

**Environment Department  
(Haryana State Pollution Control Board)**

**3.3 Waste Management**

**Highlights**

*Performance Audit on “Waste Management” brought out department’s/Board’s failure in assessing the updated quantity of waste being generated in the State, non-projection of growth of waste based on growth of population, consumption pattern and industrial growth, absence of strategy to prevent or to reduce generation of waste, etc. Only 24 per cent of the hazardous waste generation units, 40 per cent of bio-medical wastes facilities and none of the municipal solid waste operators had obtained authorisation for the disposal of wastes from the State Pollution Control Board. Large quantities of hazardous waste was being piled up in pits, bio-medical waste was not being segregated, stored and disposed off by health institutions as per prescribed Rules. Municipal solid waste, sewage and treated effluent was being disposed of on the banks of a Nallah, in drains and in the open causing pollution. The Board had not taken effective steps against the defaulting individuals/organisations and there was little deterrence against violations.*

- **The Environment Department and the State Pollution Control Board had neither assessed the latest figure of waste being generated nor projected the growth of waste based on growth of population, consumption patterns and industrial growth. Further, no strategy existed to prevent or to reduce the generation of waste.**

*(Paragraph 3.3.7)*

- **Out of 106 operators of municipal solid waste, none had qualified for authorisation under Municipal Solid Waste (Management and Handling) Rules 2000.**

*(Paragraph 3.3.8.1)*

- **Solid waste of Udyog Vihar, Gurgaon was disposed of on the bank of a Nallah, while waste of industrial estate, Barwala, Kundli and Manesar was being disposed of in the open at unauthorised places. Sewage of Hisar town was being thrown in the unauthorised places while treated effluent of Panipat was being discharged in Nohra Drain causing water and air pollution.**

*(Paragraph 3.3.8.3)*

- **A project ‘Modernisation of Municipal Solid Waste Management’ for 16 towns of National Capital Region was left incomplete after spending Rs 20.98 crore for want of funds.**

*(Paragraph 3.3.8.4)*

- **For disposal of bio-medical waste, out of 1,709 health care facilities, 682 (40 per cent) were not granted authorisation by the State Pollution Control Board. Segregation, storage and disposal of waste was not being done in health institutions as per prescribed Rules.**

*(Paragraphs 3.3.9.1 and 3.3.9.2)*

- **Out of 1,342 hazardous waste generating units, only 322 (24 per cent) units were granted authorisation for disposal of waste. 26,870.4 tonnes of hazardous waste had been piled up in pits in the absence of common treatment, storage and disposal facility.**

*(Paragraphs 3.3.10.1 and 3.3.10.2)*

### **3.3.1 Introduction**

Wastes are threat to the environment and human health if not handled or disposed off properly. Surface water contamination takes place when wastes reach water bodies while ground water gets contaminated when residues from waste percolate into the ground water. Soil contamination as a result of waste can harm plants on taking up contaminants from their roots. Emissions from incinerators or other waste burning devices and landfills can also cause air contamination. For the protection and improvement of environment and to prevent hazards to human beings, other living creatures, plants and property, the Parliament enacted the Environment (Protection) Act in 1986 (the Act). Relevant rules were framed under the Act to manage and handle different kinds of wastes viz. hazardous waste, bio-medical waste and solid waste, in the years 1989, 1998 and 2000 respectively.

### **3.3.2 Organisational set up**

The Commissioner and Secretary to the Government of Haryana, Environment Department is the administrative head in the Government for formulating the policies. The Director, Environment Department is responsible for implementation of policies, programmes, etc. The Haryana State Pollution Control Board (the Board), constituted in September 1974, was entrusted with the responsibility of implementation of the provisions of the Act and Rules. The Commissioner and Secretary to the Government of Haryana, Environment

Department is also the Chairman of the Board. The Board has a Member Secretary and five members representing the State Government. Nine Regional Environmental Engineers also assist the Chairman for smooth functioning of the Board.

### **3.3.3 Audit objectives**

The Audit Objectives were to assess whether:

- the quantum of waste being generated in the State has been accurately assessed and have the risks to environment and health posed by waste been identified;
- the policies on waste management reflected the priority of waste reduction and waste minimisation as against waste disposal;
- the various agencies involved in the process were identified and allocated clear responsibility and accountability for waste management;
- the compliance to laws regulating municipal solid waste, bio-medical and hazardous waste was taking place and whether the monitoring mechanism was effective in checking non-compliance; and
- the funding and infrastructure was adequate for the implementation of rules on waste management and whether the funds/infrastructure had been used economically, efficiently and effectively.

### **3.3.4 Audit criteria**

To achieve the Audit objectives, following audit criteria were adopted:

- Adherence to rules relating to the bio-medical waste, hazardous waste and municipal solid waste;
- Policies, directions, legislation and practices for management of waste; and
- Adherence to system of periodic monitoring in the Board relating to management of waste.

### 3.3.5 Audit coverage and methodology

Records for the period 2002-07 were test checked during March 2007-May 2007 in the offices of the Board, Directors of Environment and Urban Development Departments, Chief Administrator of Slum Clearance Board, Managing Director, Haryana State Industrial Infrastructure Development Corporation (HSIIDC), Director General Health Services (DGHS) and 24<sup>22</sup> field offices (out of 135 offices). An introductory meeting was held in March 2007 with senior officials of the Board in which important issues regarding audit plan, audit objective and audit criteria were discussed. Results of the test-check are embodied in the succeeding paragraphs.

### Audit findings

### 3.3.6 Financial arrangement and expenditure

**Negligible expenditure was incurred on waste management**

The Board spent Rs 47.11 crore on various activities such as water pollution control, air pollution control and waste management against the receipt of Rs 91.76 crore during 2002-07. Of the total expenditure, Rs 31.05 crore (66 *per cent*) were spent on establishment and office expenses, Rs 1.40 crore (three *per cent*) on items such as vehicles, computers, furniture, laboratory equipments, etc. and Rs 12.66 crore (27 *per cent*) on construction of building, loans and advances and Rupees two crore (four *per cent*) on waste management activities.

Against the budget provision of Rs 1.85 crore, the Environment Department spent Rs 1.76 crore during 2002-07. Out of this, Rs 1.16 crore (66 *per cent*) were spent on salaries, Rs 0.50 crore (28 *per cent*) on installation of Common Effluent Treatment Plant, Rs 0.06 crore (three *per cent*) on environment education and awareness and Rs 0.04 crore (three *per cent*) only on waste management.

Thus, the Board and the Department spent negligible funds on waste management during 2002-07.

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Municipal Councils: Karnal, Panipat, Thanesar and Yamunanagar; Municipal Committees: Pinjore, Kalka, Ladwa, Jagadhari, Nilokheri, Taraori, Gharounda and Samalkha; Industrial Estates: Barwala and Yamunanagar; Estate Offices of HUDA: Kurukshetra, Jagadhari and Panipat; Civil Surgeons: Ambala, Panipat, Panchkula and Yamunanagar; Regional Offices of the Board: Panchkula, Panipat and Yamunanagar.

### 3.3.7 Assessment of waste and risks associated with it

As per Environment Report of Haryana State, the Environment Department had assessed the following quantity and type of waste generated during the year 2004-05:

i)	Municipal Solid Waste	3,578.30 tonnes per day
ii)	Industrial Hazardous Waste	63,707 tonnes per year
iii)	Bio-Medical Waste	311 tonnes per year

The Environment Department and the Board had not assessed correctly the quantity and type of waste generated during the year 2005-06 and 2006-07. No system to assess the quantity of waste being generated during these years was in place. Further segregation of waste, for example segregation of municipal waste into biodegradable, plastic, etc. was not being done which was essential to determine the method of treatment/disposal of such waste. No projections about the growth of waste based on growth of population, consumption patterns and industrial growth had been made. Besides no assessment had been made to determine the current capacity to handle waste or the capacity that needed to be created for handling the increasing quantity of the waste.

Further, risks to surface and ground water, ambient air and soil as a result of improper management of waste had also not been assessed. More importantly, no strategy had been made to reduce the generation of waste so that waste disposal is manageable according to provisions of the 'Act'.

### 3.3.8 Solid waste management

#### 3.3.8.1 Grant of authorisation

**Out of 106 operators of municipal solid waste, none had qualified for authorisation.**

The Municipal Solid Waste (Management and Handling) Rules 2000 provide that the Municipal Authority or an operator of a facility shall obtain authorisation for setting up of Waste Processing and Disposal facility including landfills from the Board. The Rules further provide the method to be adopted by the authorities for proper storage, collection, segregation, processing, transportation and final disposal of municipal solid waste.

It was noticed that there were 106<sup>23</sup> units working as operators of the facilities, but none of them qualified for authorisation for the purpose. Audit further observed that though the Municipal Committees (MCs) had submitted the application forms but criteria for scientific method of collection, transportation and disposal had not been fulfilled by any of the MCs. Show cause notices were issued to MCs but no legal or other action had been taken against them for

<sup>23</sup> 75 Municipal Authorities, 14 units of HSIIDC and 17 Estate Offices of HUDA.

non-compliance of rules. Further, the Board sent (November 2006) a case for prosecution against the responsible officers/persons in respect of MC, Thanesar to the Government in Environment Department but the Government had not taken any decision (May 2007).

**Out of 75 MCs, only Sirsa MC had sanitary landfill and compost plant.**

Schedule I of the Rules *ibid* prescribed time schedule for improvement of existing landfill sites as per provisions of these rules, identification of landfill sites for future use and making site(s) ready for operation, setting up of waste processing and disposal facilities by 31 December 2001, 31 December 2002 and 31 December 2003 respectively. Twenty three out of 75 MCs had not even identified the sites for landfills, 20 MCs had identified the sites but had not acquired the land and 31 MCs had acquired the sites but had not constructed sanitary landfill and compost plant. Sanitary landfill and compost plant was in operation only in Sirsa municipal area.

### 3.3.8.2 *Non-compliance of Solid Waste Management Rules*

For the disposal of solid waste, the municipal bodies were required to obtain authorisation from the Board, prepare action plan and to make compost to process waste, installation of bins, provision for transportation of waste, notify a schedule for collection of waste, conducting of awareness programme, etc.

None of 17 units test checked had obtained authorisation for disposal of waste from the Board. Sixteen units had not prepared any action plan for disposal of solid waste and also did not process waste into compost. Fifteen units handled the waste manually and had not identified places for installation of bins. Fourteen units did not possess sufficient facilities for transportation of waste, had not notified a schedule for collection of waste and had not conducted awareness programmes for segregation of wastes and promotion of recycling of wastes. Thirteen units did not paint the bins according to the prescribed scheme while 10 units were not collecting waste from house to house. In ten units, waste was stored in the open and covered vehicles were not being used for transportation of waste. Seven units had not provided disposal sites. Thus, non-compliance of Municipal Solid Waste Rules led to unhygienic and unsanitary conditions. The Board also failed to enforce the rules in this regard.

### 3.3.8.3 *Unauthorised disposal of waste*

In the absence of an integrated and concerted strategy to collect, transport and dispose off waste in a scientific way, solid waste was being managed in most places in an *ad hoc* manner resulting in its disposal at unauthorised sites. Some of the cases noticed were as under:

**Solid waste of Udyog Vihar, Gurgaon was being disposed of on the bank of nallah.**

\* The sub-office of HSIIDCL at Gurgaon, which was responsible for Solid Waste Management in the Industrial Estate at Gurgaon, emphasised the need of land for disposal of solid waste generated by industrial units of Udyog Vihar, Gurgaon. The space was to be provided by HUDA. However, the solid waste was being disposed of on the bank of a Nallah at Delhi-Haryana Border near

National Highway-8. Though residents of surrounding areas objected the dumping of solid waste at unauthorised sites which was posing health risks, the Board did not initiate any action against the defaulters for not making arrangements for disposal of solid waste as per Rules.

**Solid waste/garbage of Industrial Estates, Barwala, Kundli and Manesar was being disposed of in the open at unauthorised places.**

\* Non-biodegradable/inert waste was to be dumped at a designated landfill site and biodegradable waste was to be treated by composting in a systematic and scientific manner while disposing. However, in the Industrial Estate, Barwala (district Panchkula) the solid waste/garbage was being disposed of in pits/holes near Tangri River. Similarly, in Industrial Estates, Kundli (district Sonipat) and Manesar (district Gurgaon), the Solid waste was being disposed of in low lying vacant areas. The Board had not initiated any action against the defaulters for disposal of solid waste/garbage in the open areas.

**Sewage of Hisar town was being thrown in unauthorised places.**

\* The work of providing external sewerage for disposal of sewage of Sectors 27 and 28-A, Hisar to abandoned Deva Distributary was allotted (April 2004) to a contractor. The work was to be completed within six months. Upto July 2005, approximately 35 per cent work was completed at a cost of Rs 55.59 lakh. Thereafter, the work of laying of pipe line was stopped by the villagers as the land from where the pipe line was passing belonged to them.

Despite objections of nearby residents, the sewage continued to be thrown along Balsamand Distributary and along Hisar-Bhiwani Railway line in the open which was polluting the environment and possibility of breakout of epidemics in the surrounding areas could not be ruled out. The Executive Engineer of the Division intimated (May 2007) that approval for alternate alignment was pending (May 2007) with the Engineer-in-Chief, HUDA, Panchkula. Thus, the work was held up due to improper planning.

\* The treated effluent from the 10 MLD Sewage Treatment Plant (STP) in Panipat was being discharged into the Nohra Drain despite the stay order obtained by the villagers of Binjhol from the district court Panipat against the discharge of treated effluent. Upstream of the point where treated effluent was joining Nohra Drain, the drain was being polluted by dying units also. The Board had not initiated any action against the defaulters to prevent pollution.

\* Out of three test checked regional offices of the Board, in two<sup>24</sup> regional offices, only 285.50 tonnes of solid waste was collected against generation of 347.50 tonnes per day. The shortfall in collection of solid waste by 18 per cent in these two regions is likely to lead to piling of garbage at unauthorised sites.

#### **3.3.8.4 Incomplete projects and unfruitful investments**

Projects undertaken for the creation of facilities and infrastructure are marred by half hearted resolve besides the lack of a proper system for managing waste, and

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<sup>24</sup> Panipat and Yamunanagar.

investments made could not bear fruition. The following cases are illustrative of this.

**A project for modernisation of municipal solid waste management was left incomplete after spending Rs 20.98 crore.**

\* National Capital Region Planning Board (NCRPB) had sanctioned the Project for modernization of solid waste management and repair of roads in 16<sup>25</sup> towns falling under NCR at a cost of Rs 56.56 crore with loan component Rs 42.42 crore (75 per cent) and the municipal share Rs 14.14 crore (25 per cent). The project which started in March 2001 was to be completed in June 2002. Loan amounting to Rs 21.21 crore was released between March 2001 and July 2002 (Rs 4.24 crore in March 2001 and Rs 16.97 crore in July 2002) against which an expenditure of Rs 20.98 crore was incurred up to September 2006. Physical progress reports (upto June 2006) showed that construction work of road was completed up to 60 per cent, purchase of vehicles and equipments for transportation of solid waste upto 80 per cent. Land was purchased in five urban centres for installation of treatment plant. Thereafter, there had been no further progress of the project work as the Board did not take the balance loan amounting to Rs 21.21 crore. The Chief Administrator, Slum Clearance Board informed (September 2005) the Chief Co-ordination Planner NCR Cell, that there was no possibility to raise the balance loan for the project as the Municipal Committees were not in a position to repay the loans. The project remained incomplete (July 2007) and also the objective of the project could not be achieved.

**In six MCs, 921 hand carts and 38 tricycles costing Rs 44.43 lakh had been lying unused since their purchase in 2003-04.**

\* The Chief Administrator, Slum Clearance Board Haryana, Chandigarh purchased hand carts (wheel barrows) and tricycles for transportation of garbage during the year 2003-04 without obtaining the requisition from the MCs. These items were to be distributed to MCs under Municipal Solid Waste Management Scheme.

In six<sup>26</sup> MCs, 921<sup>27</sup> hand carts and 38<sup>28</sup> tricycles valuing Rs 44.43 lakh had been lying unused since their purchase. The MCs, Thanesar and Yamunanagar replied (May 2007) that the matter to transfer the surplus equipments to other MCs was taken up with the Slum Clearance Board in January-February 2005 but no action had been taken by the Board so far (May 2007).

\* The State Government sanctioned grant of Rs 54 lakh to two Municipal Committees (Yamunanagar: Rs 14 lakh in June 2005 and Taraori: Rs 40 lakh in March 2006) for development of Vermin Composting and Segregation Yard and Sanitary Landfill sites for urban solid waste management. However, even after lapse of more than one to two years, the grant had not been utilised (May 2007).

<sup>25</sup> Bahadurgarh, Bawal, Gannaur, Gohana, Gurgaon, Hodel, Jhajjar, Meham, Nuh, Palwal, Panipat, Samalkha, Sohna, Sonipat, Rewari and Rohtak.

<sup>26</sup> Jagadhari, Karnal, Panipat, Samalkha (Panipat), Thanesar (Kurukshetra), and Yamunanagar.

<sup>27</sup> Jagadhari: 145; Karnal: 136; Panipat: 186; Samalkha (Panipat): 17; Thanesar (Kurukshetra): 195; and Yamunanagar: 242.

<sup>28</sup> Jagadhari: 16; and Thanesar (Kurukshetra): 22.

### **3.3.9 Bio-medical waste management**

#### **3.3.9.1 Grant of authorisation**

As per provisions of Bio-Medical Waste (Management and Handling) Rules 1998, every occupier generating, collecting, receiving, storing, transporting, disposing or handling bio-medical waste was to obtain authorisation from the Board. The occupier was to submit an annual report to the Board in Form 2 by 31 January every year stating the categories and quantities of bio-medical wastes handled during the preceding year.

**682 health care facilities were denied/refused authorisation for disposal of bio-medical waste.**

Out of 1,709 Health Care Facilities (HCFs) identified as of 31 March 2006 by the Board, 1,708 HCFs (except one) applied for authorisation but the Board had not granted authorisation to 682 HCFs due to non-compliance with Rules. Out of 1,709 HCFs, 1,037 were utilising services of Common Bio-Medical Waste Treatment Facility (CBWTF) provided by private service providers. Besides, 33 HCFs had installed incinerators but these were without Air Pollution Control Device (APCD). The Board was not aware of the status of disposal of bio-medical waste generated by remaining 639 units. The Board had issued show cause notices to the 683 defaulting HCFs. No penal action/prosecution was initiated against the defaulters (May 2007).

#### **3.3.9.2 Non-segregation, storage and disposal of bio-medical waste**

**Segregation, storage and disposal of bio-medical waste was not being done in health institutions as per Rules.**

Rule 5 of Bio-Medical Waste (Management and Handling) Rules 1998 provides that bio-medical waste shall be treated and disposed of in accordance with the provisions of Schedule-I and in compliance with the standards prescribed in Schedule-V. In schedule-I various kinds of treatments such as incineration, deep burial, local autoclaving, micro-waving, disinfection, etc. have been prescribed for various categories of wastes i.e. human anatomical waste, animal waste, micro-biology and bio-technology waste, etc. It was noticed that the bio-medical waste was not being managed in accordance with the rules in health institutions. As the segregation, storage and disposal of bio-medical waste was not done properly, Director General Health Services (DGHS) issued (February 2005) instructions to all the health institutions in the State for compliance of rules in this regard. The District Health Officers in each district were made nodal officers for bio-medical waste management and were required to send the consolidated report by seventh eighth of every month. As no compliance was made, the DGHS reiterated these directions in December 2005.

Further, Advisory Committee, constituted for management of bio-medical waste, also pointed out (July 2006) that bio-medical waste was not being handled properly by Health Institutions. The DGHS conveyed (July 2006) to all the Civil Surgeons in the State that the Board during inspection of various health institutions in six<sup>29</sup> districts had pointed out that: (a) proper segregation system was not being followed as could be seen from the fact that containers of different

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<sup>29</sup> Ambala, Bhiwani, Hisar, Kaithal, Panchkula and Yamunanagar.

colours were available but were not placed properly with the result all types of waste was being disposed of in the same container; (b) needle destroyers were found locked in the *almirahs* of staff nurses/pharmacists and were not being used; (c) at some places staff nurses were not aware of the need to segregate waste; (d) direction for proper disposal of Bio-Medical Waste was not found displayed at the point of generation of waste; and (e) in the laboratories needle destroyers were not being used, slides were not disinfected and one slide was being used for preparing many smears without being washed/discarded, sputum collecting containers were not being treated as per directions.

Thus, management of these institutions did not ensure proper handling of bio-medical wastes. The Board during surprise check (October 2006) of Health Institutions again observed these shortcomings. The DGHS reiterated (April 2007) the instructions regarding the compliance of guidelines for bio-medical wastes. The Board, however, did not take action against the defaulting institutions. Thus, there was a need to bring about improvement in compliance of Rules to control pollution in Health Institutions.

#### **3.3.9.3 Non-compliance in disposal of treated needles and broken vials**

Government of India decided to introduce Auto Disposable (AD) syringes, under Universal Immunization Programme (UIP) instead of glass or disposable syringes to minimize the risk of reuse of syringes that might transmit infections. Such waste generated in urban areas was to be conveniently treated. The CPCB in a case study in September 2004 concluded that the treated needles/broken vials ought to be disposed of in a circular or rectangular pit. However, no clause in this regard was included in the contract agreement with the service provider for collection and disposal of waste. As such proper disposal of treated needles/broken vials had not been ensured by the Health Department.

#### **3.3.9.4 Advisory Committee on Bio-Medical Wastes**

The State Government constituted an Advisory Committee on bio-medical waste in July 1999 to monitor the compliance of Rules. The MOEF recommended (July 2004) participation of the representative of people's body, *Panchayats*, etc. in the Advisory Committee for close monitoring of the implementation of Rules.

However, no such member of the *Panchayats*/representatives of people's body had been included in the Committee.

### **3.3.10 Hazardous waste management**

Certain industries generate wastes that are highly toxic in nature and requires adequate control and careful handling. These are termed hazardous waste.

### **3.3.10.1 Authorisation for disposal of hazardous waste**

**Out of 1,342 hazardous waste generating units, only 322 units were granted authorisation for disposal of waste.**

Hazardous Waste (Management and Handling) Rules 1989 provide that the hazardous waste shall be collected, treated, stored and disposed of only in such facilities as may be authorised for the purpose. Every occupier generating hazardous waste and having disposal facilities was required to obtain authorisation from the Board. Rule 9 of the Rules *ibid* further provided that occupier was to maintain records of such disposal operations at the facility and submit annual return to the Board.

The Board had identified 1,342 units as hazardous waste generating units upto March 2006, of which 1,176 units had applied for authorisation, but 441 units were refused/denied authorisation due to non-compliance with Rules. The cases for grant of authorisation of 413 facilities were under process with the Board and the remaining 166 units had not applied for authorisation. Three hundred twenty two units to whom authorisation was granted had not submitted annual returns to the Board as required under the Rules.

The Board had not initiated any legal or other action against the defaulters for enforcing compliance with the Rules.

### **3.3.10.2 Unsafe storage of hazardous waste**

**Huge quantities of hazardous waste had been piled up the pits.**

There is no Common Treatment, Storage and Disposal Facility (TSDF) in the State. As per datasheet sent (January 2004) to Central Pollution Control Board by the Board, 26,870.4 tonnes of hazardous waste had piled up in the State which was stored in the pits temporarily within the premises of hazardous waste generating units. The temporary storage of hazardous waste in the storage pits of the units was unsafe and might lead to environmental degradation.

At the behest of the Board, Environment Management Society was formed in January 2002 by the industrial units generating waste for setting up hazardous waste common treatment, storage and disposal facility over an area of 31 acres of Faridabad Municipal Corporation at village Palli in Faridabad district. The Board released (2005-06) Rupees two crore to the society for the purpose. There was, however, no progress (July 2007) due to pendency of a land dispute case in Punjab and Haryana High Court.

### **3.3.10.3 Sale of used oil to unauthorized dealer**

**DHBVNL sold used transformed oil to unregistered recycler in violation of Rules.**

Rule 20 of the Hazardous Wastes (Management and Handling) Amendment Rules 2002 provide that major users of transformer oil shall auction/sell used oil only to the registered recyclers and were required to maintain a record of such sale and make these records available to the Board apart from submitting a half yearly return of sale by 30 June and 31 December every year.

The Board had neither evolved any system to identify the major oil users generating waste nor were those units filing half yearly returns to the Board.

Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL), Hisar sold 510 kilolitre used oil to a Meerut based firm through auction in July 2005 in which 19 bidders participated. As the firm was not registered as a recycler/re-processor under the Rules, the sale of used oil to the unregistered unit was objected to by the GOI in August 2005. The Environment Engineer, Hisar region in response to the Board's query reported (August 2005) that the firm did not have the proof regarding registration under Rule 19 of the Rules *ibid*. The Board had not taken any legal or other action against DHBVNL so far (June 2007). Thus, the Board had not exercised adequate control to implement the provisions of the Act and Rules in this regard.

#### **3.3.10.4 Inadequate inspection of industries/units**

The Environment (Protection) Act, 1986 and Rules framed thereunder lay down that the officers of the Board were required to visit industrial units regularly and ascertain that the programmes of Waste Management were being implemented satisfactorily. GOI too issued guidelines for regular inspection of industries/units from time to time. But the Board had not fixed norms/targets for inspection of industries. Further, inspection of industrial units was not conducted regularly. Only four units were inspected by the Board during 2005-06.

#### **3.3.11 Ineffective co-ordination among various departments**

Effective implementation of Environmental Pollution Act 1986 and rules thereunder called for co-ordination among the various departments/organisations viz. Urban Local Bodies and Industries and Commerce Departments, HUDA, HSIIDCL for ensuring the enforcement of the provisions of the Act and Rules. The Board responsible for maintaining pollution free environment did not co-ordinate with these departments/organisations to obtain the upto date information for waste management. The Board confined its activities to only communicating the Government orders/instructions to various departments but failed to take follow up actions for the control of pollution.

#### **3.3.12 Training and orientation**

According to National Conservation Strategy and policy statement on Environment and Development, the available management resources in the enterprises/projects would be oriented towards environment considerations and expertise to be developed through appropriate programme. Formal education and training programme in specialized areas of pollution control and environment management would be a continuing need.

Against the budget allocation of Rs 61 lakh, only Rs 6.30 lakh were spent during 2002-07 (upto January 2007) on training. The year-wise total number of seminars

and trainings proposed and actually held were not made available to audit though called for (March 2007).

Thus, the Board had paid little attention towards training programme and as such the requisite expertise in the field of waste management could not be developed.

### **3.3.13 Evaluation**

Though the Board was functioning since 1974, no internal or external evaluation study of the activities relating to waste management was ever conducted by the Board.

### **3.3.14 Conclusions**

Waste management in the State was neither efficient nor effective. The Department/Board failed in assessing the updated quantity of waste being generated in the State, projecting the growth of waste based on growth of population, consumption pattern and industrial growth and to formulate the strategy to prevent or to reduce generation of waste. Only 24 *per cent* of the hazardous waste generation units, 40 *per cent* of bio-medical waste facilities and none of the municipal solid waste operators had obtained authorisation from the State Pollution Control Board. Large quantities of hazardous waste was being piled up in pits while the bio-medical waste was not being segregated, stored and disposed of by health institutions as per prescribed Rules. Municipal solid waste, sewage and treated effluent was being unauthorisedly disposed of on the banks of a Nallah, in drains and in the open, causing pollution. The Board failed to take action against the defaulting individuals/organizations to make the implementation of the provisions of Environment Protection Act 1986 and Rules framed thereunder effective.

### **3.3.15 Recommendations**

- The Department and the Board should assess the amount of different kinds of wastes being generated and formulate strategy for reduction in generation of waste and management considering environmental hazard of different types of waste;
- Hazardous waste common treatment, storage and disposal facilities needs to be set up by involving industrial units;
- A proper system should be put in place to ensure proper disposal of bio-medical waste by health institutions;

- A comprehensive plan should be prepared for disposal of municipal solid waste as per Rules in consultation with Urban Development Department; and
- The Board should take appropriate action against the persons/ organisations contravening the provisions of the Act, Rules, Orders, Directions, etc.

These points were demi-officially reported to the Commissioner and Secretary to Government in Environment Department in July 2007; their reply had not been received (August 2007).