

CHAPTER - IV

CONCLUSION AND SUGGESTIONS

Notwithstanding the macro level analysis, the present study has been able to provide some worthwhile outcome which could be used by the State Pollution Control Board Orissa as the prescribed authority entrusted with implementation of the Bio-Medical (Management & Handling) Rules, 1998 in the State of Odisha. The findings of this study could also be applied by other State Pollution Control Boards and State Pollution Control Committees entrusted with the implementation of these Rules in States / Union Territories concerned. The study, could also be relevant to future researchers to carry out deeper and more extensive study on this emerging subject in the field of hospital waste management.

2. It is a well established fact that various health hazards are associated to poor biomedical waste management. While, the staff working in health care establishments are susceptible to injury from sharps and the hospital acquired infection of patients, the waste handlers associated with the health care establishment and general public are equally vulnerable to various infections caused by waste generated in hospitals etc.

3. The main environmental concerns associated to improper disposal of biomedical waste, apart from its potential to cause pollution of air, water (surface and ground) and air pollution, include spread of infections and disease through vectors (fly, mosquito, insects etc); infections through contact/injury among medical/non-medical personnel and sweepers/rag-pickers, especially from the sharps (needles, blades etc.); spread of infection through unauthorised recycling of disposable items such as hypodermic needles, tubes, blades, bottles etc.; reaction due to use of discarded medicines; toxic emissions from defective/inefficient incinerators and indiscriminate disposal of incinerator ash / residues.

4. A close linkage between management of bio-medical waste and municipal waste, at present, is attributable to the fact that the role of the civic body with respect to the management of biomedical waste is not clearly defined. Since majority of the health care establishments are located within the urban area, their waste management naturally has a close linkage with the municipal system. This is leading to confusion and laxity from either side. At the same time, the civic authority is responsible for public health in the whole of the municipal area.

5. The health care establishments must have a clear understanding with the municipality regarding sharing of responsibilities associated with this issue. Since more than three fourth of the total hospital waste is non hazardous and non-infected, if strict segregation is practised, it can be taken care of by the municipal waste management system. Such practices of strict and careful segregation would reduce the load and the cost of management of the actually hazardous and infected bio-medical waste.

6. In the fast growing scenario of health care services, it would not be possible for each and every health care establishment to have its own treatment and disposal system for biomedical waste, hence, there is need for common treatment and disposal facilities under the ownership/supervision/guidance of the civic authority. Local civic bodies are, therefore, required to play a more proactive role towards implementation of the Rules.

6. The success of the biomedical waste management program depends on proper in-house management by the health care establishment and co-ordination and co-operation amongst the various establishments themselves as well as with the civic authority. Therefore an assessment of the situation obtaining within the individual health care establishments as well as the town/city as a whole is necessary before making any attempt for improvement. Essentially this would involve the survey of waste generation,

documentation of prevailing practices and allocation of responsibilities to health care establishment *vis-a-vis* the municipal authority concerned.

- .7. Involvement of health Department functionaries, like District and Sub-Division level Medical Officers in monitoring and implementation of the rules may serve as an effective measure. Apart from the State Pollution Control Board, the State Health Department should also exercise their authority in penalising the defaulting units since they are expected to oversee the overall management of health care establishments in the district.
8. As management of the biomedical wastes is mainly being ignored by the small and medium sized healthcare establishments, owing to the difficulties like the availability of space for land fill sites, infrastructure cost for various equipments and manpower constraints, setting up of more number of centralised common biomedical treatment and disposal facilities is a feasible option to this problem. Both the Government and Private Sector may undertake such initiative. Since large number of public sector undertakings, civic bodies and private industries are in existence in the State, their assistance in setting up of common waste treatment and disposal facilities may be sought to ease out the problem in all parts of the State.
9. The State Pollution Control Board should consider outsourcing the monitoring of selected industries with less pollution potential, in order to ensure the availability of required staff for undertaking the inspection of healthcare establishments for early disposal of applications of authorization and renewal.
10. The State Pollution Control Board may also consider regulation of rates charged by private common biomedical treatment and disposal facilities from the health care establishments.

11. There is acute need to give publicity for proper biomedical waste management. The State Government/State Pollution Control Board/ state Health Department should periodically give advertisements in this regard both in print and electronic media. Besides periodical meetings, workshops etc of healthcare establishments and training programmes for medical and paramedical staff by medical colleges, nursing colleges etc. may also play an important role. Assistance of international, national and local level organizations like International Red Cross, Indian Medical Association and voluntary organizations may be very effective in ensuring the proper biomedical waste in the State.
