



Green Files

Newsletter on environment audit and sustainable development

International Centre for Environment Audit and Sustainable Development

This newsletter has been compiled by iCED Jaipur and is meant for circulation amongst IA&AD. This quarterly newsletter highlights issues on environment and sustainable development which can enable audit offices identify areas of audit concern. The newsletter comprises of recent news regarding environment/ sustainable development, critical appraisal of environmental acts in India, snapshots of news about the environment from across the country. It will also feature recent national and international audit reports pertaining to the environment and sustainable development. Our first issue focuses on outcome of the Climate change Conference held in Durban, critical appraisal of bio-medical waste rules, discussion of environmental problems and environment acts/rules in a state and two recent reports, one by office of Principal Director of Audit (Scientific Departments) on Water Pollution in India and another from office of Auditor General Canada on Enforcing the Canadian Environmental Protection Act, 1999. We hope to replicate this particular format quarterly and would look forward to your suggestions on how to make green files more relevant and helpful in our audit efforts relating to environment and sustainable development issues. Contributions to the newsletter are very welcome as is feedback. These can be mailed to iced@cag.gov.in.

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1) Outcome of the 17th Climate change Conference held at Durban

From 28th November to 11th December 2009 the UN climate change conference took place in Durban, South Africa. It was the 17th meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 17) and the 7th Meeting of the Parties to the

Kyoto Protocol (CMP 7). After COP 15 in Copenhagen and COP 16 in Cancun,

Cop 17 met in Durban and after two weeks of negotiations, the 195 Parties to the UN climate change convention agreed on a roadmap for drawing up a legal framework by 2015 for climate action by all countries. The most important conference outcome was the

Durban Platform for Enhanced Action - to develop a new Protocol, another legal instrument or agreed outcome with legal force that will be applicable to all Parties to the UN climate convention. The new instrument is to be adopted by 2015 and will be implemented from 2020.

The conference also agreed to launch a work plan to identify options for closing the "ambition gap" between countries' current emissions reduction pledges for

Canada withdraws from Kyoto Protocol and the move, which is legal and was expected, makes it the first nation to pull out of the global treaty.

2020 and the goal of keeping glob

al warming below 2°C.

i. Kyoto Protocol

In Durban, it was formally decided that a second commitment period of the Kyoto Protocol will run from 1 January 2013, thus avoiding a gap at the end of the first commitment period finishing next year and beginning in January 1, 2013. This second commitment period under the Kyoto Protocol would begin on January 1, 2013 till December 2017-2020. The conference also agreed on the next phase of the Kyoto Protocol -- the only legal instrument in force to combat climate change. It also set a clear target of reductions of 25-40 per cent below 1990 levels by 2020 for the group of countries that are collectively known as Annex 1 parties -- listed for their contribution to the stock of greenhouse gases in the atmosphere. New rules on forestry management approved as part of the package will improve the Protocol's environmental integrity. The Parties'

quantified targets for reducing emissions, as well as rules governing the carryover of surplus emission rights from the first commitment period, will be decided at the end of next year.

ii. Green Climate Fund and other new bodies

The Durban outcome makes operational the new Green Climate Fund (GCF) by finalising its design and governance arrangements. The GCF is expected to be one of the major distribution channels for the US\$ 100 billion in assistance which developed countries have pledged to mobilise for developing nations annually by 2020 in the context of meaningful mitigation efforts. Germany has pledged €40 million and Denmark €15 million for the operationalisation of the GCF. The arrangements needed to make operational the new Technology Mechanism and Adaptation Committee have also been agreed.

iii. Transparency

The Durban Package brings into operation new arrangements for making more transparent the actions taken by both developed and developing countries to address their emissions. This is a key measure for building trust between Parties.

iv. New mechanisms and sectors

A new market-based mechanism is established to enhance the cost-effectiveness of actions to reduce emissions. A process is also launched to consider climate issues related to agriculture, with a view to taking a decision at the end of 2012.

(Source: <http://www.cop17-mp7durban.com/>)



2) Biomedical Waste management rules: critical appraisal

1. Background

Bio-medical waste (BMW) includes waste generated by the health care facilities, Research facilities and Laboratories. The perils of medical waste first garnered attention in the late 1980s, when items like used syringes washed up on several East Coast beaches in USA which lead to the law regulating medical waste. However in India the seriousness about the management came into lime light only after 1990's. There was no legislation on Medical waste till the Ministry of Environment and Forest (MoEF) proposed the first draft rules in 1995. Also, in a public interest case, the Supreme Court of India, in March 1996 gave a series of directions.

2. Rules relating to management and disposal of biomedical waste

The second draft rules were notified in 1997 and final rules were notified on 20th July 1998 and were called Bio-Medical Waste (Management & Handling) or BMW Rules 1998. The first amendment to the rules was notified in March 2000 and is referred to as Bio-Medical Waste (Management & Handling) (Amendment) Rules 2001¹. The second amendment to the rules was notified in 2 June 2000 (called BMW Rules, 2000)². In 2011, MoEF has notified the new Draft Bio-Medical Waste (Management & Handling) Rules, 2011 under the Environment (Protection)

¹ This amendment only changed Schedule VI of the rules, concerning having waste management facilities for treatment of waste, and extended the deadline for implementation for the first phase.

² Some of the major changes made included defining the role of the municipal body of the particular area, nominating Pollution Control Boards/ Committees as Prescribed Authorities, addition of forms for seeking authorization to operate a facility etc.

Act, 1986 to replace the earlier Rules (1998) and the amendments thereof. The draft Rules are notified for information of the public and suggestions and comments are invited within 60 days.

3. Significant features of the Bio-Medical Waste (Management and Handling) Rules, 1998

- The rules apply to all persons who generate, collect, receive, transport, treat, dispose, store, or handle bio-medical waste in any form.
- It is the duty of the occupier, where required to set up requisite bio-medical waste treatment facilities like incinerator, autoclave, microwave for treatment of waste, or ensure requisite treatment of waste at a common waste treatment facility.
- Bio-medical waste is to be treated and disposed in accordance with Schedule I
- Bio-medical waste has to be segregated at the point of generation in accordance with schedule II before its storage, transportation, treatment and disposal. The containers are to be labelled as per Schedule III.
- No untreated bio-medical waste can be kept beyond a period of 48 hours.
- State Pollution Control Boards have been nominated as the Prescribed Authority for granting authorization and implementing the rules. (As per the second amendment, June 2000).
- Every occupier, except those providing treatment /service to less than 1000 patients a month, and every operator of a bio-medical waste facility, needs to take authorization from a prescribed authority.

- The Government of every State/Union territory has to constitute an Advisory Committee. The committee will include experts from medical and health fields, from the municipal department and other related departments.
- Every occupier /operator has to submit an Annual Report to the prescribed authority in Form II by January 31st every year. The report will include information about the categories and quantities of bio-medical waste handled during the preceding year.
- Every authorized person shall maintain records related to the generation, collection, reception, storage, transportation, treatment, disposal and/or any form of handling of bio-medical waste in accordance with the Rules and any guidelines issued.
- When any accident occurs at any institution or facility or at any other site where bio-medical waste is handled or during transportation of such waste, the authorized person has to report the accident in Form III to the prescribed authority.
- Schedule I: Describes different categories of bio-medical waste and their treatment options. This is depicted in table below.

Option	Waste category	Treatment and disposal
Category 1	Human Anatomical Waste	Incineration; deep burial
Category 2	Animal Waste	Incineration; deep burial
Category 3	Microbiology and biotechnology waste	Local autoclaving /microwaving/ incineration
Category 4	Waste sharps	Disinfection (chemical treatment;

		autoclaving/ micro-waving) and mutilation/ shredding
Category 5	Discarded medicines and cytotoxic drugs	Incineration; destruction and drugs disposal in secured landfill
Category 6	Soiled Waste	Incineration; autoclaving/micro-waving
Category 7	Solid waste	Disinfection by chemical treatment, autoclaving/ micro-waving and mutilation/ shredding
Category 8	Liquid waste	Disinfection by chemical treatment and discharge into drain
Category 9	Incineration Ash	Disposal in municipal landfill
Category 10	Chemical Waste	Chemical treatment; and discharge into drains for liquids and secured landfill for solids

4. Salient differences of draft BMW Rules of 2011 from earlier rules

- In the new rules, it has been clearly mentioned that these rules shall apply only to bio-medical waste and shall not apply to other wastes like radioactive wastes, hazardous chemicals, municipal solid waste, hazardous waste and batteries waste which have been covered under respective rules.
- In the new rules, it has been clearly mentioned that every occupier shall set up requisite bio-medical waste treatment equipment prior to commencement of its operation or make necessary arrangements in order to ensure requisite treatment of bio-medical waste through an

- authorized common bio-medical waste treatment facility.
- iii. Under the new rules, every operator or occupier has to set up bio-medical waste treatment facilities/arrange for treatment regardless of number of patients.
 - iv. In the new rules, colour coding for containers or bags (Yellow, red, blue or black) for the collection of various categories of bio-medical waste including treatment options has been clearly specified to avoid overlapping, which was the case earlier.
 - v. In the new rules, the duties of operator of a common bio-medical waste treatment facility as well as other concerned authorities have been clearly stipulated, in addition to duties of occupier of a health care establishment.
 - vi. In the new rules, the number of categories of wastes has been reduced from 10 to 8.³ Colour coding for collection of non-infectious waste (general waste) has also been prescribed.
 - vii. Government of every state/union territory shall constitute district level monitoring committees in the districts under the chairmanship of district medical officer or his nominee to monitor compliance to the new rules.
 - viii. The guidelines issued by CCPCB and central government have also been made part of the rules.

5. Concerns regarding implementation and monitoring of existing and proposed bio-medical waste rules

³ Human anatomical waste, animal waste, Microbiology and biotechnology waste, and other laboratory waste, Waste sharps, Discarded medicines and cytotoxic drugs, Soiled Waste, infectious solid waste and chemical waste.

- Segregation of waste not taken seriously at user level
- Quantification of waste generated is not accurately done
- Non compliance with colour coding
- Poor monitoring of segregation at source
- Protection of healthcare workers not given adequate thought
- Clinical waste dumped with non infectious waste - Risk for healthcare workers and public
- Waste disposal not effective, often dumped in open landfills
- Low responsibility and accountability for waste disposal
- Transportation of bio-medical waste not within the specified time period

(Source of rules:
<http://moef.nic.in/index.php>)



3) Snapshots: Environment news

Save mudflats from harbour link:

Greens: Bombay Natural History Society (BNHS) appealed to the Mumbai Metropolitan Region Development Authority to change the alignment of Mumbai Trans Harbour Link project, to save the Sewri mudflats, the habitat of lakhs of waders and flamingos and one of the most eco-sensitive places in the world.

Construction causes polluted air: The environment status report published by Mumbai Municipal Corporation in September this year lays the blame of greater pollution levels on construction in the city of Mumbai.

Regulation of Stone Crushers Bill gets Assembly green signal: To enable govt to identify safer zones for relocating units, Assembly approved the Karnataka Regulation of Stone Crushers Bill, 2011, which seeks to regulate stone crushing operation by identifying safer zones across the State. The ordinance replacement bill proposes to enable the government to identify safer zones for relocating stone crushing units that are causing heavy damage to environment.

Green Cess On Petrol & Cars Proposed: Buying and running cars and two-wheelers could soon become a costly affair with a Planning Commission working group suggesting a green surcharge of Rs 2 on every litre of petrol, a green cess of 3% of the annual insured value of all private vehicles and a steep urban transport tax to be collected at the time of purchase of private vehicles.

HC forms panel to demarcate Sukhna catchment area: Punjab and Haryana High Court constituted a committee for demarcation of catchment area near Sukhna Lake. The High Court ordered the constitution of a committee to ensure that there is no illegal construction in the catchment area.

Probe into fashion event at turtle nesting site in Goa: The Goa Environment Ministry has decided to inquire into the holding of a fashion event at Morjim beach, a protected turtle nesting site. The State Forest Department has been protecting four beaches – Morjim, Pernem, Agonda and Galjibag – which are conventionally visited by Olive Ridley turtles to lay eggs during this season.

Study finds KMML effluents polluting water and land: Effluents from KMML (Kerala Metals and Minerals Ltd), a public sector unit based at Chavara in Kollam, are polluting water sources, degrading the environment and posing a public health hazard, a study conducted by the Department of Geology, University of Kerala, has revealed. The study found that the plant manufacturing titanium dioxide was responsible for the deterioration in the quality of groundwater sources. Highly toxic trace elements were detected in water samples.

Polluted Ghaggar damaging flora, fauna in Sirsa: Influx of hazardous chemicals and other effluents in the Ghaggar has reached alarming proportions causing great damage to flora and fauna in the areas irrigated by distributaries originating from Ottu Weir near Rania town of the district. Toxic subsoil water also causes skin diseases and other ailments.

Pollution body cracks down on lethargy: Punjab Pollution Control Board has decided to take legal action against two municipal committees (MCs) for allegedly failing to prevent sewage water from flowing into rivers and has directed two other civic bodies to stop all other work and focus on building sewage treatment plants immediately. The pollution body had set November 30th as the deadline for municipal committees to take effective measures and prevent dirty water from flowing into the state's rivers.

Nod to Yamuna Action Plan-III for Delhi: The central government approved the ₹ 1,656-crore phase-III of Yamuna Action Plan for Delhi under which it is proposed to rehabilitate

damaged trunk sewers to maximise use of sewage treatment plants in Okhla, Kondli and Rithala, apart from construction of a new STP at Okhla.

Delhi's air as dirty as ever despite some reforms: A decade ago, plans for metro and clean-fuel buses were hailed as New Delhi's answer to pollution. But air in the Indian capital is as dirty as ever — partly because breakneck development has brought skyrocketing use of cars. Citywide pollution sensors routinely register levels of small airborne particles at two or sometimes three times its own sanctioned level for residential areas, putting New Delhi up with Beijing, Cairo and Mexico City at the top of indexes listing the world's most-polluted capitals.

Draft plan to improve air quality in Chennai prepared: A draft plan listing out the measures required to improve the air quality in the city, including the equipment need, has been prepared by the Tamil Nadu Pollution Control Board (TNPCB).

Rajasthan state action plan on climate change: Climate change is the greatest global challenge facing us today which through a multitude of impacts poses a risk to our ecology, economy and society. Observation shows that changes being experienced in the climate of Rajasthan are over and above the natural climate variability prevailing in the region.

Action plan for conservation of endangered chilgoza pine: Concerned over the fast-depleting reserves of the chilgoza pine forests the Himachal Pradesh government

has decided to formulate a 10-year action for the conservation, regeneration and sustainable management of the endangered species.

Hyena-wolf habitat at Chincholi is first dryland sanctuary in South: The 134.88 sq km area of Chincholi forest in Karnataka has now been declared as South India's first dryland wildlife sanctuary to protect the prime wolf and hyena habitat.

Unprecedented Arctic ozone loss in 2011: Chemical ozone destruction occurs over both Polar Regions in local winter-spring. In the Antarctic, essentially complete removal of lower-stratospheric ozone currently results in an ozone hole every year, whereas in the Arctic, ozone loss is highly variable and has until now been much more limited. It was observed that chemical ozone destruction over the Arctic in early 2011 was—for the first time in the observational record—comparable to that in the Antarctic ozone hole.

Dumping of soil poses threat to villagers in Meghalaya: The ongoing construction of the four lane Jorabat-Umiam road in Ri-Bhoi district undertaken by the Ramky Infrastructure Pvt Ltd is posing a serious threat to the local residents of 20 Mile. The company is dumping waste soil in public areas as a result of which a small drain has turned to a dirty pond.

Waste dumpers on the run: With the High Court of Tamil Nadu banning dumping of waste, the city police are on their toes to catch the law breakers, including those who dump sewage waste on river side and in

open areas. The police have registered more than 30 cases within two days of the High Court order.

Jal Board wants Delhi State Industrial 7 infrastructure Development Corporation to monitor effluent treatment plants: Untreated effluents from industries making their way into the sewers and eventually reaching the Yamuna are not only killing the river but are also said to be behind the rapid corrosion of the city's sewer lines. The Delhi Jal Board, which is responsible for maintaining sewer lines and sewage treatment plants in the city, has identified this as a major reason why their sewer lines are rotting easily and the STPs are malfunctioning.

Inspect all industrial units using hazardous materials: The Gujarat high Court directed the state government to have an inspection carried out of all industrial units across the state that produce or use hazardous materials like polyacrylate.

Solar panels proposed for Dudhwa National Park: For the first time, a wildlife area in Madhya Pradesh the state will have solar power units. A proposal of ₹ 3.10 crore has been sent by the Tourism department to the Central Government for the development of the Dudhwa Tourism Complex and Compound Wall.

Plan to protect endangered birds submitted to MoEF: A draft national recovery plan for the critically endangered Great Indian Bustard (GIB) and the endangered Lesser Florican has been submitted to the Ministry of Environment and Forests (MoEF) by a task force constituted for the purpose.

Project to access genetic resources launched: The first ever global project to access genetic resources in West Bengal has been launched by the West Bengal Biodiversity Board and Biodiversity Authority of India. The programme ~ Implementation of National Biodiversity Act with Special Focus on Access and Benefit Sharing ~ is being implemented as a pilot project in West Bengal, Andhra Pradesh, Gujarat, Himachal Pradesh and Sikkim. Depending on the project's success, it would be emulated in other states.

Green-linked system soon for devolution of funds: The Planning Commission has devised an environment performance-linked mechanism for devolution of funds to States during the 12th Plan period. States would be ranked on index covering parameters like air and water purity, forest cover and sustainable livelihood. A performance monitoring system would also be introduced.



4) State in Focus: Punjab

Punjab occupies 1.57% of the country's total geographical spread and is a part of the Indo-Gangetic plain formed due to alluvial deposits by rivers and tributaries. Two major rivers, the Sutlej and Beas, traverse the state and Ravi and Ghaggar touch its northern and southern borders, respectively.

(i) Major environment issues: Air pollution

Maximum air pollution has been observed in parts of Ludhiana followed by Mandi Gobindgarh, Jalandhar and Amritsar

- A total of 13230 red category industries exist in Punjab out of which 10836 are in operation. Out of these, 2628 industries are producing hazardous wastes. Many of these industries use coal or rice husk as fuel. Together, these contribute to suspended particulates, oxides of nitrogen and sulphur, organic compounds and other pollutants in the air.
- Another factor which affects air quality is the increase in number of vehicles by approximately more than 10 times since 2005.
- Pollution from agricultural activities also adversely affects the state's environment. The state produces about 23 million tons of rice straw, and 17 million tons of wheat straw every year, a part of which (about 81% of rice straw and 48% of wheat straw) is burnt in the fields to make way for the next crop. This causes severe air pollution especially during the months of March-April and October-November.

(ii) Water availability and quality

Three perennial rivers, namely the Sutlej, Beas and Ravi, flow through the state. In addition Ghaggar which is almost a seasonal river, flows through the south western part of Punjab. During the past two decades, rapid increase in population, urbanization, industrialization and agricultural practices have heavily polluted the fresh water resources of Punjab, both in physicochemical and biological terms.

- **River Sutlej:** Fecal coliform bacteria in Sutlej indicated an increasing trend from 1988 onwards. Data for heavy metals and pesticides also indicate higher concentrations of iron, zinc, chromium, copper, lead & nickel and pesticides like DDT, Benzene Hexa Chloride (BHC), Endosulfan and Aldrin in water.
- **River Beas:** Data indicates that the quality of water of river Beas when it enters Punjab at Talwara is fairly good. The quality of water remains so till it receives effluents and sewage from Mukerian town where it drops down generally to Class C and sometimes to Class D due to high BOD. Data indicates high concentration of Iron near Gowindwal.
- **River Ravi:** Water quality of the river is more or less similar along its entire length. The water quality predominately conforms to A or B class as per designated best use classification of CPCB.
- **River Ghaggar:** This river is predominantly a monsoonal stream. A general increasing trend in the BOD and COD values is observed since 1995 onwards indicating increase in pollution over the years. The fecal coliform values are also very high. With regard to pesticides, high values have also been reported.
- **Ground water quality:** The quality of ground water is also deteriorating due to industrial and agricultural activities especially in districts Jalandhar, Ludhiana, Kapurthala, Patiala, Sangrur, etc. High level of Total Dissolved Solids (TDS) has been reported for these areas. Further, shallow ground water in some villages of districts Nawan Shehar and Hoshiarpur have high Selenium

content. Another problem in South West Punjab is that of water logging and salinity.

(iii) Major environment issues: Pesticide residue

Punjab Pollution Control Board initiated studies on estimation of pesticide in river water since 2002. The results of the studies confirmed presence of pesticide residues in water and sediments of river Sutlej, Beas and Ghagger. A study in 2005 on analysis of pesticide residues in blood samples from villages of Punjab found very high levels of pesticide residues in human blood samples which were taken from five Punjab villages. As per a study conducted by Punjab Pollution Control Board on soil and vegetables in and around Chandigarh city and Mohali town, the concentration of heavy metals such as Cadmium, Lead, Zinc and Chromium have been found beyond the permissible limits in root vegetable crops collected from the fields irrigated with water from various waste water channels and drains. Pathogens were also found in all root vegetables like turnip, onion, potato, turmeric and radish.

(iv) Major environment issues: Waste management

3034.65 tons per day (TPD) of Municipal solid waste is generated in the state. The major waste is from class I cities as more than half of the state's urban population (58.39%) lives in these cities. The average physical composition of municipal solid waste generated in the state indicates that of the total solid waste, 13% is recyclable material, 36-44% is compostable material and 40-50% is

inert material. Waste is not collected from the entire city on a daily basis and goes on accumulating at primary dumping sites. At the same time, continuously increasing waste puts pressure on the existing machinery and infrastructure. Out of total solid waste collected, on an average, 94% is dumped on land and 5% is composted.

(v) Major environment issues: Hazardous waste

With increase in small-scale, large and medium industrial units in the state, the number of hazardous waste generating industries is also increasing. At present there are 2628 hazardous waste generating units in the state. This had lead to

- Increase in lead pollution
- Increase in E-waste

Presently the hazardous waste generated by industries in the state is being stored in the premises of the industries in an environmentally sound manner. However, a common Treatment Storage and Disposal Facility (TSDF) is being developed in the state at Village Nimbuan, Tehsil Dera Bassi, District Mohali.

(vi) Major environment issues: Forest and biodiversity

Punjab State was reorganized in the year 1966 and was left with only 1875 Sq. Km of recorded forest area in that year which has now increased to 3058 Sq. Km. i.e., about 6.1% of the State's Geographical area. Since the State has 84% of its Geographical area under agriculture with intense competition among different land-uses, there is limited scope to increase the area under forests except for

bringing the available vacant wastelands/degraded lands under Tree Cover by application of Agroforestry and Social Forestry in the Farmlands and Institutional lands.

(vii) Primary legislations governing environment management in Punjab

Forest and wildlife wing

- Punjab Land Preservation Act, 1900
- Punjab forest (Sale of Timber) Act, 1913
- Indian Forest Act, 1927
- Indian Forest (Punjab) Amendment Act, 2004
- Patiala Forest Act, 1999
- Forest (Conservation) Act, 1980
- Punjab Wild Life Preservation Act, 1959;
- Wild Life (Protection) Act, 1972

Science, technology and environment department

- Water (Prevention and Control of Pollution) Act, 1974
- Air (Prevention and Control of Pollution) Act, 1981
- Environment (Protection) Act, 1986 and the rules framed thereunder



5) Recent Environment audit report: Water Pollution in India (Report no. - 21 of 2011-12 for the Period ended March 2011)

The audit of Water Pollution in India was begun with audit objectives which sought to examine the broad contours of policy, programmes, institutions and initiatives taken by

MoEF to address water pollution in India. It also sought to examine availability of data regarding water pollution, assessment of risks to health and environment and sustainability of measures to address water pollution in India. Finally, it also examined whether efforts to clean up rivers and lakes in India have lead to any improvements in water quality. The audit examination extended to 140 projects across 24 polluted stretches of rivers, 22 lakes and 116 blocks across 25 States of India. All the findings led to these conclusions against the objectives set out for the study:

- Inventory of water sources has not been prepared and the overall status of quality of water in rivers, lakes and groundwater has not been adequately assessed in India;
- Risks of polluted water to health of living organisms and the impact on environment have been not been adequately assessed;
- Adequate policies, legislations and programmes have not been formulated and effective institutions have not been put into place for pollution prevention, treatment and restoration of polluted water in rivers, lakes and ground water;
- Programmes for pollution prevention, treatment and restoration of polluted water in rivers, lakes and ground water have not been planned, implemented and monitored efficiently and effectively;
- Funds were not utilised in an efficient and economic manner to further the aim of reduction of water pollution;
- Adequate mechanisms have not been put in place by the

government to sustain measures to tackle water pollution; and

- Programmes for the control of pollution have not succeeded in reducing pollution levels in ground water and surface water and restoring water quality.

The report also contained more than 25 recommendations. MoEF in May 2011 constituted a Committee to consider the recommendations /observations made in the report by Audit and prepare a roadmap for implementation of recommendations /observations accepted. The Committee consists of representatives of CPCB and representatives from Ministry of Water Resources, Ministry of Urban Development and a representative of CAG. The Committee proposed, inter alia, a time-bound action plan to address capacity issues related to sewage treatment, an amendment to the Environment (Protection) Act, 1986 to link penalties for contravention of the Act, strengthening of Water Quality Assessment Authority and constitution of a State-level Monitoring Committee.



6) Enforcing the Canadian Environmental Protection Act, 1999—A report by Commissioner of the Environment and Sustainable Development, National Audit Office, Canada

The Canadian Environmental Protection Act, 1999 (CEPA 1999) is Canada's principal federal

environmental statute. It is intended to protect the environment and human health by mitigating and managing risks posed by harmful substances. CEPA 1999 and its regulations govern a variety of environmental matters, including toxic substances, cross-border air and water pollution, and waste disposal. The Act also imposes requirements for pollution prevention planning and emergency plans, and it regulates the interprovincial and international movement of hazardous wastes and recyclable materials. Environment Canada's enforcement program is aimed at ensuring that individuals, companies, and government agencies comply with the pollution prevention and conservation goals of environmental and wildlife protection Acts and regulations, including CEPA 1999. The enforcement of CEPA 1999 is carried out by the Department's Environmental Enforcement Directorate, comprising a national office and five regional offices across Canada whose activities include monitoring and enforcing regulatory compliance.

Audit examined whether Environment Canada's enforcement program was well managed to adequately enforce compliance with CEPA 1999. It also assessed whether the Department has applied a risk-based approach to plan its enforcement activities and target the greatest threats to human health and the environment; enforced the law in a fair, predictable, and consistent way, as the Act requires; measured the results of its enforcement activities; and acted on identified opportunities for improvement. CEPA 1999 states that the protection of the environment is

essential to the well-being of Canadians and that the primary purpose of the Act is to contribute to sustainable development through pollution prevention. According to Environment Canada, environmental laws alone are not enough to guarantee a cleaner, better environment. These laws also need to be enforced. Enforcing CEPA 1999 is therefore an important part of protecting the health of Canadians, biodiversity, and the quality of Canada's air, soil, and water. According to Environment Canada, enforcement of the law can encourage behavioural changes needed to protect the environment and human health by preventing and managing risks posed by toxic and other harmful substances.

What Audit found

7) The enforcement program has not been well managed to adequately enforce compliance with the Canadian Environmental Protection Act, 1999 and ensure that threats to Canadians and their environment from pollution are minimized. The Environmental Enforcement Directorate lacks key information on regulated individuals, companies, and government agencies to know whether it is targeting its enforcement activities toward the highest-risk violators or the highest risks to human health and the environment, as called for by Environment Canada's own environmental enforcement policy.

8) The Department's enforcement actions are limited by gaps in its capacity to enforce CEPA

regulations. Many of the factors it considers in setting priorities for enforcement have nothing to do with risks to human health or the environment or with the past record of compliance of those regulated. Instead, some regulations are excluded from being priorities due to lack of adequate training for enforcement officers or lack of adequate laboratory testing to verify compliance. The Environmental Enforcement Directorate failed to follow up on half of its enforcement actions during the audit period to verify that violators returned to compliance with CEPA regulations. In addition, often it did not apply key management controls to ensure that enforcement officers applied the Act in a fair, predictable, and consistent manner across the country, as called for by the Act.

- The Department has been slow to act on significant shortcomings that continue to impede successful enforcement, such as inadequate gathering and analysis of information to inform enforcement planning and targeting, and inadequate training of enforcement officers. Furthermore, Environment Canada is not measuring the results of its enforcement activities and actions and does not know whether they have achieved the program objectives of encouraging compliance and minimizing damages and threats to the environment.

As a result, audit concluded that the enforcement program was not well

managed to adequately enforce compliance with the Canadian Environmental Protection Act, 1999 and ensure that threats to Canadians and their environment from pollution are minimized.

Environment Canada agreed with audit recommendations and provided responses. However, it disagreed with audit findings and conclusions and the Department was not able to provide evidence to support the representations made in its responses.

(Source: www.oag-bvg.gc.ca)

