States attain these standards, in part, by regulating emissions of these pollutants from certain stationary sources, such as electricity generating units. Numerous Clean Air Act requirements apply to electricity generating units, including New Source Review (NSR), a permitting process established in 1977. Under NSR, owners of generating units must obtain a preconstruction permit that establishes emission limits and requires the use of certain emissions control technologies. NSR applies to (1) generating units built after August 7, 1977, and (2) existing generating units—regardless of the date built—that seek to undertake a "major modification," a physical or operational change that would result in a significant net increase in emissions of a regulated pollutant. Units built before August 7, 1977, are not required to undergo NSR unless they undertake a major modification. However, EPA's regulatory definition of major modification excludes certain activities; generating units can undertake these activities without obtaining NSR permits or installing any additional controls. Congress allowed units that existed as of August 7, 1977 to defer installation of emissions controls until they made a major modification in the expectation that, over time, all units would either install such controls or shut down, thereby lowering overall emissions. Many older units—those that began operating in or before 1978—continue to produce electricity. A substantial number of these older units did not have emissions controls. 1,201 units (74 percent of older units) did not have controls for sulphur dioxide. In addition, 564 units (38 percent of older units) did not have any controls for nitrogen oxides, and 1,277 units (86 percent of older units) had not installed selective catalytic reduction (SCR) equipment, the type of control most effective at reducing nitrogen oxides. Throughout its history, NSR has been characterized by complexity and controversy, involving disputes between EPA and industry about, among other issues, whether certain changes to generating units qualified for exclusion as routine maintenance, repair, and replacement. In December 2002, EPA finalized revisions to NSR regulations, including exemptions for certain pollution control projects from NSR. These revisions were intended to maximize operating flexibility, improve environmental quality, and promote administrative efficiency, among other aims. In addition, in October 2003, EPA finalized a rule that categorically excluded certain activities from NSR by defining them as "routine maintenance, repair, and replacement." This rule was intended to provide more certainty to generating units and permitting authorities. These NSR reforms, as the two rulemakings were known, provoked considerable controversy. Since their issuance, two of the five provisions in the 2002 rule, as well as the 2003 rule, were struck down in court. As with many environmental laws, responsibility for implementing NSR, including issuing NSR permits, generally rests with state and local agencies, with oversight by EPA's 10 regional offices and EPA headquarters.

(2) Audit objective, scope and criteria

Objectives were to examine:

- what information EPA maintains on NSR permits issued to fossil fuel electricity generating units;

- challenges, if any, that EPA, state, and local agencies face in ensuring compliance with requirements to obtain NSR permits; and
- what available data show about compliance with requirements to obtain NSR permits

To assess what information the Environmental Protection Agency (EPA) maintains on New Source Review (NSR) permits issued for fossil fuel electricity generating units, information was gathered from EPA and selected states on the status of their NSR permitting programs and efforts to collect and maintain permitting data. A nonprobability sample of nine states on the basis of (1) the number of older electricity generating units in the state; (2) the quantity of electricity generated by such units in those states; (3) the volume of sulphur dioxide, nitrogen oxides, and carbon dioxide emitted by units in those states; and (4) the region in which the generating unit was located.

(3) Key findings

- EPA does not maintain complete information on NSR permits issued to fossil fuel electricity generating units. State and local permitting agencies track the NSR permits they issue, but EPA does not maintain data on these permits in a complete and centralized source of information, which limits the agency's ability to assess the impact of NSR. Because EPA does not maintain comprehensive information on the NSR permits issued to fossil fuel electricity generating units across the nation, the agency does not have complete data on which units have obtained permits, limiting its ability to assess the scope and impact of NSR. Without such data, EPA cannot fully assess what controls have been required or estimate what emissions from generating units may have been averted as a result of NSR requirements. In addition, the absence of information on NSR permits hinders EPA's ability to efficiently target noncompliance.
- EPA does not track whether state and local permitting agencies incorporate the agency's comments into final NSR permits for fossil fuel electricity generating units. State and local permitting agencies have the authority to make final permitting decisions, but as part of its oversight responsibilities, EPA has the opportunity to review and comment on every draft NSR permit submitted by state and local permitting agencies.
- EPA and state and local agencies face other challenges in ensuring that owners of fossil fuel electricity generating units comply with requirements to obtain NSR permits. Many of the challenges stem from two overarching issues: (1) determining whether an NSR permit is required and (2) identifying instances where unit owners should have obtained NSR permits but did not. As a result, EPA's enforcement efforts involve long, resource-intensive investigation.
- Available data, while not complete, suggest that a substantial number of generating units have not complied with requirements to obtain NSR permits. Complete data on NSR compliance do not exist for two primary reasons. First, EPA has not yet investigated all electricity generating units for compliance with requirements to obtain NSR permits. Second, NSR compliance is determined at a point in time, and EPA's interpretation of compliance has, in some cases, differed from that of federal courts. Nonetheless, EPA has investigated a majority of coal-fired generating units, and data from these investigations suggest that a substantial number of generating units have not complied.
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(4) Recommendations

It was recommended that the EPA Administrator direct the entities responsible

for implementing and enforcing NSR—specifically, the Office of Enforcement and Compliance Assurance, Office of Air Quality Planning and Standards, and EPA regions—to take the following two actions:

- Working with EPA regions and state and local permitting agencies, consider ways to develop a centralized source of information on NSR permits issued to fossil fuel electricity generating units, and
- Using appropriate methods, such as sampling or periodic assessments, develop a process for evaluating the effects of its comments on draft NSR permits.

Source:
http://www.environmental-auditing.org/Portals/0/AuditFiles/USA_f_eng_EPA-Review-of-New-Source-Permits.pdf