



## 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](mailto:iced@cag.gov.in).

| Contents |   |    |
|----------|---|----|
| I.       | The UN General Assembly Open Working Group on Sustainable Development Goals- March 2014   | 1  |
| II.      | Environment Case law in India: MC Mehta v. Union of India & Others Jan. 12, 1988: Control, prevention and abatement of pollution of Ganga water in Kanpur, U.P. | 4  |
| III.     | Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008: a critical analysis  | 7  |
| IV.      | Environment news snapshots from across India  | 10 |
| V.       | State in Focus: Tripura   | 13 |
| VI.      | Audit Report: Report No. - 4 of 2013 Government of Gujarat on General and Social Sector: Bio Medical waste management   | 18 |
| VII.     | International Audit Report: Norway: Management of Hazardous waste   | 20 |

## I. The UN General Assembly Open Working Group on Sustainable Development Goals - February 2014

### 1) Background

During the UN Conference on Sustainable Development (Rio+20), held in Rio de Janeiro, Brazil in June 2012, governments agreed to launch a process to develop a set of Sustainable Development Goals (SDGs) which would build upon the Millennium Development Goals and converge with the post 2015 development agenda. It was decided to establish an "inclusive and transparent intergovernmental process open to all stakeholders, with a view to developing global sustainable development goals to be agreed by the General Assembly". The outcome document, *The Future We Want*, mandated the creation of an inter-governmental Open Working Group that would submit a report to the 68<sup>th</sup> session of the General Assembly containing a proposal for sustainable development goals for consideration and appropriate action.

The eighth session of the UN General Assembly Open Working Group (OWG) on Sustainable Development Goals (SDGs) took place from 3-7 February 2014, at UN Headquarters in New York. Delegates addressed the thematic issues regarding environmental sustainable development, oceans and seas, forests and biodiversity.

The Rio+20 outcome document outlines, inter alia:

- The importance of remaining firmly committed to achievement of the Millennium Development Goals (MDGs) and of respecting all Rio Principles, taking into account different national circumstances, capacities and priorities;
- SDGs should be action-oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries, and focused on priority

areas for the achievement of sustainable development;

- The need to assess progress towards the achievement of the goals, accompanied by targets and indicators, while taking into account different national circumstances, capacities and levels of development.

### 2) Objectives of the conference

- To address and incorporate in a balanced way the economic, social and environmental dimensions of sustainable development and their interlinkages.
- To consider the means of implementation relating to the realization of sustainable development, while also recognizing the potential contribution of other related processes to this end
- To address the issues in a comprehensive, holistic, balanced and integrated manner to meet the sustainable development challenges.
- To reiterate the commitment to respect the international agreement reflected in the Rio+20 outcome document.

### 3) Issues discussed

The Eighth session of the Open Working Group on Sustainable Development Goals discussed these three issues-

- Oceans and seas, forests, biodiversity
- Promoting equality, including social equity, gender equality and women's empowerment
- Conflict prevention, post-conflict peacebuilding and the promotion of durable peace, rule of law and governance.

The OWG-8 discussion of forests, biodiversity, and oceans and seas—all traditionally part of the environmental pillar of sustainable development—allowed governments to expound on their multi-dimensional contributions to development. The topics were not only considered as

environmental challenges, but viewed through the lens of their economic, social and cultural contributions to both local and global communities.

### **Oceans and seas**

The majority of existing proposals made with regard to oceans in the context of SDGs were based on the common understanding that the achievement of healthy, productive and resilient oceans are indispensable to poverty eradication and sustainable development.

- The strengthened compliance with, and enforcement of, UNCLOS1 and its implementing agreements, as well as the other instruments would significantly contribute to the protection, conservation and sustainable use of the oceans and their resources.
- Capacity-building programmes, when tailored to the needs of the different regions and aimed at human resource development, knowledge transfer and the strengthening of institutional capacity in the law of the sea and marine affairs, including planning, management and monitoring capacities, can have significant impacts.
- To increase citizen engagement, dedicated oceans-related curricula should be an essential part of education for sustainable development to raise public awareness and change consumer behavior.
- The building of an improved interface between science and decision-making in oceans-related issues and the proper valuing of goods and services provided by marine and coastal ecosystems are likewise essential.

### **Forests**

- A specific SDG on forests could be one way to restore the balance between the limits of the resources to deliver products and services (sustainability) and the need to ensure

commensurable upstream flows to enable (restore) forests to answer to the broad social demands.

- Such an SDG could also capture all the goods and services provided by forests, which would not necessarily be the case if forests were to be subsumed under a broader SDG and a cross-cutting 'Integrated Landscapes SDG' focusing on land, forests, biodiversity, water and other renewable natural resources.

### **Biodiversity**

The critical role of biodiversity in sustainable development was recognized in the Rio+20 outcome, "The Future we want". The Sustainable Development Goals addressed various aspects of human well-being and be accompanied by targets and indicators. Suggestions were provided for how to integrate biodiversity into the various types of goals –

- Biodiversity should be integrated into overarching goals addressing broad concepts such as poverty eradication, an inclusive "green economy", human well-being, and sustainable development.
- Specific biodiversity related targets and indicators should be integrated into Goals on food security and nutrition, water and health.
- Biodiversity should also be included as a central component of goals for global "life support systems" such as goals relating to the protection of ecosystems, including land, forests and oceans, and their natural resources.
- The SDG framework should provide the enabling conditions for the conservation and sustainable use of biodiversity, and for the underlying drivers of biodiversity loss to be addressed.

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1 United Nations Convention on the Law of the Sea

#### 4) Outcomes of the 8<sup>th</sup> OWG

- Compromise was reached on the framework for a 2015 agreement, resulting in a new text for the Durban Platform for Enhanced Action (ADP) that will form the basis of negotiations going forward. The key portion of text reads: All nations should “initiate or intensify domestic preparations for their intended nationally determined contributions.” Additionally, it was agreed that these “contributions” should be ready by the end of the first quarter of 2015.
- In the new Warsaw agreement, countries set their own baselines and define their own reduction strategies, thus making comparisons between countries’ efforts far less transparent and harder to calculate.
- Finance and financial contributions have been a central part of recent negotiations, with developing countries calling for financial contributions to existing funding mechanisms before they were willing to talk about post-2020 emission reduction actions. Several fragmented pledges for new money emerged from Warsaw.
- The main outcome of the meeting was the establishment of an international mechanism for a loss and damage associated with climate change impacts.
- The Warsaw agreements reached a compromise in which a mechanism for loss and damage would be set up under the existing institutions that are supposed to fund projects that help poor countries to adapt to climate change.
- The rich countries refused to make specific interim financial commitments, although they did agree to file biennial reports outlining what their plans are for funding climate change adaptation for poor countries between now and 2020.

##### Sources:-

[http://unfccc.int/meetings/warsaw\\_nov\\_2013/meeting/7649.php](http://unfccc.int/meetings/warsaw_nov_2013/meeting/7649.php); <http://www.climate-network.org/event/warsaw-climate-change-conference-november-2013>

## II. MC Mehta v. Union of India & Others Jan. 12, 1988: Control, prevention and abatement of pollution of Ganga water in Kanpur, U.P.

### 1) Background of the case

The Supreme Court (SC) by its judgment in the case of M.C. Mehta v. Union of India & Others in 1987 had directed that the case in respect of the municipal bodies and the industries which were responsible for the pollution of the water in the river Ganga would be taken up for consideration on the next date of hearing. Accordingly, SC took up for consideration first the case against the municipal bodies. Since it was found that Kanpur was one of the biggest cities on the banks of the river Ganga, SC took up for consideration the case in respect of the Kanpur Nagar Mahapalika.

The SC observed that Kanpur Nagar Mahapalika was established under the provisions of the Uttar Pradesh Nagar Mahapalika Adhiniyam. Obligatory duties of the Mahapalika included: measures for collection and removal of sewage, offensive matter and rubbish and treatment and disposal thereof; the management and maintenance of all Mahapalika waterworks and the construction or acquisition of new works necessary; guarding from pollution, water used for human consumption and preventing polluted water from being so used; removal of carcasses of dead animals; prohibition of cultivation, use of manure, or irrigation injurious to health, power to require owners to clear away noxious vegetation. Further it also has the power to inspect any place for purpose of preventing spread of dangerous disease etc.

The SC observed that perusal of these provisions in the laws governing the local

bodies shows that the Nagar Mahapalikas and the Municipal Boards were primarily responsible for maintenance of cleanliness in the areas under their jurisdiction and the protection of their environment.

The SC further observed that The Water (Prevention and Control of Pollution) Act, 1974 includes provisions for the establishment of the Boards for the prevention and control of water pollution and accordingly, State Pollution Control Boards (SPCB) had been constituted. The SC also observed that the Environment (Protection) Act, 1986, also contained provisions relating to control, prevention and abatement of pollution of water and one significant provision in that Act is what is contained in section 17 thereof, which provides that where an offence under that Act is committed by any Department of Government, the Head of that Department shall be deemed to be guilty of the offence and is liable to be punished.

The SC observed that it was unfortunate that although Parliament and the State Legislature have enacted the aforesaid laws imposing duties on the Central and State Boards and the municipalities for prevention and control of pollution of water, many of those provisions have just remained on paper without any adequate action being taken pursuant thereto.

The SC observed that:

- That apart from its menace to health, polluted water considerably reduces the water resources of a nation. Since the total amount of a country's utilisable water remains essentially the same and the demand for water is always increasing, schemes for the prevention of water pollution should, wherever possible, make the best use of treated waste waters either in industry or agriculture.
- The courts stated that the crucial question is not whether developing countries can afford measures for the control of water pollution but it

is whether they can afford to neglect them. The importance of the latter is emphasised by the fact that in the absence of adequate measures for the prevention or control of water pollution, a nation would eventually be confronted with far more onerous burdens to secure wholesome and adequate supplies of water for different purposes.

- If developing countries embark on suitable pollution prevention policies during the initial stages of their industrialisation, they can avoid the costly mistakes committed in the past by many developed countries. It is, however, unfortunate that the importance of controlling pollution is generally not realised until considerable damage has already been done.

## 2) Judgement of the court

- On account of failure of municipal authorities and the Boards to obey the statutory duties for several years the water in the Ganga at Kanpur has become so much polluted that it can no longer be used by the people either for drinking or for bathing. The Nagar Mahapalika of Kanpur has to bear the major responsibility for the pollution of the river near Kanpur city.
- There are a large number of dairies in Kanpur and the Mahapalika should take action to prevent the pollution of the water in the river Ganga by waste accumulated at dairies by either shifting dairies or arrange for the removal of such waste.
- The Kanpur Nagar Mahapalika should take immediate steps to increase the size of the sewers in the labour colonies so that the sewage may be carried smoothly through the sewerage system. Wherever sewerage line is not yet constructed steps should be taken to lay it.
- Immediate action should also be taken by the Kanpur Nagar Mahapalika to construct sufficient number of public latrines and urinals for the use of the poor people in order to prevent defecation by them on open land. The cost of maintenance of cleanliness of those latrines and urinals has to be borne by the Kanpur Nagar Mahapalika.

- Since the problem of pollution of the water in the river Ganga has become very acute, High Courts should not ordinarily grant orders of stay of criminal proceedings in such cases and even if such an order of stay is made in any extraordinary case the High Courts should dispose of the case within a short period
- Steps should be taken by the Kanpur Nagar Mahapalika and the Police authorities to ensure that dead bodies or half burnt bodies are not thrown into the river Ganga.
- Whenever applications for licenses to establish new industries are made in future, such applications should be refused unless adequate provision has been made for treatment of trade effluents flowing out of the factories. Immediate action should be taken against the existing industries if they are found responsible for pollution of water.
- In order to rouse amongst the people the consciousness of cleanliness of environment the Gol/state governments should consider the desirability of organising 'Keep the city/town/village clean' week in every city, town and village throughout India at least once a year.

The SC also stated that this judgment applies *mutatis mutandis* to all other Mahapalikas and Municipalities which have jurisdiction over the areas through which the river Ganga flows. The case against the Nagar Mahapalikas and Municipalities in the state of Uttar Pradesh shall stand adjourned by six months. Within that time, all the Nagar Mahapalikas and municipalities in the state of Uttar Pradesh through whose areas the river Ganga flows shall file affidavits in SC to explain steps they have taken for the prevention of pollution of the water in the river Ganga in the light of the above judgment.

### 3) Significance of the judgement

In the Doon Valley case, concerning mining environment, the Supreme Court had interpreted Article 21 to include the right to live in healthy environment with minimum

disturbance of ecological balance and without avoidable hazard to them and to their cattle, house and agricultural land and undue affection of air, water and environment. This exercise was further emphasized in the Ganga water pollution case by Justice Venkataramiah, who extended the right to life to include the right to defend the human environment for the present and future generation.

In *M.C. Mehta v. Union of India*, the Supreme Court accepted that environmental pollution and industrial hazards are not only potential civil torts, but also violation of right to health. In this way, through the interpretation of Article 21, the Supreme Court has sought to convert formal guarantees into positive human rights. The Court's interpretations in expanding the meaning of right to life brought new dimensions not only in the environmental jurisprudence but also in the discourse on human rights in India. The credit for the creation of a host of environmental rights and enforcing them as fundamental rights goes to the Supreme Court. This is a significant contribution for environmental jurisprudence in India. The legal system may guarantee a Constitutional right to environment and statutes may accord the right to participate in environmental protection for citizens. However, when no methods for their participation are made available, then they are as good as non-existent.

Importantly, in India, there is no direct articulation of the right to environment anywhere in the Constitution or, for that matter, in any of the laws concerning environmental management in India. But this has been seized from below, by environmental groups, motivating the Court to find and construct environmental rights from the available legal material. What the Court has achieved since 1980, is to view the fundamental right to life to include different

strands of environmental rights that are at once individual and collective in character. However, the expansion of fundamental right by the Court recognizing right to environment as a part of right to life has neither been statutorily established nor has it been recognized in national environmental policy programme.

**Sources:**

[https://www.elaw.org/node/1348;CE9w&sig2=bRk6CrSw\\_qNk4LC9SWNIBA;](https://www.elaw.org/node/1348;CE9w&sig2=bRk6CrSw_qNk4LC9SWNIBA;)  
<http://www.lead-journal.org/content/08001.pdf>

### III. Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008: a critical analysis

#### 1) Background

Hazardous Waste generated by industries can cause environmental pollution and adverse health effects if not handled and managed properly. In order to manage hazardous waste mainly solids, semi-solids, solvents and other industrial wastes not covered by the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, and to enable the authorities to control handling, transport, treatment and disposal of hazardous waste (HW) in an environmentally sound manner, Ministry of Environment & Forests (MoEF) promulgated Hazardous Waste (Management & Handling) Rules, 1989 under the provisions of the Environment (Protection) Act, 1986. In 2008, the said rules were repealed and new rules entitled "Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008" were introduced. These were further amended in 2010.

<sup>2</sup> a person who has, control over the affairs of the factory or the premises and includes in relation to any hazardous waste

#### 2) Main provisions of the Act

##### i. Responsibility of the occupier<sup>2</sup> and operator<sup>3</sup> of a facility for handling of the wastes

- Responsibility for safe and environmentally sound handling of HW generated in his establishment.
- HW generated in the establishment of the occupier shall be sent or sold to a recycler/re-processor/re-user registered or authorized under the rules or shall be disposed in an authorized disposal facility.
- HW transported from an occupier's establishment to a recycler for recycling/reuse/reprocessing or to an authorized facility for disposal shall be transported in accordance with the provisions of these rules.
- Occupier shall take all adequate steps while handling HW to contain contaminants and prevent accidents and limit their consequences on human beings and the environment.

##### ii. Grant of authorization for handling hazardous wastes and power to suspend authorization

- Every person who is engaged in generation, processing, treatment, package, storage, transportation, use, collection, destruction, conversion, offering for sale etc., of HW shall be required to obtain an authorization from the State Pollution Control Board (SPCB).
  - HW shall be collected, treated, re-cycled, re-processed, stored or disposed of only in such facilities as may be authorized by SPCB.
  - The occupier or operator of the facility shall take all the steps, wherever required, for reduction and prevention of the waste

<sup>3</sup> A person who owns or operates a facility for collection, reception, treatment, storage and disposal of hazardous wastes

generated or for recycling or reuse and comply the conditions specified in the authorization.

- SPCB may, if it is of the opinion that holder of the authorization has failed to comply with any of the conditions of the and after giving him a reasonable opportunity of being heard and after recording reasons thereof in writing cancel or suspend the authorization for such period as it considers necessary in public interest.

### **iii. Grant of registration for recycling/reprocessing/re-use**

- Every person desirous of recycling or reprocessing HW specified in Schedule-IV may make an application for grant or renewal of registration.
- The Central Pollution Control Board (CPCB) on being satisfied that the applicant is utilizing environmentally sound technologies and possesses adequate technical capabilities, requisite facilities and equipment to recycle, reprocess or reuse hazardous wastes, may grant registration to such applicants with necessary conditions for carrying out safe operations in the authorized place only.

### **iv. Standards for recycling**

- The Central Government and CPCB may issue guidelines for standards of performance for recycling processes from time to time.

### **v. Import and Export of Hazardous Wastes**

- MoEF shall be the nodal Ministry to deal with the trans-boundary movement of HW and to grant permission for transit of the HW through any part of India.
- No import of HW from any country to India for disposal shall be permitted.

- Import of HW from any country shall be permitted only for the recycling or recovery or reuse.

- Export of HW from India may be allowed to an actual user of the wastes or operator of a disposal facility with the Prior Informed Consent<sup>4</sup> by the importing country to ensure environmentally sound management of HW.

- The import and export of HW, specified in Schedule III, shall be regulated in accordance with the conditions laid down in the said schedule.

- No import or export of HW specified in Schedule VI shall be permitted.

- Import or export of HW specified in Part A of Schedule III shall require Prior Informed Consent of the country from where it is imported/exported to, and shall require license from Directorate General of Foreign Trade and the prior written permission of the Central Government;

- Import of HW specified in Part B of Schedule III shall not require Prior Informed Consent of the country from where it is imported;

- Import and export of HW not specified in Part A and Part B of Schedule III but having the hazardous characteristics outlined in Part C of the Schedule shall require the prior written permission of the Central Government.

### **vi. Treatment, Storage and Disposal Facility for hazardous wastes**

- State Government, occupier, operator of a facility or any association of occupiers shall individually or jointly be responsible for, and identify sites for establishing the facility for treatment, storage and disposal of HW in the State.

- The operator of common facility or occupier of a captive facility, shall design and set

<sup>4</sup> It requires that, before an export may take place, the authorities of the State of export notify the authorities of the prospective States of import and transit, providing them with detailed information on the

intended movement. The movement may only proceed if and when all States concerned have given their written consent.



up Treatment, Storage and Disposal Facility for HW as per technical guidelines issued by CPCB and shall obtain approval from the State Pollution Control Board (SPCB).

- SPCB shall monitor setting up and operation of the Treatment, Storage and Disposal Facilities regularly.
- The operator of Treatment, Storage and Disposal Facility shall be responsible for safe and environmentally sound operation of the Treatment, the Storage and Disposal Facility and its closure and post closure phase.

### **vii. Packaging, labelling, and transport of hazardous waste**

- The occupier or operator of the Treatment, Storage and Disposal Facility or recycler shall ensure that HW are packaged and labeled, based on the composition in a manner suitable for safe handling, storage and transport as per the guidelines issued by CPCB from time to time.
- Transport of HW shall be in accordance with provisions of these rules and the rules made by the Central Government under the Motor Vehicles Act, 1988 and other guidelines issued from time to time in this regard.

### **3) Critical Analysis of Act**

- Indiscriminate and unscientific disposal of wastes in the past has resulted in several sites in the country becoming environmentally degraded.
- Regulations are not being effectively implemented/enforced due to a lack of adequate trained human resources with regulatory authorities.
- Remediation of old contaminated sites and prevention of new contaminated sites remains a problem.
- According to the National Productivity Council, New Delhi, there are more than 3 million Small and Medium Scale Enterprises (SMEs), which are spread throughout the country in the form of clusters/industrial estates and account for

60 to 65 percent of the total industrial pollution. SMEs in India cannot afford to adopt and maintain adequate hazardous waste treatment and disposal technologies.

- There have been instances of blatant violation of ban imposed on import of HW to India.
- There has been considerable delay in notifying sites for hazardous waste disposal.
- The malpractice arising out of import of some permitted items. It appears that unscrupulous traders in the garb of importing used oil or furnace oil, in fact, import waste oil which is a banned item. They also illegally import zinc wastes despite it being not permissible except in case where more than 65% of zinc can be recovered from the wastes.
- While designing the disposal system, relevant operating parameters for example temperature, residence time and turbulence should be considered. On inspection it was found by CPCB that barring a few, most of the incinerators are mere combustion chambers or industrial boilers where the maximum temperature is around 500°C, which is much too low. Often they are not equipped with adequate air pollution control devices and all types of wastes, including non-chlorinated with chlorinated hydrocarbons, being burnt. There seems to be an urgent need to develop the design criteria for incinerators to safeguard the environments so as to have proper and efficient working of incinerators close to the place of generation of hazardous wastes.
- In the absence of common facilities, illegal and clandestine dumping of Hazardous Waste has been reported in many States. Even after waste disposal facilities have become operational in some States, the problem persists since illegal dumping helps avoid costs of transportation and disposal.
- Despite the registration scheme for recyclers, the menace of recycling in the unorganised sector with all its attendant environmental and health hazards still continues.

- At present, there are no re-processing facilities in the country to recover toxic metals such as mercury from thermometers, tube-lights, cadmium from batteries, etc. Considering the potential for serious health impacts posed by co-disposal of such hazardous wastes with municipal solid wastes, development of a system for channelization of such wastes and development of re-processing facilities deserve to be accorded high priority.

**Sources:**

[http://neerionvis.nic.in/downloads/status\\_report.pdf](http://neerionvis.nic.in/downloads/status_report.pdf)

<http://envfor.nic.in/legis/hsm/hsm1.html>

#### IV. Snapshots: Environment news

##### **Kerala announces concessions under coastal zone rules**

The Kerala government announced a slew of concessions to protect the interests of people, especially fishermen in coastal areas, as a move to meet their grievances and apprehensions due to restrictions in human activity under Coastal Regulatory Zone Act (CRZ). Government would accord sanction for construction of houses, toilets and sheds in the coastal areas to keep the equipment of fishermen. Concessions announced would be available only to locals and not for commercial, industrial and tourism purposes.

##### **Techies turn ‘vigilantes’ for lakes**

Software professionals and residents of colonies in and around Hitec City and other areas in Cyberabad<sup>5</sup> are pooling money to not only protect lakes from land sharks but also to save the water bodies from being reduced to open drains and garbage dumps. They have succeeded at Nerella Cheruvu, and the fight is still on to save Mundi Kunta Lake. The group also acts as a “whistle blower”, alerting

<sup>5</sup> Cyberabad is well known in the southern part of India as an IT hub of Hyderabad and is used for the city as well.

the GHMC and revenue officials whenever debris is dumped in the lake — the first step by land sharks to grab the area.

##### **SC appointed mining experts arrive in Goa**

The Supreme Court appointed six-member expert panel which has to recommend ceiling or capping of iron ore. The expert panel is constituted to conduct a Macro Environment Impact Assessment study on what should be the ceiling of annual excavation of iron ore from Goa. The Committee during their earlier visit in January had issued directions to nearly 10 departments to furnish data related to mining. While forest department has been asked to submit details such as mining in forest area and dumps lying in the protected area, Pollution Control Board has to furnish data on the quality of water and air pollution in the mining area. Similarly, water resources have to provide data on ground water table and PWD on road capacity.

##### **Villagers set to stonewall Mahan forest felling**

Villagers of Singrauli district will launch a protest against forest clearance given to a joint venture of Essar Power Ltd and Hindalco Industries Ltd to mine coal at Mahan forests on Thursday. Protest will be held for not allowing Mahan forests in Singrauli to be felled by Essar for coal mining in spite of the stage II forest clearance granted by minister of environment and forests Veerappa Moily. The clearance granted by the minister tramples over the rights of several thousands of people, who have been dependant on forests for their livelihood for generations, they pointed out.

##### **Gadgil report on Western Ghats dropped**

Union Minister for Environment and Forests M Veerappa Moily said on Wednesday that the Centre had dropped the Madhav Gadgil

Report on protection of the Western Ghats and other forest areas. The government would instead consider the recommendations made in the Kasturirangan report.

### **Uttarakhand emerging as hotspot of ivory smuggling**

Uttarakhand, known as one of the safest abodes of the Asian elephant in Southeast Asia, is fast emerging as an important contributor to the illegal trade of ivory across the globe. With the seizure of 2.5 kg of ivory from Dehradun this week, the total quantity of the illegal animal part apprehended in the hill state since its formation in 2000, has now risen to an alarming 280 kg. A kilogram of ivory can fetch thousands of dollars on the international market and this has led to a spurt in the smuggling of elephant tusks over the years.

### **Realtors welcome Aravali plan, activists protest**

The proposed easing of the existing construction norms in green zone by the NCR Planning Board have been hailed by realtors and recreational industry players in Gurgaon. As per the new provision, regional recreational activities will be allowed with a limit on construction of 0.5%, except with the approval of competent authorities under forest and environment laws. The realtors have called it a positive step in the right direction.

### **46 Lions, 37 Cubs Died in Gir Forest Area in Last 2 Years**

Gujarat has lost 46 lions and 37 cubs in the Gir forest area in the last two years, the State Assembly was informed today. All these deaths, barring one, in the protected area which is the last abode of Asiatic lions, were due to natural causes. The high rate of death of cubs in 2013 and that too in natural circumstances may worry environmentalists.

### **800 turtles dead in Nellore**

More than 800 Olive Ridley turtles, which came to lay eggs on the beaches of Nellore in Andhra Pradesh, have died, it was reported on Tuesday. N.V. Sivarama Prasad, District Forest Officer, Nellore, said such large-scale deaths of Olive Ridley turtles had not been reported from the Andhra Pradesh coast in the recent past. The deaths were caused mainly by the use of trawl nets by fishermen.

### **Mining, quarrying banned near Sikkim Wildlife Sanctuary**

Human activities including mining, quarrying or setting up new 'major' hydro-electric projects will not be allowed around areas up to 200 meters from the Khangchendzonga National Park and four wildlife sanctuaries in Sikkim from April. Union environment ministry has notified these areas as 'eco-sensitive zone' in order to create some kind of "shock absorber" around the identified stretch to protect environment and wildlife. Besides the lone national park of Sikkim, the other four wildlife sanctuaries which are to be covered under the order include Fambonglho (west of Gangtok), Kyongnosla Alpine and Pangolakha (east district) and Shingba Rhododendron (north district).

### **Forest department embarks on reviving waterholes in Sathyamangalam forests in Tamil Nadu**

Before the onset of summer, the Forest Department here has started identifying existing waterholes in the Sathyamangalam forests that needs to be deepened. Most elephants had died of natural causes arising out of reduced water intake, according to wildlife watchers. According to wildlife enthusiasts, the forest department has access to substantial funds, now that Sathyamangalam has been made a tiger reserve, and must utilise the money to create

more water holes, alongside deepening existing ones.

### **HC directs NHAI to plant 10 saplings for every tree felled**

The Madras High Court Bench directed the National Highways Authority of India's Project Implementation Units (PIUs) in Madurai, Tiruchi, Thanjavur, Karur and Karaikudi to plant 10 saplings for every tree felled by them to widen the highways within their jurisdiction. A team of lawyers was also constituted to monitor the commencement of plantation works in all five PIUs.

### **National Mission for Sustainable Agriculture (NMSA): operational guidelines introduced**

This document details the operational guidelines for the National Mission for Sustainable Agriculture (NMSA) formulated for enhancing agricultural productivity especially in rainfed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation.

### **CO2 baseline database for the Indian power sector compiled**

This database, compiled by Central Electricity Authority (CEA), contains data on CO2 emissions for all grid-connected power stations in India. The purpose of the database is to establish authentic and consistent quantification of the CO2 emission baseline which can be readily used by CDM project developers in the Indian power sector.

### **Eco-friendly development plans for 2,000 villages**

In a bid to make villages sustainable, the Aurangabad divisional commissionerate for the first time has undertaken the task of making eco-friendly development plans for them in tune with the needs of villagers. According to the directives 1,988 villages from the eight districts of the region have been selected for implementing the plans.

The scheme, dubbed 'Paryavaran Santulit Samrudh Gram Yojana', would include installing a sewage network, storm water drains, rainwater harvesting, harnessing renewable energy, conservation and protection of existing assets such as water bodies and forests.

### **Toxic industrial waste contaminates water, poisons lives in Kerala's Kollam district**

Nearly 300 families living within a radius of 500 metres of a metals industry in Kerala's Kollam district have been suffering for almost a decade because of toxic waste from the plant run by Kerala Minerals and Metal Limited in Chittoor village contaminating their groundwater. With the groundwater in the area fully contaminated from the toxic industrial waste, the land has gone to waste and paddy fields have been deserted.

### **Pollution kills fish in Ranchi Lake**

Dead fish floating on the Ranchi Lake, commonly known as Bada Talab, are a common sight which has raised environmental concerns. Locals say the fish are dying because of depleting water levels, while others believe that rising pollution level is the reason. The Jharkhand State Pollution Control Board (JSPCB) admits that the pollution levels have risen alarmingly. "We are worried. We have asked for the contaminated water samples," said S K Sinha, member secretary of JSPCB.

### **No green clearance yet for Odisha mega power project**

The Ministry of Environment and Forests has deferred the grant of environmental clearance to the 4,000-MW ultra-mega power project (UMPP) at Bhedabahal in Odisha. The Expert Appraisal Committee on environmental impact assessment of thermal power and coal mine projects deferred the proposal, as details on water balance and availability as well as details of rehabilitation and resettlement were not submitted

### Close all waste plants in residential areas

The Parliamentary Standing Committee on urban development has recommended waste incinerator plants be shut in residential areas across the country. In its 27<sup>th</sup> report, the committee severely criticized the location and use of “mixed solid waste” for such plants. The government has said that Supreme Court had permitted The Ministry of New And Renewable Energy to go ahead with setting up five waste-to-energy projects and that Ministry of New and Renewable Energy had already approved these projects, including the one in Delhi, but is yet to assess its viability.

### Plastic waste, fly ash to be used to build roads in Rajasthan

In an innovative way to save environment, Rajasthan Public Works Department (PWD) has approved a project to build roads by using plastic waste and fly ash in Jaipur and Dausa districts. Of the 74 km-long road, plastic waste would be used in the construction of 62 km. Fly ash would be used in the foundation of roads. It is said use of plastic waste and fly ash is an innovation in road construction to help save environment from pollution and bring down cost as the expenses on tar and other conventional materials would be brought down by 10 per cent.

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

## V. State in Focus: Tripura

### 1) Tripura: Environment scenario

It is the third-smallest state in the country, covers 10,491 km<sup>2</sup> and as of 2011, the state had 3,671,032 residents, constituting 0.3% of the country's population. Agartala, the capital of Tripura, is the most populous city. It hosts three different types of ecosystems: mountain, forest and freshwater. The state has a tropical savanna climate, and receives seasonal heavy rains from

the south west monsoon which cause frequent floods. Forest land covers around 67.4 % of total area. The state has the highest number of primate species found in any Indian state.

### (a) Biodiversity

Nearly 1463 of the 17,000 species or 8.6% Angiosperms (Flowering plants) known from India is recorded in Tripura. At least 15 of such species recorded from Tripura are known to be rare or threatened.

In the aquatic system, at least 129 species of fishes are recorded and majority of the fishes are common to both Indo-Gangetic drainages and South East Asian fish fauna and include 11 vulnerable species, 3 endangered species and 3 rare species. Besides turtles and aquatic snakes at least 13 species of lizards including 2 species of monitor lizards are known from Tripura; both are endangered; at least 13 species of snakes other than the aquatic snakes are known from the State of which the common Indian Python is an endangered species.

Mammalian fauna was reported to be composed of 54 species and of the 15 primate species known from India, 7 species have been recorded from Tripura of which Phayre's Leaf Monkey is the most dominant species. Endangered species of primates, besides Leaf Monkey include Slow Loris, Stumped-tail Macaque, Pigtail Macaque and the only tail less ape, Hoolock Gibbon. Some of the mammalian species like common Tree Shrew, Indian Bison, Chinese Pangolin is reported to be very rare, while the population of Hoolock Gibbon, Indian Elephant and Jackal are reported to be declining. While Leopards and Elephants are recorded from North, South, West and Dhalai district, Bisons are only recorded from South district.

The avian fauna is composed of 341 species of which 77 species are winter visitors. Tripura with only 0.4 % of total geographical area of India exhibits more than 25% of the avian species diversity of the country. The State

Government has set up a total of 4 Sanctuaries covering 604 sq. km for in situ conservation. One more Sanctuary in Athramura hill range is proposed to be notified. It is to be noted that notification under 26(A) of Wildlife (Protection) Act, 1972 are yet to be issued for all the four sanctuaries, while there are already tremendous stress and man and animal conflict are reported to be rise.

**Problems relating to Biodiversity Conservation**

- **Habitat Destruction:** Change of land use due to conversion of forest for non-forestry purposes specially to meet the demand of plantation crops and development activities cause serious concern for and degradation of wildlife habitat. No quantified data is available on annual or decadal basis for such conversion activities.
- **Grazing:** There is no pasture land in the state for livestock grazing. It is estimated that 60% of the livestock graze in the forest land. This far exceeds the carrying capacity of the forests and causes destruction of young growth of the forest and destruction of habitat for the wild animals.
- **Forest Fires:** Forest fires are common and frequent in the state. It is now estimated that forest fire is common in 20 percent of the total forest area of Tripura. The major causes may be intentional burning of ground cover for grazing or for jhum cultivation. This led to complete wiping out the forest regeneration in some areas, (natural as well as artificial) and wildlife is severely damaged.
- **Shifting Cultivation:** The slash and burn cultivation in the hill tribal areas has direct impact on biodiversity viz. destruction of wildlife and natural habitat, loss of natural forest and loss of ecological balance including destruction of feeding, breeding and roosting grounds.
- **Introduction of Exotic Species:** Due to change in agricultural practices and emphasis in food security a number of plant species have been introduced in Tripura. It is estimated that 280 species of plant have been introduced in the state during the past period.

- **Illegal Hunting:** Conservation of biodiversity depends on strict protective measures in the field condition besides, appropriate legal instrument. Due to disturbed geopolitical condition, it is apprehended that illegal hunting pressure has increased in many remote and isolated dense forest areas. In absence of lack of appropriate monitoring and surveillance mechanism, the human pressure on wildlife may continue to increase

**(b) Deforestation**

Of the total geographical area of the State of 10,486 sq. km, a total of 6292 sq. km is recorded as forest. The actual forest cover is however estimated at 5745 sq. km, constituting 54.78 percent of the total geographical area. Of this, 2228 sq. km is considered dense forest, 3517 sq. km is recorded as open forest and scrub forest, leaving 4741 as non forest area (FSI Report, 1997, 1999).

A very high net deforestation rate of -5.29 was reported in parts of North Tripura district, which is the deforestation hotspot in the whole of Barak basin. The altered pattern of land use particularly increasing shifting cultivation was identified as the cause of forest cover change. Fragile resource base

| State/UT | Geo. Area (GA) | Total Forest Area as in ISFR 2009 |      | Recorded Forest Area |                   |                   | Total Forest Area | % of GA |    |
|----------|----------------|-----------------------------------|------|----------------------|-------------------|-------------------|-------------------|---------|----|
|          |                |                                   |      | Reserved Forests     | Protected Forests | Unclassed Forests |                   |         |    |
| Tripura  | 10486          | 109                               | 4686 | 3182                 | 7977              | 8073              | -88               | 7985    | -8 |

| State/UT | Geographical Area | 2011 Assessment   |                   |             |              | Forest Cover Reported in ISFR 2009 | Interpretational Change | Forest Cover 2009 as Revised (7+8) | Real Change from SFR-09 (6-9) |
|----------|-------------------|-------------------|-------------------|-------------|--------------|------------------------------------|-------------------------|------------------------------------|-------------------------------|
|          |                   | Very Dense Forest | Mod. Dense Forest | Open Forest | Total Forest |                                    |                         |                                    |                               |
| 1        | 2                 | 3                 | 4                 | 5           | 6            | 7                                  | 8                       | 9                                  | 10                            |
| Tripura  | 10,486            |                   | 6,294             | 4175        | 2            | 2117                               |                         | 6,294                              | 60.02                         |

has been changing due to various anthropogenic disturbances resulting in forest area degradation which is directly affecting the ecological stability, biological diversity, economic viability & environmental security of the state.

## Threats to forests

- **Forest Encroachment:** This has shown an alarming trend since 1980; while an estimated 16,210 families have reportedly encroached upon forest land measuring 5305.30 ha till 1980. The number of families rose by another 27,005 families by 1991 occupying 8620.40 ha of additional forest land; the total number of families now stands at 43,215 occupying 13,925.70 ha; of these 8190.84 ha belong to Reserve forest, 2127.54 ha belong to proposed Reserve forest and 3607.33 ha come under Protected forest. The latest figure from the Revenue Department, Govt. of Tripura (1997) shows that 580 sq. km out of 6292 sq. km of forest land has been occupied by the encroachers.
- **Forest Fires:** One of the causes of loss of forest is forest fire. A five year data shows that average number of forest fire per year is 33, with an average of 300 ha., of forest being burnt. FSI estimate of 1993 shows more than 6 % of forest have become moderately or heavily degraded due to forest fire.
- **Grazing:** Of the two million domestic cattle of the state at least 60 % graze in the forest area. This led to soil compaction and heavy damage to plantations and natural regeneration process. Lack of community grazing land is considered as one of the major causes for such serious degradation.

### (c) Waste management

The state has no master plan for solid waste management even in major urban centers including the capital city of Agartala. According to the Agartala Municipal Council, about 90-95 metric tonnes of solid waste is generated per day, of which approximately 50-60 metric tonnes are collected through NGO collaboration and dumped in Haphama Dumping Ground in form of sanitary land filling.

Regarding bio medical waste management, based on the waste audit carried out in representative hospitals, nursing homes,

pathological laboratories and using specific waste generation factor evolved from them, the total quantum of solid biomedical waste (which includes organic waste) generated in Tripura is found to be 1573.2 Kg/day. In addition, 136 m<sup>3</sup> of wastewater per day is generated from them. Out of this the quantity of organic waste is about 810 Kg/day. Currently, there is no appropriate system for disposal of biomedical waste. Joint meetings with CPCB, State Pollution Control Board (SPCB), local authorities, Urban Development Department, Health Department and nursing homes have already been organized. According to SPCB, an action plan for inventorisation of hospital waste and for setting up of facilities for proper disposal of biomedical waste has been taken.

With regard to hazardous waste, due to lack of infrastructure and communication, Tripura is still an industrially backward state. Most of the production units in Tripura are small-scale in nature. The Directorate of Industries, Government of Tripura recorded the presence of about 4724 small-scale registered industrial units in the state. In 1999, there were about 2837 small-scale units located in the state. However, no information is available with any organizations/agencies about the actual number of operating industrial units in Tripura. Based on product manufactured and industrial process used, the following sectors have been identified as hazardous waste generating sectors conforming to Schedule I and II of Hazardous Waste (Management & Handling) Amendment Rule, 2000: drug intermediate (diosgene) producing units, pharmaceuticals, latex producing units, lead acid batteries reconditioning, printing press, photo printing, leather tanning, textile and handloom dyeing and printing, aluminium product with melting facility and timber processing. At present no proper systems of hazardous waste management exist in the state of Tripura.

**(d) Water issues****Groundwater**

The semi-consolidated tertiary formations form the main hydrogeological unit of the State. These formations consist of friable sand stones, clayey sand stone, sandy shales and shales. Annual replenishable ground water resource is 2.97 Billion Cubic Meters (BCM), Net Annual Ground Water Availability is 2.74 BCM and the Stage of Ground Water Development is 6 %. The ground water resources in Tripura are not over-exploited/critical or semi critical. Iron is a major contaminant of ground water in parts of Dhalai, North Tripura, South Tripura, and West Tripura. Analysis report also show that arsenic concentration in groundwater exceeds the permissible level (50 mg L<sup>-1</sup>) in some districts of Tripura.

**Surface water**

There are 10 (ten) major rivers in the state. They are generally ephemeral in nature and their flow is directly related to the rainfall, being in spate in rainy season and running almost dry during summer months. The purity and sustained and regular discharge of water is directly proportional to intensity of vegetative cover in the river systems. The water is muddy during rainy season and bitterly polluted during lean periods.

- The water quality of Rana Deghi was not suitable for aquatic life, drinking and bathing purposes. Environmental condition was nearly anaerobic and eutrophied due to the continuous dumping of solid waste material.
- From the results of water samples study, it was found that the water quality of Rishidas Colony pond was not suitable for drinking, bathing and washing purposes. Environmental condition of the pond was not good due to the continuous dumping of waste materials especially sanitary waste from community toilets. From the observed values of Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD) and Chemical

Oxygen Demand (COD), the Bacteriological Load in the pond is very high.

- Analysis of water quality of the Haora river confirmed that pollution load of upstream of Haora river was less as compared to downstream. A study revealed that untreated sewage, human excreta was directly discharged into the Haora river every day from 1145 households on river banks. It is also seen that Bacterial contamination including pathogens and solid wastes from different sources like cremation ground etc. were discharged directly into the river in the urban areas. Thus, downstream of Haora River that lies around Agartala is heavily polluted and the water of this river is not suitable for drinking, bathing and other domestic uses.

- Studies found that Amar Sagar was highly polluted by continuous inflow of a large amount of untreated domestic sewage discharged into Amar Sagar by five drains. The domestic sewages were heavily loaded with organic matter, ammonia, pathogens etc. and are producing severe environmental stress on aquatic life. Thus, water of Amar Sagar is not suitable for drinking, bathing and fishing purposes.

- Studies indicated that Mahadev Dighi is polluted by continuous inflow of a large amount of solid waste dumped from the surrounding residential area and untreated domestic sewage discharged into it by one drain. Domestic sewages were heavily loaded with organic matter, ammonia, pathogens etc. and produced severe environmental stress as a result the Mahadev Dighi was mostly eutrophied. Thus, water of Mahadev Dighi is not suitable for drinking, bathing and other purposes.

- Status of the River Gumti

The Gumti basin is situated in the lower middle part of Tripura. It is the major river of the state. Reckless deforestation, extraction of sediments from river bed and valley side areas, unscientific filling of sediments across the river for the construction of bridge piers within the river bed and many other unscientific activities have made



the river physically sick. Most of the people along the river side areas use the river for disposing all kinds of solid and liquid wastes. Due to such unplanned and unscientific activities the river is deteriorating both in terms of its physical condition as well as its pollution status.

### **Wetlands**

Tripura supports a rich diversity of inland wetland habitats. According to the satellite data of 1992-93 there are 408 Wetlands in Tripura covering an area of 98.58 ha. These wetlands also support diverse birds and fish species. Of the total fish fauna of the wetlands, 2 are ranked as endangered and 12 as vulnerable species. Among the birds, one species is ranked as threatened. These wetlands also support different species of aquatic vegetation. Of the total wetlands, 7 wetlands are important from the point of view of biodiversity conservation and as centers of socio-economic values and potential sources for eco-tourism in the state. However, the very existence of these unique resources is under threat due to developmental activities, and population pressure. This calls for a long term planning for preservation and conservation of these resources.

### **(e) Air Pollution**

The urban centers in the State have witnessed a significant increase in the number of industries in the small and medium sectors and also in the number of vehicles. As a result, there has been a significant change in the quality of air in most of the urban centers. SPM and RPM level as also NO<sub>x</sub> remain high in the commercial area while SO<sub>2</sub> and lead show an increasing concentration in industrial area. An analysis of the available data show that concentration of SPM in the residential area comply with NAAQS up to 77.7% while compliance level of RPM stands at 81.5%. The compliance level for three other parameters namely NO<sub>x</sub>, SO<sub>2</sub> and Pb stand at 74.07%, 100% and 100% respectively. Among

the four district of Tripura the North district appears to have the highest pollution load and Dhalai district the lowest air pollution load during the summer months. The urban centers in the State have witnessed a significant increase in the number of industries in the small and medium sectors and also in the number of vehicles during 1990-2000. As a result, there has been a significant change in the quality of air in most of the urban centers.

### **2) Laws and Policies**

The principal laws on environment in force in Tripura state are given below-

- The Tripura Forest (Establishment and Regulation of Sawmills and Other Wood Based Industries) Rule, 1985;
- The Tripura-Forest (Timber Marking) Rule, 1985; and,
- The Tripura Forest Rules, 1952, including Tripura Forest Transit Rules as amended by Notification No.F.7 (44)/For/FP-90/22795 dated 7.5.1990 and vide Notification No. F.7 (44)/For/FP-90/7468 dated 24.3.1998.
- The Indian Forest (Tripura Amendment) Act, 1984, 1986, 1990
- Tripura Biological Diversity Rules, 2006
- The Noise Pollution (Regulation and Control) Rules 2000
- The Environment (Protection) Rules 1986
- The Water (Prevention and Control of Pollution) Rules 1975
- The Air (Prevention and Control of Pollution) Rules 1982

### **3) Environment Sustainability Index (ESI)**

ESI collects and collates a huge amount of data and converts into interpretable indices, to create more awareness of environmental sustainability among the practitioners, researchers and society as a whole. Tripura ranks 9 out of 28 states in India in terms of ESI.

**Source:**

<http://envfor.nic.in/sites/default/files/State%20of%20Environment%20Report%20-20Tripura%202002.pdf>  
[http://www.fsi.org.in/sfr\\_2011.htm](http://www.fsi.org.in/sfr_2011.htm)  
<http://envfor.nic.in/sites/default/files/State%20of%20Environment%20Report%20-20Tripura%202002.pdf>  
[http://trpenvis.nic.in/test/doc\\_files/Gumti\\_river.pdf](http://trpenvis.nic.in/test/doc_files/Gumti_river.pdf)  
<http://tspcb.tripura.gov.in/waterp.htm>  
<http://www.greenindiastandards.com>

## VI. Audit Report: Report No. - 4 of 2013 Government of Gujarat on General and Social Sector: Bio Medical waste management

### 1) Background

Bio-Medical (BM) waste is generated during diagnosis, treatment and immunization on human/animal/research. BM waste and by-products are poisonous and pollutants and can cause injuries and therefore, its management is an integral part of health care. In order to streamline the procedure for collection, handling, transportation and disposal of the BM Waste, the Government of India (GOI) framed Bio-Medical Waste (Management and Handling) Rules, 1998 (BMW Rules) under the provisions of Environment (Protection) Act, 1986.

BMW Rules apply to all occupiers/ Health Care Establishments (HCE) handling the BM Waste in any form. Health and Family Welfare Department provides health and medical services to the public through Civil Hospitals attached to six Medical Colleges, 62 District/ Taluka Hospitals, 318 Community Health

Centres (CHCs) and 1,158 Primary Health Centres (PHCs). Medical services/education is also rendered by certain Urban Local Bodies. There were 13 Common Bio-Medical Waste Treatment Facilities (CBWTF) that facilitated treatment of the BM Waste of all Sectors.

### 2) Audit objectives and criteria

The objectives of the performance audit were to ascertain whether-

- assessment of quantum of waste being generated was made;
- implementation of BMW Rules was effective; and
- effective monitoring was done to measure operational standards as specified in the Rules.

The list of legislations, rules, judgements and directions regulating the collection and handling of Biomedical waste that were referred to in the course of this performance audit are listed below:

- Bio-Medical Waste (Management and Handling) Rules 1998;
- Central Pollution Control Board (CPCB) guidelines on bio-medical waste handling and disposal; and
- Monitoring standards prescribed by CPCB.

### 3) Audit findings

- According to Rule 8(1) of the BMW Rules, every occupier of an institution generating (handling not less than 1,000 patients per month), collecting, receiving, storing, transporting, treating, disposing and/or handling BM Waste in any manner was required to obtain authorisation from GPCB. Scrutiny of the Annual Reports submitted by GPCB to CPCB revealed that a large number of HCEs were running without authorisation. Out of the test checked 80 HCEs, only 19 had authorisation as required under the Rules. In rest of the HCEs either the information regarding authorisation was not available or the

HCEs were operating without obtaining the same from GPCB.

- Out of 80 HCEs test checked, BM waste was found mixed up with Municipal solid waste (MSW) in 58 HCEs (73 per cent). This waste was disposed in open landfill site, which was in contravention to the BMW Rules. In addition, the waste could cause infectious diseases to those human/animal/birds arriving at the landfill sites, including the employees of urban local bodies, rag pickers; etc. While accepting audit observations, GPCB issued notices (July 2012) to HCEs for violating BMW Rules. The Government stated (October 2012) during Exit Conference that shortage of skilled manpower was one of the reasons for non-adherence to the provisions of the Rules. The reply of the Government was not justified as the subject matter relates to disposal of hazardous BM waste.

- The Health and Family Welfare Department installed 41 incinerators for treatment of BM Waste in different Taluka hospitals and District hospitals across the State at a cost of 1.99 Crore. These incinerators remained inoperative for a period ranging from four to 10 years due to repeated breakdowns and operational problems. The incinerators were not repaired, instead, the Hospitals obtained membership of CBWTFs operating in their areas for treatment of the BM Waste generated.

- During scrutiny of the records of two Common BM Waste treatment facilities (CBWTF), it was found that some of the hospitals were sending waste in blue bags or in yellow bags only, which reflected improper segregation of the BM Waste. None of the hospitals sent potentially infectious plastic waste in red bags, which led to improper handling of waste. Mixed-up waste was being disposed by the CBWTF according to the colour of the container bag.

- Rule 6(5) of the BMW Rules provides that no untreated BM waste shall be kept stored beyond a period of 48 hours. When it becomes necessary to store the waste beyond 48 hours,

prior permission of the prescribed authority was necessary. Joint visit at the hospitals with GPCB officials revealed non-collection of the BM waste (for two or more days) by the Common Bio-Medical Treatment Facilities (CBMWTF) operators beyond 48 hours. The concerned hospitals stated (March-July 2012) that they would henceforth inform the GPCB when delays happened beyond prescribed time limit in lifting the BM waste. While accepting audit observations, GPCB issued notices (July 2012) to HCEs for violating BMW Rules.

- The treatment/disposal of BM Waste by incineration/deep burial, autoclaving shredding etc. depends on the type of the waste. Burning of BM waste is nowhere prescribed as a mode of treatment in the Rules. However, joint inspection of 80 HCEs revealed that in 48 HCEs the BM Waste was being disposed by burning. In the test checked HCEs, 18 PHCs resorted to deep burial method for waste treatment without adding any layer of lime and soil.

- As per the Environment (Protection) Act, 1986, failure to comply with or contravention of any of the provisions of the Act, would entail imprisonment and/or fine. However it was observed that though the GPCB issued 2,864 notices for violation of BMW Rules (2007-12), but no penalty was imposed as there was no follow up action after issue of notices. GPCB replied (July 2012) that according to the provisions of the Environment (Protection) Act for violation/non-compliance of the Rules, cases under Section 15 of Environment (Protection) Act are required to be filed before Court of Law and that no court has till date imposed any fine and/or penalty to any HCE. Records revealed that as no court case has been filed by GPCB (till 2011-12) for such violation, no further penal action could be taken against the erring HCEs, which reflected laxity on the part of the GPCB in enforcement of the Rules.

- Mercury is utilised in variety of medical devices. As it is a powerful neurotoxin, great care is required to protect people from its spills. Similarly, blood spillage also requires greater care

for disposal in order to avoid any undesired incidents. However, out of the test checked 80 HCEs only five HCEs had mercury and blood spillage management kits. While accepting audit observations, the GPCB issued notices (July 2012) to HCEs in the matter.

#### 4) Recommendations

- Data base on non-Government Health Care Establishments may be prepared;
- Bio-Medical Waste may be got segregated and collected in colour coded containers within the prescribed time limit and treated in accordance with the BMW (Management and Handling) Rules;
- Norms regarding mechanical handling, deep burial, etc. of BM Waste may be followed; and
- Recommendations of the Task Force may be got implemented.

[http://saiindia.gov.in/english/home/Our\\_Products/Audit\\_Report/Government\\_Wise/state\\_audit/recent\\_reports/Gujarat/2012/Report\\_4/chap\\_2.pdf](http://saiindia.gov.in/english/home/Our_Products/Audit_Report/Government_Wise/state_audit/recent_reports/Gujarat/2012/Report_4/chap_2.pdf)

## VII. International Audit Report: Norway: The management of hazardous waste

### 1) Background and purpose of audit

Pursuant to the EU Regulation on the supervision and control of shipments of waste within, into and out of the European Community (the Waste Shipment Regulation), Norway has a duty to prevent hazardous waste from being exported to developing countries. Illegal export of waste might result in the waste not being treated properly, thereby causing serious damage to health and the environment in other countries. The Norwegian Climate and Pollution Agency is the agency in charge of hazardous waste. It issues permits for the treatment and export of such waste, supervises treatment facilities,

producer responsibility schemes and the import/export of hazardous waste. The county governors are responsible for permits and the supervision of reception and storage facilities for hazardous waste and for the supervision of ports and enterprises that produce waste. It is the Norwegian Climate and Pollution Agency's responsibility to instruct and guide the county governors in their supervision work. The municipalities are responsible for collecting and receiving hazardous waste and controlling building and construction waste. The Norwegian Maritime Directorate supervises ships, ensuring that they comply with the regulations relating to waste disposal in ports. The objective of the audit was to evaluate the authorities' work on ensuring that hazardous waste is properly handled.

### 2) Audit objective, scope and criteria

The audit objective was to examine-

- To what extent do the Ministry of the Environment and the Norwegian Climate and Pollution Agency fulfil their management responsibility to contribute to ensuring that hazardous waste is properly handled?
- To what extent is hazardous waste collected and declared in an expedient manner?
- To what extent is hazardous waste properly handled at storage and treatment facilities?
- To what extent do the authorities have control of the export of hazardous waste?

The audit criteria that form the basis for this investigation primarily derive from the Ministry of the Environment's budget propositions, the Norwegian Pollution Control Act, the Norwegian Waste Regulations and other regulations. The investigation was also based on relevant EU directives and international commitments.

### 3) Key findings

It was observed that many enterprises are still failing to comply with the regulations intended to ensure that hazardous waste is properly handled. The most important weaknesses in the Ministry of the Environment and the relevant authorities' work of ensuring that hazardous waste is properly handled appear to be the following:

- There is still hazardous waste that is not collected.
- Supervisory activities show no significant improvement in waste handling at storage and treatment facilities.
- Control of the export of hazardous waste is inadequate.
- The Ministry of the Environment has failed to adequately follow up whether development in the area is satisfactory, and whether the policy instruments are functioning as intended.
- It was observed that hazardous waste that is not collected can still contribute to the release of environmental toxins and oil pollution into the natural environment. Supervision of the waste producers has shown that many enterprises fail to comply with the regulations for handling and storage of hazardous waste. It also emerged that some waste ends up in residual waste and is illegally exported to countries that cannot handle the waste properly. Some waste is also released into drains or the sea.
- It was observed that a high proportion of the EE waste produced is not collected. Waste that is not collected is exported illegally, stored or ends up in residual waste. The Waste Regulations regulate the take-back companies' duties in relation to the collection of EE waste, but not the total amount to be collected. The investigation shows that the authorities do not have an overview of how much EE waste is generated, even though the data required to calculate this amount are avail-

able. Inadequate management information weakens the preconditions for good follow-up of the collection system.

- The Norwegian Maritime Directorate has neither followed up the assignment given to it in the allocation letter from the Ministry of the Environment of supervising the handing in of waste from ships pursuant to the Pollution Regulations, nor ensured that waste notification forms are collected from ships. This reduces its ability to check whether ships have handed in waste.
- Many ports lack waste handling plans, and that existing waste handling plans do not comply with the regulatory requirements. The investigation points out that the county governors have failed to follow up the ports' compliance with regulations to a sufficient extent. In the Norwegian Climate and Pollution Agency's opinion, the regulations are not well suited to Norway's port structure.
- The Norwegian Climate and Pollution Agency and the county governors' supervision activities are carried out as visits to the facilities and visual inspections. Other than this, the supervision is largely based on document reviews and interviews with employees at the facilities. The county governors and the Norwegian Climate and Pollution Agency do little to verify the enterprises' information about whether waste is correctly labelled, sorted, treated and its hazardous components removed by ensuring that test samples are collected. There is reason to believe that this results in failures to handle hazardous waste properly not being uncovered to a sufficient extent.
- The export of hazardous waste has increased. The Norwegian Climate and Pollution Agency is responsible for processing applications for the export of hazardous waste. The Waste Shipment Regulation sets out detailed requirements concerning the authorities' case processing of applications for export permits. The investigation shows that the Norwegian Climate

and Pollution Agency's case processing is mostly in accordance with the regulations. Most export permits are granted for hazardous waste that is to be processed in the other Nordic countries. Export permits are also granted for export to other EU countries, including for final disposal. These exports have also increased. The authorities do not have a good overview of re-export from the countries to which the waste is initially exported. This means that there is a risk that Norwegian waste may end up in countries that lack the capacity to treat the waste properly.

- Some illegal export of hazardous waste takes place under the pretext of being products or pure fractions for recovery. The requirement for an export permit from the Norwegian Climate and Pollution Agency is thus bypassed, as the waste is not classified as hazardous waste. Some of the illegal waste export from Norway goes to countries outside the EU/EEA area that do not have the capacity to treat the waste properly. Pursuant to the Waste Shipment Regulation, Norway is obliged to supervise transboundary transport of waste. The Norwegian Climate and Pollution Agency has entered into a cooperation with the Norwegian Customs and Excise, but few supervisory activities have been carried out in relation to export of hazardous waste. Nor have adequate systematic procedures for uncovering attempts at illegal export been implemented. Also, the authorities have few sanctions available in relation to the illegal export of hazardous waste. Because of this, the authorities do not deem supervisory activities to be expedient.

#### **4) Recommendations**

- In Recommendation No 295 to the Storting (2000-2001) On the Government's Environmental Policy and the State of the Environment in Norway, the majority of the Standing Committee on Energy and the Environment highlighted the goal that everyone is to take responsibility for their own waste, and is therefore of the opinion that waste produced in Norway should be dealt with in Norway.

- The supervision of small enterprises should be regular in order for it to be possible to check whether the enterprises improve their compliance with regulations over time. Supervision must be comprehensive, systematic and risk-based.

**Source:**

[http://www.riksrevisjonen.no/en/Reports/Documents/Documentbase\\_3\\_7\\_2011\\_2012.pdf](http://www.riksrevisjonen.no/en/Reports/Documents/Documentbase_3_7_2011_2012.pdf)