



Green Files

Newsletter on environment audit and sustainable development issues
International Centre for Environment Audit and Sustainable
Development (iCED)

Green Files, a quarterly newsletter compiled by iCED Jaipur, is meant for circulation in IA&AD. 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 from across India; 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. Doha Climate Change Conference - November 2012

The 18th session of the Conference of the Parties (COP 18) to the United Nations Framework Convention on Climate Change (UNFCCC) and the 8th session of the Conference of the Parties serving as the Meeting of the Parties (CMP 8) to the Kyoto Protocol took place from 26 November to 8 December 2012 at Doha, Qatar. Seeking to control global warming, nearly 200 countries agreed to extend the Kyoto Protocol, a treaty that limits the greenhouse gas output of some rich countries, but will only cover about 15 % of global emissions. The results of COP18/CMP8 are discussed below:

1) Amendment of the Kyoto Protocol

Kyoto Protocol, as the only existing and binding agreement under which developed countries commit to cutting greenhouse gases, was amended so that it will continue as of 1 January 2013 for another 8 years. Countries that are taking on further commitments under the Kyoto Protocol agreed to review their emission reduction commitments at the latest by 2014. The Kyoto Protocol's Market Mechanisms - the Clean Development Mechanism (CDM), Joint Implementation (JI) and International Emissions Trading (IET) – were to continue as of 2013.

2) Time table for the 2015 global climate change agreement and increasing ambition before 2020

Governments agreed to speedily work toward a universal climate change agreement covering all countries from 2020, to be adopted by 2015, and to find ways to scale up efforts before 2020 beyond the existing pledges to curb emissions so that the world can stay below the agreed maximum 2 degrees Celsius temperature rise.

3) Completion of new infrastructure

The Green Climate Fund is expected to start its work in Songdo in the second half of 2013, which means that it can launch activities in 2014. Governments also confirmed a UNEP-led consortium as host of the Climate Technology Center (CTC), for an initial term of five years. The CTC is the implementing arm of the UNFCCC Technology Mechanism.

4) Long-term climate finance

Developed countries reiterated their commitment to deliver on promises to continue long-term climate finance support to developing nations, with a view to mobilizing 100 billion USD both for adaptation and mitigation by 2020. Germany, the UK, France, Denmark, Sweden and the EU Commission announced concrete finance pledges in Doha for the period up to 2015, totaling approximately 6 billion USD.

5) Other key outcomes of COP18/CMP8 in Doha

- Governments agreed to launch a robust process to review the long-term temperature goal. This will start in 2013 and conclude by 2015, and is a reality check on the advance of the climate change threat and the possible need to mobilize further action.
- Governments identified ways to further strengthen the adaptive capacities of the most vulnerable, also through better planning.
- Governments completed a registry to record developing country mitigation actions that seek recognition or financial support. The registry will be a flexible, dynamic, web-based platform.
- A work programme was agreed to further elaborate the new market-based mechanism under the UNFCCC, and also sets out possible elements for its operation.
- Governments further clarified ways to measure deforestation, and to ensure that efforts to fight deforestation are supported.

The next major UN Climate Change Conference - COP19/ CMP9 - will take place in Warsaw, Poland, at the end of 2013.

(Source:

http://unfccc.int/meetings/doha_nov_2012/meeting/6815.php ; <http://unfccc.int/2860.php>)

II. Environment Case law in India: Tarun Bharat Sangh, Alwar vs Union Of India and Others, October, 1991

1) Background of the case

The petitioner, Tarun Bharat Sangh, Alwar, brought a public interest action for the enforcement of certain statutory notifications promulgated under the Wild Life, Environmental Protection and Forest Conservation Laws in areas declared as a Reserved Forest in Alwar District of the State of Rajasthan. The area, now popularly known as Sariska Tiger Park was an exclusive hunting forest of the rulers of the Quondam, Alwar State. The area was declared as a Game Reserve under the Rajasthan Wild Animals & Birds Protection Act, 1951, was notified as a Reserved Forest and was declared as a sanctuary under Section 35 of the Wild Life Protection Act, 1972. The direct effect of these notifications was to impose restrictions on the carrying on of any activity in the protected area which would impair environment and wild life. Its intent is also to prevent any mining activity in the protected area.

The petitioners alleged that despite these notifications and the clear mandate against carrying on of mining operations in this Protected Area both in the core and buffer zones, Government of Rajasthan had, illegally and arbitrarily, issued about 400 mining privileges to various persons enabling them to carry on

mining operations of lime and dolomite stones inside the Protected Area and that consequently deep-cast mines were operated to extract marble by blasting, drilling, chiseling etc., which degrade and diminish the ecology of the area, besides constituting a threat to the habitat of wild life.

The State of Rajasthan in its counter suggested that the grant of the mining privileges might possibly be the result of some confusion as to the exact boundaries of the reserved-forest and the National Park and the exact location of the areas of the mining operations. But the State ultimately seemed to acknowledge that the mining areas were within the Protected Area and that appropriate action to enforce the statutory notifications was necessary.

In these proceedings, the Zila Khaniz Udyog Sangh, said to be a representative body of the mining operations of the area, sought impleadment¹ which was allowed by the Court. The stand of the Zila Khaniz Udyog Sangh was that the notification under Section 29(3) of the Rajasthan Forest Act, 1953, declaring Sariska as a protected forest itself contemplated doubts as to the statutory entitlement of the State to promulgate such notification without an enquiry as to "the nature and extent of the rights of the State Government and of private persons in

or over the forest land or waste land comprised therein".

2) Judgment of the Court

The Court stated the following:

- The purpose of the notification declaring the area as a Game Reserve under the Rajasthan Wild Animals and Birds Protection Act, 1951; or the declaration of the area as a sanctuary under the Wild Life (Protection) Act, and protected forest under the Rajasthan Forest Act, 1953 was to protect the forest wealth and wild life of the area. It is, indeed, odd that the State Government while professing to protect the environment by means of these notifications and declarations should, at the same time, permit degradation of the environment by authorizing mining operations in the protected area.
- Referring to the high purpose of the measures for protection of environment and ecology, the Court stated: The State to which the ecological imbalances and the consequent environmental damage have reached is so alarming that unless immediate, determined and effective steps were taken, the damage might become irreversible. The preservation of the fauna and flora, some species of which are getting extinct at an alarming rate, has been a great and urgent necessity for the survival of humanity and these laws reflect a last ditch battle for the restoration, in part at least, a grave situation emerging from a long history of callous insensitiveness to the enormity of the risks to mankind that go with the

¹ Inclusion of a third party

deterioration of environment. The tragedy of the predicament of the civilized man is that "Every source from which man has increased his power on earth has been used to diminish the prospects of his successors. All his progress is being made at the expense of damage to the environment which he cannot repair and cannot foresee".

- Environmentalists' conception of the ecological balance in nature is based on the fundamental concept that nature is "a series of complex biotic communities of which a man is an inter dependant part" and that it should not be given to a part to trespass and diminish the whole. The largest single factor in the depletion of the wealth of animal life in nature has been the "civilized man" operating directly through excessive commercial hunting or, more disastrously, indirectly through invading or destroying natural habitats.

- This litigation should not be treated as the usual adversarial litigation. Petitioners are acting in aid of a purpose high on the national agenda. Petitioners concern for the environment, Ecology and the Wild Life should be shared by the Government. It is of utmost importance that the law sought to be effectuated through these notifications should be enforced strictly.

- Zila Khaniz Udyog Sangh cannot claim any private rights in or over the Forest land.

- Having regard to all the circumstances of the case, a Committee consisting of the authorities of the State

charged with the duty of enforcing the statutory measures and some experts in the field under the Chairmanship of a retired Judge is to be constituted. The task of the Committee primarily is to ensure the enforcement of the notifications and the orders of this Court, and to prevent devastation of the environment and wild life within the protected area.

- The Committee shall ensure that appropriate authorities of the Government of Rajasthan enforce the notifications issued under the various laws for the protection of the forest and wild life in the protected area strictly. The Committee shall have, through the appropriate officers and authorities of the Government of Rajasthan the boundaries of the protected area and more particularly such boundaries in relation to the areas over which mining leases are granted and where mining operations are said to be going on, precisely demarcated. This shall be done as expeditiously as possible and, in any case, not later than 15-12-1991. The Committee shall independently gather information regarding areas where mining is going on from the records of the concerned Departments of the Government of Rajasthan.

- No mining operation of whatever nature shall be carried on within the protected area. The Committee shall ensure the obedience, enforcement and implementation of this order by all the concerned authorities. However in order that the problems and controversies turning on the precise demarcation of

the protected area are sorted out and that the rights and interests of those mining privilege-holders who are not carrying on their operations within the protected area are not adversely affected, till the demarcation of the area, prohibition under the interlocutory order banning mining operations in the protected area be strictly enforced with effect from 31-12-1991.

- The Committee shall assess the damage done to the environment, ecology and Wild Life by the mining activity carried on in the protected area and make appropriate recommendation to this Court as to the remedial measures.
- During the pendency of the writ petitions or until further orders, as the case may be, the State of Rajasthan is prohibited from granting any mining leases or renewals thereof in respect of the protected area.

Thus, the court played a significant role in curbing mining activities in protected areas for protection of biodiversity existing in these protected areas. It brought enjoyment of life and its attainment including the right to life with human dignity, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation within the ambit of Section 21. The role of the State in maintenance of ecological balance and hygienic environment was emphasised. However, illegal mining still continues in non-protected areas but are rich in forest and biodiversity.

In 2013, the Supreme Court issued a notice to the Rajasthan and Haryana governments on a petition that illegal mining was continuing in the states despite the court's ban. The petitioner, NGO Society for Awareness and Development, stated that despite the 2005 and 2010 bans, illegal mining was also going on unabated in 11 villages of Tijara and Bhiwari tehsils of Alwar district in Rajasthan. The court will take up the case in June 2013.

(Source: <http://indiankanoon.org/doc/964102/>; www.lead-journal.org/content/10335.pdf; www.nlsenlaw.org)

III. E-waste Management and Handling Rules 2011: a critical analysis

E-waste consists of waste from electronic and electrical appliances which have reached their end-of-life period or are no longer fit for their original intended use and are destined for recovery, recycling or disposal. It includes computer and its accessories- monitors, printers, keyboards, central processing units; typewriters, mobile phones and chargers, remotes, compact discs, headphones, TVs, air conditioners, refrigerators etc.

1) Generation of E-waste in India

Central Pollution Control Board (CPCB) has estimated generation of e-waste will exceed the 8 lakh tonnes by 2012. India, at present, generates about 400,000 tonnes of e-wastes

annually of which only 19,000 tonnes are recycled, according to the recent data by Manufacturers' Association for Information Technology (MAIT). There are 10 States that contribute to 70 % of the total e-waste generated in the country, while 65 cities generate more than 60 % of the total e-waste in India. Among the 10 largest e-waste generating states, Maharashtra ranks first followed by Tamil Nadu, Andhra Pradesh, Uttar Pradesh, West Bengal, Delhi, Karnataka, Gujarat, Madhya Pradesh and Punjab. Among the top ten cities generating e-waste, Mumbai ranks first followed by Delhi, Bengaluru, Chennai, Kolkata, Ahmedabad, Hyderabad, Pune, Surat and Nagpur. The main sources of electronic waste in India are the government, public and private (industrial) sectors, which account for almost 70 % of total waste generation. The contribution of individual households is relatively small at about 15 %.

2) Impact of hazardous substances on health and environment

The waste from electronic products includes toxic substances such as cadmium and lead in the circuit boards; lead oxide and cadmium in monitor cathode ray tubes (CRTs); mercury in switches and flat screen monitors; cadmium in computer batteries; brominated flame retardants on printed circuit boards, plastic casings, cables and PVC cable insulation etc. Many of these

substances are toxic and carcinogenic. The Basel Convention on the Control of the Trans-boundary Movement of Hazardous Waste and Their Disposal was adopted in 1989 and came into force in 1992 for the purpose of protecting human health and the environment against the adverse effects resulting from the generation, management, trans-boundary movement and disposal of hazardous and other wastes. Originally, it did not mention e-waste, but later it addressed the issues of electronic waste along with end-of-life ships at the Conference of the Parties of the Basel Agreement in late 2006.

3) E- Waste: a trans-boundary issue

Awareness of health and environmental impacts posed by poor disposal methods adopted for e-waste has been the basis of global action leading to the tightening of laws and regulations. This has, in turn, triggered an increase in the cost of hazardous waste disposal through safer means, compelling many countries to search for more economically viable ways of disposing waste abroad. As a result, many developed countries export hazardous wastes including electronic wastes to the developing countries. Illegal export becomes possible when environment and occupational regulations are non-existent, minimal, lax or not well-enforced, as they are in some developing countries. Low

labour costs in these countries also provide the impetus for the export in wastes. Exporting e-waste is more lucrative for the exporter country than recycling or disposing it within the country.

So far, India has been the destination of hazardous wastes like mercury, electronic and plastic wastes from the United States; asbestos from Canada; and scrap metals such as cadmium, chromium, cobalt, antimony, hafnium and thallium from Germany, Denmark, the Netherlands, the United Kingdom, Belgium and Norway.

4) E waste rules in India

Increasing malpractices and absence of a regulation specifically for e-waste triggered the need for the e-Waste Rules (2010) which were further amended by Ministry of Environment and Forest (MoEF) in 2011. The Draft Rules on E Waste (Management and Handling) 2011 have been published by Ministry of Environment and came into effect from 1st May 2012.

The rules lay down the responsibilities for various stakeholders from the producers to the collection centers, consumers/bulk consumers, recyclers, refurbishers as well as dismantlers for the cradle to grave management of the wastes.

- One of most conspicuous feature of the rules is the addition of a clause on the 'Extended Producer Responsibility (EPR)' which holds producers responsible for their products beyond manufacturing until the environmentally sound

management of their end of life products is achieved. EPR² is perceived to be a welcome move since now producers will be held accountable for the entire life cycle of products and will also take initiatives to introduce changes in product design and technology for efficient and environment friendly treatment and disposal. Making the producers financially responsible for the management of 'end of life' of its own products will also encourage them to use less hazardous and more eco-friendly materials in the manufacturing.

- Another significant issue that the Rules deals with is the management and disposal of historical products (products present in the market prior to the enforcement of rules) and orphan products (non-branded or assembled). The non-branded/assembled products or products from the grey market are cheaper, used on a large scale and comprise a large proportion in the waste stream. The Rules have designated Urban Local Bodies (ULBs) with the responsibility to collect and channelize the orphan products to the authorized collection centres, dismantlers or recyclers.

- The E-Waste Rules (2011) also ban the use of hazardous chemicals namely lead, cadmium, mercury, hexavalent chromium, PBB and polybrominated diphenyl ethers (PBDE). The banning of these chemicals will facilitate safer and easier disposal of wastes.

5) Critical Analysis of the Rules

² The Performance of EPR all over the world has been mixed, with it succeeding more in EU countries.

Although inclusion of EPR is touted to be one of the key features of the Rules, it has a number of loopholes. The Rules do not specify how many collection centres companies manufacturing electronic products should set up in every city for getting back their products. Also for effective implementation of EPR, Rules should have fixed some tangible figures for companies to collect their products back, say a company should collect at least 5% of their products sold by 2012-13, similarly 10% by 2014 and so on. But this is completely missing from the Rules. The Rules simply talks about financing and organizing a system for environmentally sound management of e-waste without any mechanism to check how this system would be put to practice.

- It is also not mentioned in the Rules the penalty to be imposed if EPR is not followed by companies strictly. The Companies simply have to fill Form 2 giving details of the e-waste handled or generated by them and Form 3 for filing annual returns. EPR is not binding on the producer which puts a question mark on its effective implementation.
- The Rules also do not specify if the producer can charge any visible or invisible fee to get back the products for recycling.
- Regulatory bodies have been allotted several responsibilities right from authorization and registration to monitoring and implementation of the law. However, regulatory bodies of many states/UTs lack capacity and are also overburdened with other responsibilities.

- The urban local bodies or municipalities suffer from lack of manpower, expertise and resources.
- Rules should mention that the agencies, organisations having expertise can be engaged in streamlining the entire e-waste management process. The Public Private Partnership (PPP) model which is currently practiced for Municipal solid waste management, hazardous waste management can also be put into practice.
- No development of standards and benchmarks for safe disposal has been set.
- The Rules do not provide stringent guidelines to ensure the ban on import and export of electronic wastes. This restriction on imports of hazardous wastes for the purpose of recycling and disposal is an important clause of the Basel Convention complied by most countries. But the draft Rules fail to prohibit the ban on imports. The unchecked import and export of these wastes results in the landing of these wastes in the informal sectors for recycling and dismantling. Recyclers work in unsafe and dingy conditions without masks, gloves and necessary precautions. Every little component that can be sold is recovered without considering the damage to health of the workers or the environment. A rigorous clause on import should thus be added in the rules to check the illicit trade.
- A clause on technology based licensing is also missing from the Rules. For recycling which is done at the last stage

of e-waste management, the agencies need to acquire licenses from the PCBs/PCCs. Licenses given should be based on the technology used by the recyclers since recycling of electronics involves processes such as metal extraction which can have adverse effect on humans.

- Cities do not have any proper system for quantification of electronic waste. There are now proper recycling technologies used by registered recyclers to recover material including precious metals. However, recycling processes are also carried out also in informal units in enclosed area where recyclers and workers are not aware about occupational hazards. In informal sector, due to lack of available recycling technology, the process of e-waste for recycling is done by open burning, acid bath and other hazardous methods. This issue also needs addressing to reduce adverse health and environmental impacts from recycling taking place in the informal sector.

Conclusion

The Rules emphasizes on the need for a whole new infrastructure like collection centers, facilities for storage, segregation, refurbishing, authorized recycling and dismantling agencies, etc., which are poised to open doors for a range of employment opportunities. The clause on eradication of lethal components from the products will usher towards research and creating new horizons for development in the country. Apart

from the regulators and stakeholders, consumers should also realize the importance of managing e-waste. The need of the hour is also a proper implementation and monitoring of the Rules to ensure sustainable production, environmental safety, resource conservation and health safety issues involved in management of e-waste.

(Source: National Journal of Medical Research, E-waste: Will the Draft Rules work? By Center for Science and Environment, E-waste in India: Report of the Rajya Sabha Secretariat, moef.nic.in)

IV. Snapshots: Environment news

Jammu and Kashmir (J&K) state action plan on climate change formulated

State Action Plan for Climate Change (SAPCC) seeks to address the commitments of J & K by formulating action plan containing both adaptation & mitigation measures to cope with the climate change impacts. The State Action Plan for Climate Change broadly covers 10 sectors/mission namely power, water, sustainable habitat, sustainable agriculture, tourism, sustainable Himalayan ecosystem, health, disaster management, solar mission, and renewable energy & enhanced energy efficiency.

Barapullah road extension in New Delhi set to be eco-friendly

The extension of the elevated Barapullah road will pioneer several environmentally sustainable engineering concepts. The Public

Works Department has finalized an elaborate plan modeling it on the lines of an environmentally sustainable project.

Shah report erred in valuation of illegal mining in Goa

The main contention of the affidavit filed by the state government before the Supreme Court is that Shah Commission report has erred in its valuation of illegal mining in Goa, putting the blame squarely on the Global Positioning System for inaccurate measurements, thereby justifying the mining carried out earlier.

EU budget deal for farmers raises wildlife concerns

The European Commission is fighting a rear guard action to force farmers to work in a way that benefits the environment. The Commission, which drafts EU laws, proposed that farmers should have to "earn" a third of their subsidies by protecting wildlife better.

Green Tribunal summons Pallavaram Municipal Commissioner

The National Green Tribunal (NGT), Southern Bench, directed the Pallavaram Municipal Commissioner to appear before it and explain why the civic body continues to dump waste in 'Periya Eri' (lake) in spite of an interim order against it.

Air pollution 5th largest killer in India

Air pollution has jumped to number five spot amongst the top killers in India. Releasing India-specific data,

the Global Burden of Disease (GBD) warned that outdoor air pollution caused 627,000 deaths and 17.7 million healthy years of life lost in 2010. Worldwide, outdoor air pollution caused 3.2 million premature deaths and over 74 million years of healthy life lost in 2010.

Eco-friendly master plan for SmartCity

Kochi: With the master plan of the SmartCity project entering the final phase, the project seems to be turning greener. The first draft proposed 40% open space, now Smart-City authorities have asked designers to set apart 70% of the project land for open space in the final plan. According to sources, the SmartCity authorities want the project to be an eco- friendly one.

16 eco-sensitive zones proposed in Maharashtra

Activities such as commercial mining and setting up saw mills, large hydroelectric projects and pollution-causing industries may soon be banned in the eco-sensitive zones around the main sanctuaries in the state, including the Tadoba-Andhari tiger reserve, Melghat tiger reserve and Sanjay Gandhi national park in Mumbai.

40 birds, fishes found dead in Jamnagar's Lakhota lake near Jamnagar

Large number of birds and fishes were found dead in Lakhota lake in the city on Friday. According to sources,

besides nearly 40 birds, fishes, a snake and turtles have also died. While the exact reason for their deaths is not immediately known, it is suspected that they died after consuming something poisonous. The birds found dead included pelicans, spot-billed ducks etc.

Cabinet nod to ₹ 900 crore wetlands development plan

Aiming at the holistic conservation and restoration of lakes and wetlands to enhance water quality and improve biodiversity, the cabinet Thursday approved a ₹ 900 crore scheme for a new integrated National Plan for Conservation of Aquatic Eco-systems (NPCA). The Cabinet Committee on Economic Affairs approved the proposal for the merger of National Lake Conservation Plan (NLCP) and National Wetlands Conservation Programme (NWCP) into the NPCA. At present, the environment and forests ministry implements the two separate schemes for conservation of lakes and wetlands.

Development drying up lakes in Hyderabad, outskirts

Hyderabad city, once known for its natural and man-made wetlands no longer boast of these features, thanks to the consumer society that has led to extensive depletion of these swamplands. Wetlands are the best sources of drinking water; they can also be used as percolation tank. Wetlands help in recharging aquifers

and also hold good recreation values and attract many birds and aquatic animals. Wetlands across the city are disappearing rapidly and one of the main reasons for this is pollution caused by waste.

India named least green country for electric cars

Coal-dependent power generation sees India bottom of a ranking for emissions from electric cars, with Paraguay top. Paraguay is the greenest place on earth to make and drive an electric car, according to analysis by independent research group, Shrink That Footprint, which has assessed the impact of grid-powered electric vehicles in twenty of the world's leading countries.

Green spots to be reclassified as industrial zones

In a move that will bring down the city's green cover to a mere 3%, the Chennai Metropolitan Development Authority (CMDA) has decided to reclassify several green zones as industrial zones in the suburbs. Noombal village in Ambattur and several areas in Thiruverkadu that are under threat from rampant real estate development are being reclassified. The concept of protected green belts with construction and development norms was introduced to maintain greenery and reduce pollution.

Environment ministry sets up panel to study legal cover for elephant habitats

The environment ministry has constituted a committee to review how elephant reserves and corridors across the country can get a higher level of legal protection under existing green laws. The move comes after concerns were raised within the National Board for Wildlife about lack of legal cover for elephant reserves and corridors against changes in the vast landscapes that pachyderms occupy in the country.

Karnataka to build geo database for mapping mineral zones

The Karnataka government has embarked on a project to build a geo database on GIS application system for mapping mineralized zones, developing mineral atlas, data on existing leases, which will be helpful to process mining applications online. The department of mines and geology has undertaken this project. Under this project, up to the end of October 2012, the department has completed digitization of 4,500 leases for various minerals in the state, the government said in the Economic Survey of Karnataka for 2012-13.

Only 2 GIBs spotted during Ajmer survey in February, 2013

Owing to massive mining in the Sokhliya grassland of Nasirabad block of Ajmer, only two Great Indian Bustards were spotted in the survey which ended on Monday night. In 1990s, more than 75 bustards were spotted here. The department is preparing to restore the habitat of

these birds after which it will conduct the second phase of the survey in June. Around 35 teams of forest department were out in the region all long day to spot the state bird (GIB).

Blackbucks face perils of development in Gujarat

Gujarat's first cable-stayed bridge built over a sea creek in Bhavnagar may have helped the business boom with better connectivity to the city. But, barely 14 kms away, the road connecting this bridge is turning into a graveyard for the endangered blackbucks around the Velavadar Blackbuck National Park. Over the last one month, speeding vehicles have killed seven blackbucks on the five-km stretch between Khetakhatli to Kalatalav village.

(Source: <http://www.indiaenvironmentportal.org.in>)

V. State in Focus: Jammu & Kashmir

J&K, the northern most state of India, comprising three distinct regions of Jammu, Kashmir and Ladakh, has an area of 2,22,236 Sq. kms with a population of over 10 million people. It is rich in the diversity of flora and fauna in the forest areas, and domesticated species outside the forest. Plant diversity is the life support of almost all terrestrial eco-systems, with both humans and animals being entirely dependent on plants directly or indirectly. Some of the environmental threats being faced in the state are discussed below.

1) Air Quality deterioration

Motor vehicles emit untreated emissions into the atmosphere. Although the State has been declared as an Air Pollution Control Zone under Section 19 of Air pollution Act of 1981 but this has not been implemented. The mango crop at RS Pora is being affected by the use of high Sulphur content coal imported from other states in the nearby brick kilns. Motors vehicles which are driven out of Delhi due to the EURO I, II III restrictions are registered in the State which has added another dimension to air pollution problem. There is no data available about ambient air quality and the air quality existing at various important places, tourist spots etc. The air quality at the National Highway-1A between Jammu and Srinagar has not been analyzed as the heavy vehicle traffic carrying food articles have not been analyzed. This has led to damage to crops and vegetation apart from creating vibration all along the highway triggering heavy landslides.

2) Water pollution

There is no water resources ministry in the State and no institutional water resource management. There are no sewage treatment plants and the entire effluents, both municipal and industrial waste water, find their way directly into water resources. It is becoming increasingly difficult to meet the requirements of water for drinking, irrigation, industry and

power. A study conducted by the Directorate of Environment & Ecology, published by the Survey of India in early seventies, had revealed that there were as many as 1248 lakes, water bodies, and wetlands of variant sizes in the State. Many of these water bodies might have become extinct and turned into ponds by now due to various environmental factors. The gradual disappearance of lakes of the State is an area of concern for the Department. The main river systems of the State comprising Jhelum, Chenab and Ravi are fast deteriorating in quality and quantity of water. Jhelum River, the life line of the Valley of Kashmir, is getting silted due to its fast eroding catchment and is also becoming polluted due to ever increasing human settlement along its banks.

3) Increased Tourism

The most serious environmental threat to J&K is the accelerating deterioration of the most picturesque wilds of the State in the recent years. The State, in its enthusiasm to develop and promote tourism, has been urbanizing the forested watersheds of the State. This development is punishing and eating into the pristine glory of the magnificent Valley of Kashmir & Jammu Province.

4) Lack of Land use Policy

There is no land use policy for the State. Over the years, fertile agricultural land has been converted into urban slums and industrial areas.

Similarly, dryland agriculture has been converted into horticultural orchards and most of the forests adjoining villages have been encroached upon and turned into dry land agricultural lands

5) Dismal Waste Management

The solid waste management position is dismal in the state. There is no proper scientific disposal of the solid waste both domestic, industrial as well as construction waste. The quantification is yet to be done in a proper way. The dumping site at Achan, Srinagar is in very bad shape and the nearby population is affected by the continuous foul smell emitting from the site. Solid waste is being dumped on the left and right banks of river Tawi and some at the dumping site at Chatha. Dumping sites are not suitably and scientifically managed. At other districts in the State also there is no proper scientific disposal of solid waste, neither any quantification has been under taken in this behalf.

6) Threats to biodiversity

Forests in the state cover an area of 20230 Sq. kms., which is 19.95% of the total geographical area of the State. The Jammu region has forest area in 45.89% of its geographical area and the Valley of Kashmir has forest area of 50.97% of its geographical area. The Ladakh region has practically no forest (Forest Statistical Digest, 1992). The Pine forests of Jammu region have been heavily and continuously

tapped for resin extraction for the last more than three decades. The ever increasing grazing pressure on the forest lands, particularly in the alpine pastures and subtropical belt have deteriorated and depleted the forests rendering unfit for sustaining a staggering livestock population of 100 lakhs.

The fauna of Jammu and Kashmir is diverse due to its unique location and climatic condition. About 16% of the Indian mammals, birds, reptiles, amphibians and butterflies are presented in the state. Birds contribute much to the chordate diversity following by mammals, reptiles, fishes and amphibians. The Trans Himalaya region (Ladakh and Tibetan Plateau) contain more than 300 avian species, 4 globally threatened species and 3 restricted range species. Carnivores represent 32% of the total mammalian fauna in the state. Of the 19 species of the ungulates reported from the state, 13 have been listed as globally threatened.

7) Environment Legislation in Jammu & Kashmir

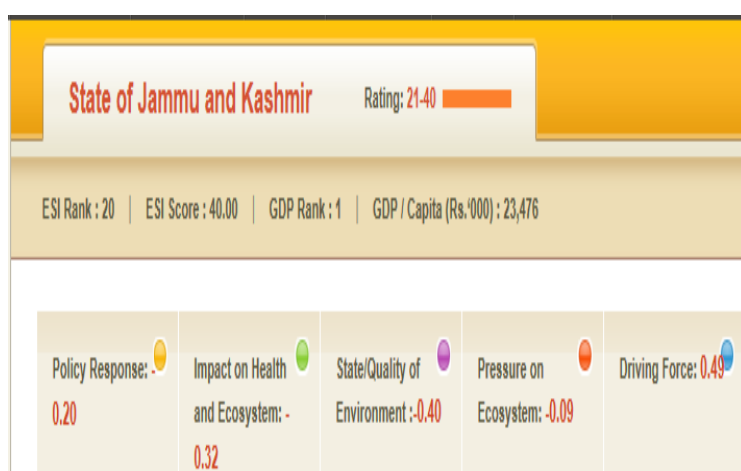
Some of the environment legislation relevant to Jammu & Kashmir are:

- Forest Policy 2011
- The Air (Prevention and Control of Pollution) Act 1981
- The Environment (Protection) Act, 1986

- The Jammu And Kashmir Forest Act, 1987
- The Jammu and Kashmir Forest (Conservation) Act, 1997
- The Jammu and Kashmir Forest (Protection) Force Act, 2001
- The Jammu and Kashmir Wildlife (Protection) Act, 1978
- The Jammu and Kashmir Preservation of specified trees act, 1969
- The Biological Diversity Act, 2002
- The Water (Prevention And Control Of Pollution) Act, 1974

Environment Sustainability Index (ESI) for Jammu & Kashmir

Environmental Sustainability Index (ESI) is a comparative analysis of environmental achievements, challenges and priorities among Indian states. It is designed to sensitize, inform and empower citizens and policy makers. It aggregates



quantitative data on states' initial endowment and resource use trajectory, magnitude of pollution and its impact on human health &

ecosystem vitality, policy & societal response to maintain and improve present environmental conditions into a composite index that provides the overall picture of state-level sustainability. Dimensions of sustainability both as historical conditions and present efforts are mapped through 40 indicators. J&K State falls in the least sustainable (bottom 20 percentile) state with a ranking of 20th out of 28 states.

(Source:

http://www.jkforest.com/jkf/files/act_rules.html
<http://jkenvis.nic.in/>;
<http://www.greenindiastandards.com/jammu-kashmir.php?stateid=14>)

VI. Audit Report OF Jammu and Kashmir for the year ended 31st 2011 (Management of Dal Lake)

Jammu and Kashmir in the northern reaches of India is gifted with numerous water bodies, Dal Lake being the most famous among them. Conservation of these water bodies has been a serious challenge for the State Government due to large scale encroachments, non-availability of funds and improper management. Although some progress has been made in the scientific management of the Dal Lake, other lakes in the valley have remained largely ignored.

The performance review on 'Conservation and Management System of Lakes in Jammu & Kashmir' was attempted to assess the State's

performance in planning, operating and monitoring the scientific management of its lakes, some of which have been victims of increased human interference over the years due to constantly growing population and failing civic management of the lakeside towns and cities. The review covered an evaluation of the policies and programmes of the Government for conservation of lakes in the State. Since, no comprehensive policy has been formulated for lakes in the State other than Dal; the scope of this performance review was confined to Dal Lake only.

Findings:

- The State Government had not conducted any survey of lakes for source water protection.
- No nodal agency was formulated for the overall formulation, implementation and co-ordination of the comprehensive programme for pollution control in lakes.
- Detailed Project Report (DPR) for conservation of Dal Lake had not been prepared after exhaustive study and had been accepted without proper evaluation.
- The performance efficiency of Sewage Treatment Plants (STPs) was not up to the mark; as a result, ₹11.05 crore spent on installation of these STPs had remained largely unfruitful. Also, non completion of interception pipes and Sewer works/trunk sewer/remodelling of drains had resulted into non-optimal use of installed STPs.
- Sub-optimal performance of the STPs, partial working of settling basin, non-completion of house-to-house connectivity for carriage of sewer, non-construction of gates, etc. for the bays had resulted in increase in the nutrients and weeds and depletion of the fish population in the lake. Despite spending ₹ 70 lakh on pilot studies for management of solid/liquid wastes of population residing in and around Dal Lake, no considerable headway had been made on the sanitation front.
- No studies had been carried out to ascertain whether the springs existing in the lake were actually carrying water to lake or had choked.
- No adequate planning existed for re-settling Dal-dwellers despite spending huge amount on this count.
- Improper land use planning by Lake Development Agency prior to acquiring land and delayed decision of the State Government to change the originally envisaged land-use had rendered ₹ 8.32 crore unfruitful, besides adversely affecting the rehabilitation and resettlement programme of the lake-dwellers.
- The monitoring by scientific advisory committee and Board of Directors was poor. Also, the internal control mechanism was virtually non-existent.
- Though water quality testing reports showed that Nitrogen Nitrate and Ammonical Nitrogen components have come down, the other components have increased to the detriment of the quality of water leading to excessive

vegetation. The drastic change in the water quality was attributed to intensified release of nutrients due to soil erosion, run-off from catchment area and discharge of urban wastes including inorganic fertilizers. The increase in the value of total dissolved solids indicated continued siltation, failure of retention of silt by settling basin and high ingress of sewage into the lake and mineralization process of organic matter. This indicated that multi-pronged approach to conserve and manage the lake had been neither effectively implemented nor properly monitored for the desired outcomes.

- There was entrapping of phosphorous and inorganic nitrogen, dwindling of local fish species and invasion of exotic species like Azolla in the lake. The prolific growth of azolla was attributed to unabated inflow from effluent channels and drains, raw sewage and enrichment of sediments particularly due to heavy load of organic nitrogen and phosphates.

Recommendations

- The State Government needs to appoint a nodal agency to coordinate planning and implementation of the programmes for all the water bodies in the State.

- Lakes and Waterways Development Authority needs to have a well-functioning and adequately empowered Project Management Committee, State Level Monitoring Committee, Scientific Advisory Committee and Board.

- House-to-house connectivity and houseboat sanitation needs to be given priority so that the waste from the areas outside and inside the lake does not enter the lake.

- Dredging of the blocked channels, de-weeding, creation of reed belt, development of shoreline, establishment of aerators and carrying of fresh water from streams to the lake need to be done on scientific lines for stopping degradation of the lake.

- Rehabilitation and resettlement programme of the lake-dwellers need to be given top most priority.

- With a view to making the Authority a self-sustaining organization as per the provisions of the DPR, all the activities undertaken in and around the lake needs to be transferred to LAWDA.

(Source:http://www.environmental-auditing.org/Portals/0/AuditFiles/India_f_eng_Management-of-Dal-Lake.pdf)

VII. International Audit Report: Government Accountability Office (GAO) United States: Nonpoint Source Water Pollution (May 2012)

1) Why GAO did this study

Pollution from nonpoint sources—such as runoff from farms or construction sites—remains the leading cause of impairment to the nation's waters. Under section 319 of the Clean Water Act, each year EPA provides grants to states to implement programs and fund projects that address nonpoint

source pollution; the program received \$165 million in fiscal year 2012. Section 319 includes minimum conditions that states must meet to receive grants. By regulation, EPA's 10 regional offices oversee state programs and are to ensure that states' projects can be feasibly implemented. USDA also has programs to protect water resources. Government Audit Office (GAO) examined (1) states' experiences in funding projects that address nonpoint source pollution, (2) the extent to which EPA oversees the section 319 program and measures its effectiveness, and (3) the extent to which key agricultural programs complement EPA efforts to control such pollution. GAO surveyed project managers, reviewed information from EPA's 10 regional offices on oversight of state programs, and analyzed USDA data.

2) What GAO Found

Under section 319 of the Clean Water Act, state-selected projects to reduce nonpoint source pollution have helped restore more than 350 impaired water bodies since 2000, but other projects have encountered significant challenges.

According to GAO survey results, 28 % of projects did not achieve all objectives originally identified in the project proposal (e.g., implementing the desired number of pollution reduction practices), while many that did so still faced considerable

challenges. About half such challenges were beyond staff control (e.g., bad weather or staff turnover), but the other half were challenges that generally could have been identified and mitigated before projects were proposed and selected for funding, such as gaining access to desired properties. In one state, for example, \$285,000 in section 319 funds was to subsidize the cost to homeowners of repairing damaged septic systems. Once the grant was awarded, however, one homeowner signed up to participate.

The Environmental Protection Agency's (EPA) oversight and measures of effectiveness of states' programs have not consistently ensured the selection of projects likely to yield measurable water quality outcomes. EPA's 10 regional offices varied widely in their review of states' work plans, which describe projects states plan to undertake in the upcoming year, and project selection criteria, which identify eligibility parameters for receiving section 319 funds. For example, three regional offices reported reviewing annual work plans in depth and actively influencing the types of projects selected, while three others reported limited to no involvement in such reviews, instead deferring to states' judgment on project feasibility and selection. EPA, however, has not provided its 10 regions with guidance on how to oversee the state programs. Also, EPA's primary

measures of program effectiveness may not fully demonstrate program achievements. Section 319 requires states to report to EPA on two measures, including reductions in key pollutants. It does not limit EPA to these two measures, but the agency has chosen to use them as barometers of success for the section 319 program. States can demonstrate their achievements in additional ways—ways that may provide a more accurate picture of the overall health of targeted water bodies, such as the number and kind of living organisms in the water.

USDA's Environmental Quality Incentives Program is the key agricultural conservation program that can complement EPA efforts to reduce nonpoint source pollution, and its conservation practices have significantly reduced pollutants coming from agricultural land across the country. Notwithstanding its achievements, certain conservation practices can adversely affect water quality if not properly implemented—for example, by transporting polluted runoff from nutrient-laden fields into nearby water bodies. The agency's Natural Resources Conservation Service (NRCS) has procedures in place intended to ensure that its practices do not inadvertently harm water quality. During its field work, GAO identified a few instances where these procedures may not have been followed (including in watersheds where EPA's section 319 funds had

been used), and therefore sought NRCS data to determine if they were isolated instances or indicative of a more prevalent issue. NRCS' national level data, however, are not sufficiently detailed to identify whether appropriate measures are always in place to mitigate potential water quality impacts. According to NRCS, such data are instead located in its field offices and are not analyzed by the agency.

3) What GAO recommends

Government Audit Office recommends, among other things, that EPA provide section 319 oversight guidance to its regional offices and that USDA analyze data to determine if assures were taken to mitigate water quality impacts in section 319 project areas. EPA agreed with the recommendations, while USDA was silent on them. Both agencies commented on specific findings, which are addressed within the report.

(Source: <http://www.gao.gov/products/GAO-12-335>)