

CHAPTER-VI

CONCLUDING OBSERVATION

6.1 Summary of the study

The researcher has made qualitative analysis to make a comprehensive understanding particularly in the preceding chapters of national and international perspective. The study starts with a quest to international conventions and multilateral agreements that incorporates hazardous waste management planning strategies and policies exhaustively. This encompassed the examination of every meeting of the COPs. to the conventions which includes analysis of guidelines on improving national reporting mechanisms that promote implementation and compliance of conventions; strategic frame work, work programmed, draft memorandum of understanding between the international organization and conventions; synergies in preventing and combating illegal traffic and trade of hazardous wastes and chemicals; draft evaluation report on the performance of regional centers; progress report of environmental network; integrated approach to financing sound management of hazardous wastes; report of the UNEP to support institutional strengthening at national level for implementation of Basel, Rotterdam, Stockholm and Minamata convention; analysis of the report on legal and operational implications of priority action to enhance effectiveness of the conventions.

It tries to discuss minutely the hazardous waste management planning by the specialized agencies, regional organization, corporation council and other competent organization in order to find means to achieve effective control at brooders for

transboundary movement. The research work contained with detail discussion on possible measures to enhance control, protection and minimization of hazardous wastes. The problem and prospect are examined in particular to follow up those activities to work the conventional obligation and objectives.

The researcher then proceeded to investigate national concerns to the alarming situation of hazardous wastes management and its existing controlling mechanisms. In India there are 62,406 nos. of hazardous waste generating industries, generating 72, 34,259 metric tons of hazardous waste every year. The researcher emphasized and evaluated the implementing authorities, boards and agencies of the government. The study holds a critical analysis of current rules and regulations pertaining to the hazardous wastes management; role of central pollution control board and instances of violation of legal provisions by the hazardous wastes generating industries across the country. The researcher tries to examine the efficacy of the constitutional provisions and state responsibilities for the protection environment from all kind of hazardous pollution.

The study endeavored to examine the power and function of the state pollution control board of Assam thoroughly by evaluating various publications of the board. The researcher visited the office of the pollution control board of Assam for many times and made consultations with the chairman, member secretary and other competent authorities for detail discussion of the working of the board. The study enclosed exhaustive analysis of the establishment and constitution of the board with critical evaluation of the office and officials irregularities that has been observed during the investigation. The study maintains

a systematic and scientific approach to examine the role of state pollution control board of Assam in implementation of hazardous waste management rules across the State. The researcher puts up her concluding observation with the help of knowledge acquired from the entire work and observation. The study provides probable solution to the problematic issues and suggestions for consideration to overcome the challenges.

6.2 Summary of the findings

This part of the study comprises of section A and section B. Section A is about the findings that are derived from the national and international perspectives of hazardous wastes management regulations and mechanisms. Section B consists of findings that have been represented textually from the descriptive analysis of the four objectives of the research work. Both are discussed as given below.

6.2.1. Section A

Throughout the present work the study finds that an overall assessment of the international documents represents the departure of fundamental environmental aims of the convention. Though international conventions are found to be unsatisfactory compromises but growing problems of improper management of hazardous wastes may make a bounden duty to the parties to the conventions to look ahead. The government of India shows its eagerness to take the matter seriously though not ratified the Ban Amendment by prohibiting some ban items in the national legislations. In this part descriptive analysis has been carried out and findings are represented textually.

Findings of the study under section A are discussed under the following points:-

1. Tussle between developed and developing countries

There are many tussle between the developed and developing countries regarding the total ban on transboundary movements. In this respect the developing countries have played pivotal and instrumental role to take initiatives that can pressurize the multilateral agreements and conventions to improve strategic approaches for implementation of the conventional obligation. The developing countries Brazil, India and South Africa wanted complete ban on the transboundary movement of hazardous wastes. The developing countries accepts it as an opportunities to control the illegal movements, on the other hand developed countries wants dispose of hazardous wastes through a free trade without total ban.

Due to so many obligations under the various conventions the Basel convention receives lower priority as because the governments are unable to strain its capacity and resources. One of the loopholes of the convention is that it allows export or import of hazardous wastes for recovery and recycles. The ratification process of the convention is also very slow that results in non-enforcement of the ban amendment of the convention after a period of more than two decades from its adoptions.

After detail discussion of the all reports of the meeting and conventional draft it is found that hazardous wastes are the side effects of development. Million tons of hazardous wastes has been dumped and disposed at the dumped sites of the North likewise U.S.A, Netherlands, at sea and moved across to developing countries. Million

tones of wastes shipped to Africa, Caribbean, Latin America, Asia and South Pacific. It is very worry some point that the rising number of projects to construct “waste-to-energy” plants as “non-hazardous” wastes landfills or incineration in developing countries.

2. The 2019 meeting of the COPs

The 2019 meeting is the combo pack of fourteen meeting of the Basel Convention, ninth meeting of the COPs to the Rotterdam Convention, ninth meeting of the COPs to the Stockholm Convention that was decided to hold in Geneva from 29th April to 10th May 2019 at their earlier meeting of 2017. The three conventions are remained relevant and responsive to emerging the issues of hazardous wastes management through implementing the decisions that had been adopted at various meetings. The global chemical market during 2017 to 2030 would increase chemical exposures and adverse health effect unless and until scientific management of hazardous wastes addressed.

Absence of scientific legislation and adequate implementation indicated significant gaps in regulation of hazardous wastes. The reports of global chemicals outlook delivered a strong message that “the status quo was not a viable option; robust action was required, both to ensure that chemicals showed real value added where they were used and to prevent their adverse effects on human health and environment”—such issues are discussed at this meeting. The proposed achievements on a range of issues crucial to the success of the 2030 Agenda for Sustainable Development would possible to secure the future of the planet, if the 2019 meeting of the COPs would be

able to achieve the progress through increased synergy, investment and commitment to that challenges.

3. Report of the fourteenth meeting

At the fourteenth meeting of COPs in 2019, the reports of fourteenth meeting reveals the adoption of various agenda more specifically reports on the credentials of representatives to the meeting, Cartagena Declaration on the prevention, minimization and recovery of hazardous and other wastes, matters relating to implementation of the convention, strategic framework, development of guidelines, scientific and technical matters etc. The meeting was attended by representatives of 168 parties including India along with non-parties state the U.S.A. The representatives of 8 parties did not submit valid credentials viz., Bhutan, Cabo Verde, Comoros, Congo, Djibouti, Equatorial Guinea, Qatar, and Rwanda.

At the start of the 2019 meeting there were 187 parties to Basel Convention, 161 to Rotterdam Convention and 182 to Stockholm Convention. The president and representatives of the secretariat outlined only on the requirements in respect of credentials of the COPs to the three convention. The report stated about submission and examination of bureau on the credentials of representatives. The report reveals the expressed support and willingness of the representatives for better communication within the group that enable in effective implementation of convention. All the parties are agreed to the proposal of development of guidelines for environmentally sound management of hazardous wastes, strategic approaches, establishment of contract group, technical guidelines. Their liability towards the improper management of hazardous wastes remains in document only not in practice to implement the

obligations in true sense. The report is silent in how the use of such guidelines had assisted efforts in their countries to augment the environmentally sound management.

4. Agenda item 4

Agenda item 4 is relating to the matters of implementation of conventions. Sub-item “strategic approach for implementation of Basel Convention for 2012-2021” was agreed to evaluate at 2019 meeting by the COPs to the conventions. For doing so a small inter sessional working group was established to prepare report of the final evaluation. To undertake appropriate evaluation of strategic approach, data or information in the context of conventional activities must be reliable and pertinent. For a meaningful evaluation the parties must provide up-to-date information for the year 2019. But it is found in the fourteenth report of the convention that several representatives expressed their inability to agree to use the core budget of the convention for that purpose. It seems that there is understanding gap between the representatives of the conventions.

5. Entry into force of the Ban Amendments

It is found that non-enforcement of the Ban Amendment implies the allowance of free movement of hazardous wastes. In the 2019 meeting the representatives of the secretariats asked for ratification, approval and acceptance to the Ban Amendments. It is found from the fourteenth report that ninety-five parties has deposited their instrument of ratification, approval and acceptance; only two parties required to deposit their instruments for the Ban Amendment to enter into force. Since the thirteenth meeting Algeria, Iceland, Lebanon, Malawi, Maldives and Namibia has deposited their ratification to the amendment. Several representatives expressed their

support to the group of countries for draft decision, while other representatives highlighted the plight of victims of illegal traffic in hazardous wastes. The representatives of Switzerland and Indonesia expressed the hope for effective implementation through Ban Amendment to the convention.

6. Work programme for environmentally sound management

In the fourteenth meeting, the European Union, Germany, Japan and Norway, Ghana and Stockholm Convention Regional Centre in Brazil provided financial support for the sound management of hazardous wastes; rest of the parties are silent in this regard. The expert working group for development of guidelines listed the activities in the work programme to assist parties for recycling and recovery of hazardous and other wastes. The guidelines will be useful if the parties would adopt the tools; a contact group on strategic matter needed for technical assistance to promote the use of toolkit for environmentally sound management.

7. Cartagena Declaration

Cartagena declaration is the decision BC-13/3 of the COPs, on the prevention, minimization and recovery of hazardous and other wastes. It is relevance to the outcomes of UN environmental assembly's subject matters on the 2030 Agenda for Sustainable Development. But no information received from the parties with regard to the prevention and minimization except only two responses. It would be meaningful if the COPs invite the submission of such information to the secretariat by a set deadline.

8. Compliance and Governance matter

The COPs to the Basel Convention established a committee administering the mechanisms for promoting implementation and compliance to draft revised guidance

on improving national reporting, where the parties are required to submit annual report regarding information related to their implementation of the convention. It is observed that nearly sixty parties have failed to submitted reports since 2009. In 2019 meeting of the COPs to the three conventions, the representatives drew the attention to the report of the committee. In March 2019, fifteen submissions are relating to the national report. It is seen that generally low number of parties complying with their reporting obligations. Therefore the party fails to meet the reporting targets set by the COPs.

It is also found that there are significant difficulties in filling national report due to lack of clear definition of ‘wastes’, ‘hazardous wastes’, ‘transboundary movement’ by the convention. The parties are requested to submit their report in electronic form. But due to poor internet connectivity the parties would not access the online site. Lack of coordination and fragmentation of efforts among the governmental as well as private sector, arise difficulties in collecting data or information from such entities. Furthermore, for effective implementation of Basel Convention, national reporting system requires skilled professionals, officials with legal and technical expert. Lack of access to adequate funding may also limit the ability of parties to fulfill their obligations with respect to national reporting system.

9. Involvement of all stakeholder

It is found from the study that to fulfill the obligation of developing national inventory of hazardous wastes generation, dispose and transboundary movement within or outside the government, engagement of all stakeholder and entities from public and private sector have played great role in the drafting of the legal framework.

The focal point and competent authority within the government not only have responsibility to implement and enforce the conventional obligations but also to achieve the objects of the convention. In addition to the focal point and competent authorities, the regional or local level entities have a key role in the development of the inventory of wastes.

The other stakeholders, outside the government are occupier of the premises, wastes generators, collectors, transporters, exporter or importer as well as civil society organization have played important role. Such stakeholder would have been expected to provide accurate information and data on wastes generation, transportation and dispose of according to the reporting format. A memorandum of understanding must be developed between such entities covering the areas similar to the coordination committee or coordination agreement. Technical and financial assistance must be covered under the coordination agreements.

Awareness raising activities must be conducted by such entities among the different stakeholders which would be cost effective tool and more affordable approach together information. Establishment of coordination through coordination committee or agreements for cooperative mechanisms between the stakeholders is equally important to fulfill the national reporting obligations. Such committee consists of the members from central government and local authorities, civil society, private sector and international bodies. The mandate of such committee includes; development of wastes strategies and policies; coordinating technical groups; advising on the development of legal framework for implementation of the Basel Convention etc.

10. Absence of Act

It is found from the study, the only legislation that directly deals with the problem of hazardous wastes management in India is HWMR 1989 and its subsequent amendments. Many provisions of the latest rules of 2016 are suffering from lacunas. Likewise, clause 13 of H&OWM Rules 2016 states about the prior consent of the nodal officer under the MOEF&CC, where there may a chance of monopoly for providing license to the transporter. Clause 11 and 12 provides for transboundary movement of hazardous wastes for recycle or reuse which are enough to make India a dump site. Permission provided for recycle, reuse and recovery is an attempt to prove wastes as non-wastes. The new rule of 2016 encourages disposal of hazardous wastes far away from the generation of wastes.

A careful perusal shows the influence of ministry of commerce and how the environmental concerned have take back seats. The HWMR are the re-engineering provisions of EPA and rules, which are drafted giving priority to the recommendation of Govindarajan committee on investment reform that states in line with the governments priority for ease of doing business and make in India. India's import and export policy regulates the matter of restriction in import of second hand goods. But the new rules of 2016 notified by the central government, allows import of such second hand material for the purpose of reuse, recycle and recovery. Hence an adequate Act for control and management of hazardous wastes is the demand of situation.

11. Non-implementation of HWMR

In the case of Research Foundation for Science, Technology and Natural Resource Policy vs. U.O.I. and W.P. (C) NO. 657/1995 order dated 14/10/2003 the SC addressed various issues on non-compliance of different aspects and provisions of H&OWM Rules. Such as Basel Convention and Indian legislation, import and export, recycling, ship breaking, inventory of illegal dump sites etc. A monitoring committee was constituted to compliance the SC order and the report of the committee submitted its report in 2006. The SC disposed the writ petition vide order dated 06/07/2012 reasserting the interim directions in various orders from time to time with regard to the management of hazardous wastes.

Subsequently, in the case of Rajiv Narayan &Anr. Vs. U.O.I &ors. (Application no. 804/2017) the issue of hazardous waste management appeared before NGT, principal Bench, New Delhi. The tribunal vide order dated 30/07/2018 observed regarding implementation of H&OWM Rules 2016 and directed that all the states which generates hazardous wastes must setup TSDF within three month from the date of issuance of the order. The central government and CPCB must monitor the compliance of the rules in all states. The CPCB constituted a monitoring committee to oversee the compliance of the rules and reports would have to submit on 30/11/2018. The committee covered the matter of need for all action in all the States as well as measured required for compliance of H&OWM Rules and CPCB guidelines as on the information received from PCBs, PCCs custom authority and other departments. The committee plans to cover other aspects such as capacity building, import and export of

hazardous wastes and contaminated sites etc. Therefore, the committee wants additional time to complete the entire work.

12. Grant of authorisation

Rule 6(3) of the HO&WM Rule, 2016 stipulates that authorisation granted by the PCB must be accompanied by a field inspection report of the board. It is observed from the study that most of the SPCBs/PPCs are not enclosing the field inspection report along with the authorisation except Odisha, Uttar Pradesh, Karnataka, Chhattisgarh, Maharashtra, Bihar. Though these states have submitted field inspection report but it is yet to be verified by the competent authorities. Most of the cases are found non-compliance of CPCB's guidelines and no uniformity in the information covered during the inspection. On the other hand states like Gujarat, Madhya Pradesh have informed that field inspection report is not accessible for public information as it is not part of authorisation. The SPCBs/PCCs must maintain a register for H&OWM and shall be open for inspection by any interested person during office hour under Rule 6(6) of the H&OWM Rules, 2016. But it is observed that most of the SPCBs/PCCs like Maharashtra, Telangana, Uttar Pradesh, Rajasthan, Bihar, Haryana, Nagaland, and West Bengal etc. including Assam have failed to comply with the provision of H&OWM Rules, 2016. Only two states i.e., Tamil Nadu and Mizoram maintained the detail conditions imposed by the H&OWM Rules, 2016.

Most of the PCBs/PCCs have granted authorisation based on the declarations made by the occupier of the premises without assessing the production processes. Some states Maharashtra, Gujarat, Tamil Nadu, Madhya Pradesh, Uttar Pradesh, Odisha etc. claims that they do assessment of various steps of productions and by-

productions but fails to produce documentary evidences. The H&OWM Rules specifically mentioned that the SPCBs or PCCs must gone through the production processes, type and quantity of hazardous wastes, material mass balance to identify the categories and quantities of hazardous wastes generated in the industrial practices within the ambit of authorisation. This could be reliable document for effective implementation of H&OWM Rules, 2016.

13. Tracking of movement of hazardous wastes

Rule 20(1) of H&OWM Rules, 2016 provides that the occupier of a facility shall maintain all data-wise record of handling and management of hazardous wastes. But it is found from the study that the SPCBs/PCCs of Madhya Pradesh, Punjab, Jammu & Kashmir, Pondicherry, Odisha and Delhi have maintained monitoring of daily records. On the other hand SPCB of Assam including rest of the others is found in non-compliance of the Rule.

Rule 19 of the H&OWM Rule, 2016 provides for maintaining of manifest document but it is found from the study that except from the Karnataka, Tripura, Mizoram, Nagaland, Manipur and Delhi, most of the SPCBs/PPCs are receiving copy 1 of manifest from the sender. On the other hand copy 5 of manifest are not received from Karnataka, Tripura, Mizoram, Nagaland, Manipur and Delhi, Meghalaya, Jharkhand and Assam. Furthermore, most of the SPCBs/PCCs are not receiving copy 7 from the receiver in other state in case of interstate movement of hazardous wastes. Only few receiver states like Himachal Pradesh, Punjab, Gujarat, Pudocherry, Rajasthan, Chandigarh, Odisha, Uttar Pradesh, Haryana, Telangana have sent copy 7 to the SPCBs/PCCs of sender in case the sender is in another state. Lack of mechanism to

count the activities from generation to receiver tracking of illegal movement of hazardous waste becomes difficult. The CPCB must take initiative for development of centralized software for tracking of hazardous wastes management, handling and movement as per annual status of the unit.

14. Inventory of hazardous wastes

A reliable and accurate annual inventory of hazardous wastes would be greatly improved management strategy and implementation of H&OWM Rules, 2016. Rule 20(3) of H&OWM Rules, 2016 have recognized the importance of updated inventory of hazardous wastes based on annual return submitted by the occupier of a premise. In July, 2016 the CPCB has prepared format to obtain information from SPCBs/PCCs and circulated to all boards and committees. But it is found from the study that only a few SPCBs/PCCs have submitted within stipulated time.

The annual inventory of 2018-19 is reported to be under preparation. Only 26 SPCBs//PCCs have submitted their 2018-19 annual inventory till January, 2019. There is apparent gap or mis-match found in generation and dispose/recycle/reuse/co-process/store of hazardous wastes. The CPCB could not comply with the publication of country's inventory due to late submission of annual inventory by the SPCBs/PCCs. Lack of poor categorization and identification of hazardous wastes, non-maintenance of data-wise record of management and handling of hazardous wastes among the occupier, non-availability of information from occupier, non-reconciliation of manifest document of import and export, poor submission of annual return by the occupier are the major cause of failure to publish annual inventory timely.

It is also observed that there is no mechanism to check or verify the data submitted by the hazardous waste generating industries and to assess the mandatory submission of information. In the recent trend hazardous wastes generating industries used to declare certain kind of hazardous waste as by-product in order to get out of enforcement of H&OWM Rules, 2016. There is also ambiguous data in the manifest system and no analysis has been made to bench mark the industries. Lack of enforcement action for non-submission of annual return and verification of submitted data or information makes the inventory incomplete. It is also found that the SPCBs/PCCs have sent incomplete and unverified data to CPCB.

15. Contaminated site

There are several hazardous wastes dumping sites in India which resulted in contamination of soil, ground water that poisoning human and environment. Therefore, such contamination sites need to be remediated by adopting clean up technology. There are 329 contaminated sites in India during 2016-17 and afterward it cannot be furnished by the SPCBs/PCCs. It is observed that most of the sites are not remediated since many years. It is difficult to identify the polluters of historic dumping sites in the absence of specific regulation in this regard. Mere submission of non-identification of polluter would not be allowed the board not to exercise Rule 23 of H&OWM Rules, 2016. There are enough scientific and legal measure to be adopted to handle such critical issues such as annual reporting of dump sites, verification and validation etc.

The MoEF&CC has also adopted project namely Capacity Building for Industrial Pollution Management (CBIPM) to establish a National Programme of Rehabilitation of Polluted Site (NPRPS) to address the issues for undertaking

environmentally sound remediation of polluted sites. Under the NPRPS, the MoEF&CC the ministry has undertaken many assignments such as identification of 320 probable contaminated sites, preparation of guidance documents for assessment and remediation sites in India and Remediation of Contaminated Sites Rule is under process. The ministry has also initiated a central government project under National Clean Energy Fund (NCEF) for remediation of 12 contaminated sites in 8 states and first phase of the work is completed in Odisha, Kerala, West Bengal, Uttar Pradesh, Tamil Nadu, and Madhya Pradesh. But it is observed that since June 2017 funding to the project is stopped by the central government. Remediation of contamination sites will improve quality of ground and surface water, productivity of land, human health, flora and fauna. It is found from the study that the SPCBs/PCCs have not taken adequate step for remediation of contaminated sites.

16. Role of CPCB

In the case of Rajiv Narayan &Anr. Vs. U.O.I &ors. (Application no. 804/2017). The tribunal, while considering the report of the joint inspection team, noted that one respondent M/S Rathi Steel& power Ltd. was abstracting the water through bore well without authorization. Thirty five units are violating the rules in the State of Rajasthan for which show cause notice has been issued, but no action has been taken as on 21st September, 2017. There are 1100 units in Delhi operating without complying with the rules as on 23rd March 2018. It is generated hazardous wastes for which no action has been taken by the PCC.

As per rule 20 of H&OWM Rules 2016, the SPCBs have to submit report of hazardous wastes generation, reuse or recycle and dispose off based on the annual

returns of the hazardous wastes generating industries and occupier of such facilities. Subsequently, the CPCB have to prepare review report every year. Though the CPCB is a party to the proceeding, has not prepared any report or affidavit as on July 30, 2018.

17. Responsible causes, fact and factors

Lack of sound economic condition, technical expert, advanced equipments, absence of government policy and system, non-compliance of rules and regulation by the governmental agencies as well as irregularities in the hazardous wastes generating industries are the major causes, facts and factor that are responsible for improper management of hazardous wastes in India. Lack of financial contribution and assistance has delayed to collect data and prepare report for the implementation of convention. Due to delay in data collection, the small intercessional groups from the representation of the regional groups have not gather information and knowledge about generation, recycle, reuse and dispose hazardous wastes to prepare annual reports for supporting implementation of convention.

It is found from the study that only eleven per cent of the representatives from the parties to the convention have submitted information document under the strategic frame work for implementation of convention for the year 2012-2021. Therefore final evaluation of the implementation of the convention is affected by low level responses. Under the scheme of 2019 COPs, only thirty six per cent of the respondent among the parties to the convention can established national cooperation mechanisms. Several parties highlighted the overlapping of subject matters between the conventions, which

may increase the cases of illegal traffic of hazardous wastes. Seventy five per cent of the parties stated for improvement of their legal and institutional frame work.

In the first pilot project on the implementation of special programme to combat emerging challenges has improved several actions by identifying weaknesses of the convention's processes. India also takes initiatives for promotion of gender issues hazardous chemical and wastes management at the national and regional level by introducing project entitled "Institutional Capacity Building for Sustainable Management of Chemical and Waste with Special Focus on Persistent Organic Pollutants". The study assist the government to adopt better strategy and policy on hazardous chemical and wastes management to meet the legal obligation as well as scientific commitment towards the multilateral environmental agreements.

6.2.2. Section B

This part of findings is the qualitative as well as quantitative analysis of the chapter IV and chapter V of the research work to examine the outcomes of the study on the basis of its objectives. In this section, the major findings of the study according to the four objectives of the research worked have been discussed in detail as below.

1. Whether State Pollution Control Board of Assam and concerned stakeholders complied with Acts, Rules and regulations amended and notified by the Central Government and state government relating to Hazardous waste management from time to time.

Findings of the research work in addressing the first objective is that non-compliance of Acts, Rules and regulations has been observed during the course of study. Under section 4 of the EPA, SPCB shall be constituted to exercise all or any of

the function assigned to it under the Act. The member of the board other than member secretary shall hold office for a term of three year and it must be reconstituted before the ending of their terms. But it is evident from the study that there are rampant irregularities regarding the appointment of full-fledged chairman and reconstitution of the board since 2008. The board is not manned by competent and sufficient number of officials and employees. The meeting of the board is not held as mandate to be held according to the Act. Instead of Central Government's direction to appoint experienced and trained persons having special knowledge in the respective fields, the State Government fails to pay response in the matter. The member secretary post is also found to be in disarray. Such irregularities hamper the smooth working of the board's functions.

It is observed that ten private laboratories have been working in Guwahati since eight years back without following any norms, which are derecognized by then Chairman-in-charge A.M. Singh in 2018. There is also a central laboratory situated at Guwahati. The hazardous wastes generating industries easily approaches to private laboratories to get the report according to mind instead of from central laboratories to obtain license from the board. Credibility of such report also came under suspicion. It is found that the board asleep blissfully to turn a blind eye to such units. The board simply goes off their responsibilities by imposing fine to some violators for revenue generation only. Issuance of show cause notice has been found in very rear cases and cancellation or suspension of authorisation is nevermore.

2. Effective mechanisms are in the Hazardous waste management rules to be exercised by the State Pollution Control Board of Assam to minimize environmental hazards.

It is found from the critical evaluation of the H&OWM Rules 2016 that some mechanisms of the rules are commendable likewise under rule 6 the board is absolutely empowered to enquire all the respects for possession of appropriate facilities for collection, disposal, and storage before grant of authorisation. It may also refuse to grant or renew the authorisation if it is found non-compliance of legal provisions. The board is also entrusted with the power to suspend or cancel an authorisation as it considers necessary in the public interest under rule 7. But it is evident from the record that no such instances of exercising such power except issuance of show cause notice to a few numbers of industries which violates the legal provisions.

Rule 20(3) of H&OWM Rules 2016 is a welcoming provisions, which strictly stipulates that the board shall prepare annual inventory of hazardous wastes generation, recycle, recovery, utilization, reuse as per annual return submitted by the board on or before 30th day of September every year. But the board is criticised by the SC and CPCB for non-submission of annual inventory timely every year. The board is empowered to implement plans and programme to prevention, control and management of hazardous wastes. But the board gave up the responsibilities simply denying the matter.

So, aforesaid provisions of the rules are commendable approach in the matter of safe handling of hazardous wastes. But some provisions likewise permission for

import and export are affected from biasness. Rule 11 of H&OWM Rules 2016 directly related with consent of MoEFCC in the matter of export and import. The ministry is nodal officer to take all decision of export and import, the SPCBA is worked as information provider to the ministry. Furthermore, rule 8 provides discretionary power to the board in the matter of extending storage period of hazardous wastes in the occupier premises, may affect in proper implementation of rules. The board cannot impose penalty suo moto for any damages caused to the third party due to improper handling of hazardous wastes without prior approval of the CPCB. Furthermore, the H&OWM Rules of 2016 does not mentioned grounds or conditions of consideration and satisfaction of the board regarding the possession of appropriate facilities. Such provisions are found to be an ineffective mechanism of the H&OWM Rule of 2016.

3. There are any other causes, facts and factor for non-implementation of the Hazardous waste management rules by the State Pollution Control Board of Assam.

It is found from the thorough study in addressing the third objective that a number of facts and factors are responsible for non-implementation of HWMRs by the board. The board is suffered from non-availability of technical staff, expert in respective field, advance equipments and laboratories for characterization of wastes as per standard format, lack of infrastructure and efficient administration are observed during the course of study. Treatment effluent plants are not installed in the industries. Absence of common TSDF in Assam is also found to be a major cause for non-

implementation of hazardous wastes in Assam. Lacks of common TSDF, a huge quantity of hazardous wastes are lying for years after years in the units.

The total quantities of hazardous wastes generated by the industrial units are not specified in the authorisation by the board that may lead to gap between generation and disposal of hazardous wastes. At the same time, the occupiers of facilities are facing the problem in getting sufficient CPCB recognized vendor in the region. Ignorance of environmental consequences by the government, lack of involvement of NGOs, profitable mind of the industrialist and lack of awareness among the people are the overall factors liable for non-implementation of rules. Lack of technical and financial assistance by the government and other stakeholders ties the hands and feet of the board.

4. The role played by State Pollution Control Board of Assam for implementation of the Hazardous waste management rules is satisfactory or not

The role of board is not satisfactory in the matter of hazardous wastes management as because it is not in possession of actual number of hazardous wastes generating industries and total quantity of hazardous wastes generation in the State. Their expert report may hide factual information about the polluting industries. It is found from the study that the SPCB of Assam is also used to grant authorisation without assessment of various steps of production and by-production before granting of authorisation. The board is also not conducted specific audit to verify the hazardous wastes generation and disposal quantities given by hazardous wastes generating units or industries within the state. Inventorisation of hazardous wastes in the state has not

yet done timely. However, dissemination of information about polluters is the bed rock function of the board.

The CPCB vide letter dated 29/07/2016 forwarded the format for submission of annual inventory and developed online portal “Sanyojan” for submission. Despite of this the SPCBA has not sent the annual inventory as per the prescribed format to the CPCB by 30th September 2017 and thereafter every year. It shows that the SPCBA has not complied with directions of CPCB.

It is evident from Table no. 1 that some district of Assam has not filed annual return. There is also observed differences between annual return and total quantity of hazardous wastes sent to the recyclers, stored at occupier premise and disposed through various means. On the other hand some district has failed to mention the quantity of hazardous wastes generated annually at their premises. Instead of this the board fails to cancel the authorisation certificate of those units. On the other hand it is observed from table no. 2 that there are twelve number of recycler units in Assam in the year 2017-18. Maximum of those units recycled minimal quantity of hazardous wastes in comparison to the permitted capacity. Most of the units are not capable of recycling all hazardous wastes generated by the industries and some of them are also inoperative in nature.

There is a shortfall in mandatory inspection of the hazardous wastes generating industries by the board. It is found that initiatives have not been taken to revamp the non-operational recycling units to enhance and improve the capacity of the units. Introduction of new plans and programmes for implementation of H&OWM Rules are not to be seen. The board has sufficient fund but unable to improve existing slow

down of functioning the board. The performance audit report of 2016 revealed that the board was not short of funds, but had not fulfilled its role effectively.

6.3. Scope for future work

The research work undertaken by the researcher shows that there is a need for investigating the hazardous waste generating industries apart from investigating the role of PCB of Assam. The resemblances of information or data provided by the PCB of Assam can be checked with the data or information provided by the hazardous waste generating industries to identify the ground level status of implementation of HWM Rules in Assam. In this context the research has further scope and it is necessary to check the efficacy and implementation of HWM Rules in Assam.

6.4. Conclusion

The whole universe has become aware of environmental consequences of hazardous and chemical wastes. It is call of time to think about the remedial measures need to be taken. Strategic approaches for international hazardous and chemical wastes management is a welcomed step even though legally non-binding. Hazardous wastes are not regulated effectively; therefore human population continues to face toxic risk that leads to adverse health effect. The strategic approaches ensure accounting for hazardous wastes generation, management and dispose of all over the world that will remove the potential uncertainty in preparation of national inventory of hazardous wastes.

The research reveals that the international and national legislations governing hazardous wastes primarily focus on the disposal of hazardous waste instead of prevention of its generation. In order to prevention of generation of wastes the national and international legislation should adopt clean production scheme. To this effect such

policies requires scientific approaches which the PCBs alone cannot formulate without financial and technical assistance. Therefore, separate hazardous wastes body shall be constitute for effective implementation of hazardous wastes than execution of more legislations.

In order to guide the competitive authority the definition of wastes and legal certainty of waste legislation must be cleared to understand and apply on whether a material is a waste or not. Otherwise this would be a serious environmental concern if is disposed unscientifically. Furthermore, wider definition of wastes imposes huge cost on business purpose on the other hand narrow definition would pose a risk to environment. The SPCBs/PCCs should not take an intransigent view but should handle the cases on scientific criteria in transparent manner. For this purpose, the MoEF&CC has set up a mechanism in form of Technical Review Committee (TRC) for considering the application of identification of wastes or non-wastes.

In many cases it has been seen that the pharmaceutical company uses fresh solvent and spent solvent generated from this process cannot be utilized by them again. Such spent solvent are utilized by the textile/dye or other company to generate new product. Now the pharmaceutical company is forcing to manage spent solvent as hazardous wastes by the SPCBs/PCCs under H&OWM Rules, 2016 which is not a sustainable option. For this reason the Indian Drug Manufacturer's Association requested the ministry to remove spent solvent from hazardous wastes classification and allow for free trade so that the manufactures can purchase who have adequate facility. But the TRC observed that the recovery units who deals with spent solvent are not well equipped which may adverse impact on environment. For this reason it should

be categorized as hazardous wastes and need approval before recovery under Rule 9 of H&OWM Rule, 2016.

The hazardous waste generating industries must take proactive effort through identification and characterization of various hazardous wastes including spent solvents in their manufacturing process and maintained proper record as per Rules. In this regard the green concept strongly helps to built sustainable manufacturing processes internationally. The state government shall also undertake awareness to integrate the potential health effect of solvent and mandatory health checkup is required as per H&OWM Rules 2016. The study also reveals that the SPCB of Assam is not verifying any annual return filed by the occupier during 2017-18. The detail conditions for maintenance of register for hazardous wastes management as stipulated under the H&OWM Rules, 2016 are not maintained by the SPCB of Assam.

The HWMR empowers the SPCB of Assam in proper management and handling of hazardous wastes but fails to provide teeth in curbing the problem. Lack of proper treatment and disposal facility in Assam, the existing rules need a rigorous implementation and effective monitoring measures that will lead to sound management of hazardous wastes in Assam. It is found that maximum officials and staff are working at the same table for more than five years. The functioning of the zonal office is also affected by time consuming processes such as forwarding of applications by the regional office. The applicants are called from the zonal office for small mater and harassed them unnecessarily.

The study reveals that SPCB of Assam has not developed online software to monitor and reconcile the manifest documents like Telangana, Haryana and Punjab. The state of Assam is not receiving the copy 1 and 5 from the sender and receiver as

well as not monitoring the hazardous waste generating units for not sending their wastes as stipulated days. The board is also not reporting such violation of Rules. Furthermore, the copy 7 is also not received from the receiver in other state.

Assam has a unique natural beauty with a variety of flora and fauna, natural resources, dense forest. To be a future gateway to South East Asia, Assam must have developed as a model State. The Government, citizen and the authorities must pay their best effort to keep a clean and habitant environment in Assam. The role of SPCBA is much more importance to keep back environmental protection. The board is not successful so far as mandated in this regard. There is an urgent need of massive reshuffle in order to make it effective. Now the government of Assam is planning to change the functioning of board putting emphasis on primary objectives of the board. It aims to bring efficiency, transparency and optimum working of the officials.

It is observed that the governments have drastically reduced their contribution to SPCBs/PCCs and the boards or committees are depositing their fund with financial institution to obtain interest income rather than investing in development and research work. Moreover, the PCBs cannot rely on NGOs and foreign country funding because they are specific and temporary in nature. Thus, there is a need for providing financial assistance directly from the ministry of finance. Nirmala Sitharaman, the finance minister of India, in the budge 2020-21 allocated Rs 460 crore for pollution control schemes with a vision for “pollution-free India with green Mother Earth and blue skies”. Funding to five pollution control boards has been seen in the budget 2019-20 for ongoing and new project for abatement of pollution. But necessary notification in this regard has not been issued in the implementation of budget announcement 2019-20.