

# 6

## NATIONAL MECHANISM WITH OTHER AGENCIES

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### 6.1 Techno Legal Framework

- i) The DM Act, 2005, lays down the institutional and coordination mechanisms at the National, State, District and Local level. The relevant Acts, Rules and Regulations warranting amendments need to be identified and brought in conformity with the DM Act in a phased manner by the Central and State governments and other agencies concerned.
- ii) Before DM Act 2005 the Factories Act, 1948 and other regulations like the Explosives Act, 1884; the Insecticide Act, 1968, and The Petroleum Act, 1934, and umbrella Act, the Environment (Protection) Act, 1986, were enacted. MS&IHC and CA(EPPR) rules are the main regulatory framework to institutionalize the national mechanism in a technical way for chemical safety. The Schedule 5 of MS&IHC rules 1989 has first time in Indian regulation coordinated the responsibilities with various authorities for the coordination of provisions of emergency management. Recently, the ERDMP regulation 2010 of PNGRB came into existence for mid and downstream of oil and gas sector to ensure safety as per the provisions made therein. This regulation initiates the specific mechanism for various types of risk with diversified chemicals and similar types of the ERDMP need to be initiated by various ministries for example Ministry of Chemicals and Fertilizers may think for Fertilizers plants and Pharmaceutical units and Ministry of Steel for Steel industries, and so on in conjunction of MS&IHC rules.
- iii) Besides, the coordination amongst various central ministries need to be ensured for effective NAP-CIDM implementation mechanism. The important central Ministries like Ministry of Home Affairs (MHA), Ministry of Environment and Forests (MoEF), Ministry of Labour and Employment (MoLE), Ministry of Agriculture (MoA), Ministry of Petroleum and Natural Gas (MoP&NG), Ministry of Chemicals and Fertilizers (MoC&F), Ministry of Road Transport and Highways (MoRT&H), Ministry of Commerce and Industry (MoC&I), Department of Economic Affairs (DEA), Ministry of Finance (MoF), and others have to play a vital role in various activities as discussed elsewhere in the previous chapters. The success will only be possible when state ministries/departments also coordinate with centre. All these players have been illustrated in Fig. 6.1, and a coordination committee is recommended to implement the suggested action under the chair of NDMA.
- iv) The MoLE, MoEF and MoRT&H are responsible for enforcing the regulations. The MoLE through its state entities i.e. the Inspectorate of Factories/Directorate of Industrial Health & Safety (DIH&S); the MoEF with its central and state entities i.e. Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) respectively monitor the compliance of the various regulations. The MoLE is assisted in this regard by the DGFASLI. The MoRT&H through the Department of Road, Transport and Highways is to ensure the development and maintenance of national highways. Ministry of Commerce and Industries (MoC&I) through the Petroleum and Explosives Safety Organization (PESO) monitors compliance of the regulations.
- v) PNGRB is made responsible for managing safety and emergency of mid stream and downstream of oil and gas sector companies, the transportation of hydrocarbons through pipelines is also covered under the responsibility of PNGRB. The rule 8.2 says the compliance of ERDMP of mid stream and downstream of oil and gas sector companies as per the ERDMP regulation 2010 through third party. PNGRB is guided by the PNGRB Act, 2006 and the Regulators framed therein from time to time. This can be given as a suggestion to the Regulator.
- vi) On the other hand, the state governments through their respective state transport departments, transport commissioners/regional transport officers are responsible for the management of the roads and highways in the states for bulk transportation of hazardous chemicals. An action for coordinated review is

strongly recommended for efficient mechanism for CIDM as suggested in chapter 3 at 3.2.8.

- vii) A number of chemical specific codes of practices published by the Bureau of Indian Standards (BIS), the Oil Industry Safety Directorate (OISD) and guidelines brought out for chemical accident management by the MoEF and NDMA, all these need to be monitored for proper implementation by various ministries as suggested in Fig. 6.1 for effective mechanism of CIDM under the leadership of MoEF in time phased manner.
- viii) The MoH&FW through various hospitals responds to medical emergencies during chemical accidents. SDMA should ensure the action after disaster as per the following guidelines published by NDMA:
  - ✓ Guidelines on Medical Preparedness and Mass Casualty Management.
  - ✓ Guidelines for Management of Dead in the Aftermath of Disaster.

The above guidelines will guide health services of district government to work efficiently during and after disaster.

- ix) Organisations/agencies like the Department of Atomic Energy (DAE) and Centre for Fire, Explosive and Environment Safety (CFEES) are responsible for preparing Off-Site emergency plans in the DAE and Ministry of Defence (MoD) respectively. The CFEES is an authority under the MS&IHC Rules for enforcement of directions and procedures in respect of laboratories, industrial establishments and isolated storages dealing with HAZCHEMs in the MoD. MoD should ensure all action as suggested in NAP-CIDM at their level and should coordinate with respective SDMAs for appraisal of their preparedness on CIDM.

- x) Research institutes like the Indian Institute of Chemical Technology (IICT), Hyderabad; Indian Institute of Toxicology Research (IITR), Lucknow; National Environmental Engineering Research Institute (NEERI), Nagpur; National Chemical Laboratory (NCL), Pune and National Institute of Occupational Health (NIOH), Ahmedabad, are working in the field of occupational hazard, safety and in aspects related to CIDM. Defence Research Development Organisation (DRDO) is working in the field of detection kits, personal protection equipment and measures for prophylaxis and therapy. Council of Scientific and Industrial Research (CSIR), the DRDO, and Indian Council of Medical Research (ICMR) laboratories, as well as the CPCB, SPCBs, PCC, PESO and recognised laboratories in the private sectors are also working in the area of CIDM. The finding and the applicability of their research & development activities should be shared through information network as suggested in chapter 5 on Response, Documentation and Criteria for Relief & Rehabilitation.

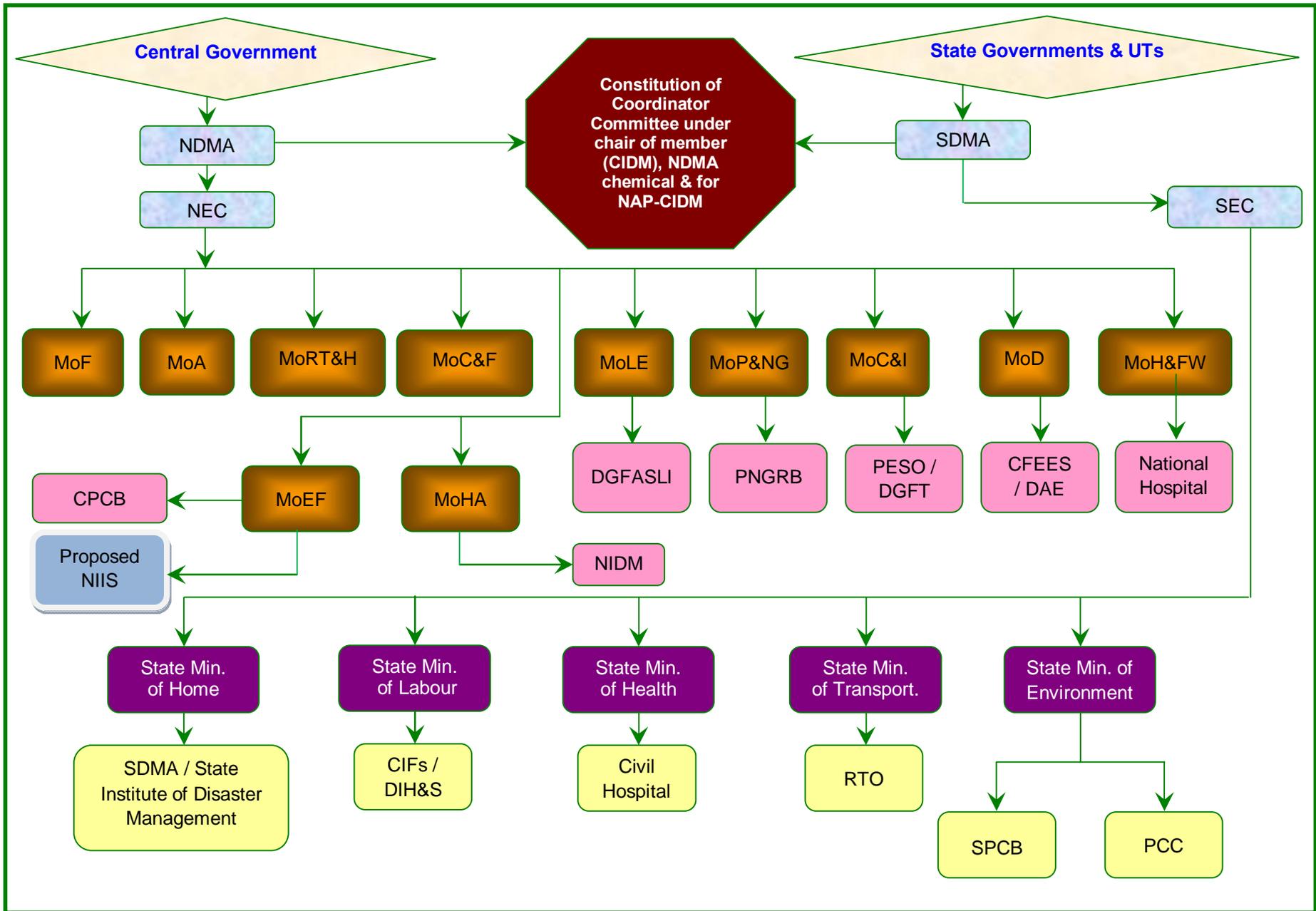


Fig. 6.1: Existing Institutional Framework

## 6.2 Present Mechanism

i) SDMA needs to be strengthened and it is recommended strongly that disaster specific advisory groups should be notified as early as possible under DM Act, 2005 Rule-17 (i) & (ii) to address the disasters in holistic way. Therefore, the challenge is here to ensure the amalgamation of various regulations to address CIDM wisely to ensure the compliance of the following:

- i) On-site emergency management plan
- ii) Off-site emergency management plan
- iii) Mock drills

ii) The MoEF has set up a Crisis Control Room (CCR) as part of the Central Alert System (CAS), for the rapid exchange of information and for coordination of activities during an emergency. The MoEF is preparing a web-based accident information system for use of all stakeholders concerned, which will have better monitoring and management of chemical disasters. A ~~red~~ book containing duties to be performed by authorities and agencies during an emergency is published periodically and circulated by MoEF. It contains names, addresses and telephone numbers of key functionaries of state governments, chief inspectorate of factories, SPCBs, experts/institutions, etc. Such ~~red~~ Book should also be published by SDMAs.

iii) Besides, MoEF is also taking responsibility of making off-site emergency management plans as well as hazard analysis in the district independently. The area also covers where refineries, gas pipelines, LPG bottling plant etc are lying. Now due to enactment of ERDMP regulation 2010 by PNGRB the midstream and downstream petroleum, oil and gas sector companies have to ensure the compliance for disaster management. The conformity of ERDMP will be ensured by PNGRB as per the provision of Clause 8.2 of ERDMP regulation 2010. Earlier to this the Inspectorate of Factories/Directorate of Industrial Health and Safety (DIH&S) and State Pollution Control Board (SPCB) were made responsible to ensure the compliance of emergency management planning as per schedule 11 & 12 of MSIH rules in coordination with district authority. Here, the multiplicity of organisation exists. The multiplicity need to be stream-lined for effective national mechanism of CIDM.

vi) DGFASLI is made responsible for chemical safety inside the port. Chief Inspector of Explosives is made responsible for ensuring chemical safety under the provisions of explosive act and petroleum act. Chief Inspector of Mines is ensuring the safety of hazardous chemicals under Mines Act 1952.

v) District collector or district magistrate authority is made overall in-charge for emergency management due to these installations when emergency escalates to on-site to off-site.

vi) All above agencies are basically ensuring the chemical industrial safety in those installations which are storing, manufacturing or handling hazardous chemicals. To streamline the multiplicity with organisation and roles exists a workshop is recommended immediately with all agencies for clarifying their role. NDMA and MoEF should jointly organise a workshop with the help of DMI immediately.

The air and sea routes of chemical safety are not under scope of work of NAP-CIDM.

## 6.3 Suggested Mechanism

Suggested mechanisms have following three instruments:

i) Minimizing the Multiplicity

The overall assessment of chemical disaster preparedness at local and district level is being assessed by LCG and DCG in the respective administrative jurisdictions. While at state level SCG is responsible for review of preparedness of chemical disaster management in state. In recent development due to enactment of DM Act, DDMA and SDMA have been created. The detailed comparison have already been discussed earlier elsewhere in the NAP-CIDM. However, NAP-CIDM suggests the following for more effectiveness:-

(a) Labour Department should be made as one of the members in SDMA with one or two subject experts who can understand the chemical and industrial disaster management, so that the overall assessment of preparedness can be made effective by coordinating with various

agencies like State Transport Department, PESO, PNGRB, etc.

- (b) To take care of the defence installation covered under ministry of defence the CEES along with two defence subject experts should be made responsible. SDMA should made the state plan for chemical disaster separately considering the various types of the existing regulations in perspective of MoD.
- (c) SDMA should also take a view immediately to notify IRS and IRTs considering the technicality of chemical and industrial disaster issues as suggested in paragraph 5.5.
- (d) To address the minimizing of the multiplicity point no. 6.2 (vi) is recommended again.

ii) The following activities for two years on priority:

- a. Hazard Analysis Studies and Emergency Management Planning: It will have following steps starting from classification of emergency :

Classification of Emergencies:- Emergencies can be categorized into three broad levels on the basis of seriousness and response requirements, namely: .

- Level 1 : This is an emergency or an incident which
  - (i) can be managed, and contained within the site, location or installation by the available resources;
  - (ii) has no impact outside the site, location or installation.
- Level 2 : This is an emergency or an incident which .
  - (i) cannot be effectively and safely managed or contained at the location or installation by available resources and additional support is alerted or required;
  - (ii) is having or has the potential to have an effect beyond the site, location or installation and where external support of mutual aid partner may be involved;
  - (iii) is likely to be danger to life, the environment or to industrial assets or reputation.

- Level 3: This is an emergency or an incident with off-site impact which could be catastrophic and is likely to affect the population, property and environment inside and outside the installation, and management and control is done by district administration. Although the Level-III emergency falls under the preview of District Authority but till they step in, it should be responsibility of the unit to manage the emergency.

*Note: Level-I and Level-II shall normally be grouped as onsite emergency and Level-III as off-site emergency.*

CIDM-NAP suggests that all above three levels need to be accepted by all regulatory agencies to have uniformity of understanding of CIDM.

b. Hazard Analysis Studies

MoEF has carried out hazard analysis studies for identified industrial pockets to know the possible consequences and preventive strategies. These studies should be used in on-site and off-site management plan jointly by NDMA, MoEF with respective states/UTs govt. Similar types of studies should be extended for ports where bulk storage of chemical are being handled to know the hazard and risk in the area in collaboration with DGFASLI under leadership of NDMA.

c. Emergency Management Planning

According to MoEF, out of the 602 districts in India, 263 districts have MAH units. Of them, 170 have clusters of more than five MAH units (hazardous/industrial pockets). NAP-CIDM suggests to have a massive nationwide hazard analysis based and GIS based off-site emergency plans in phase wise manner to complete in eight years to have an effective mechanism of NAP-CIDM. Priority should be given to Gujarat, Maharastra, Tamil Nadu, Andhra Pradesh, Karnataka including national capital territory in the first phase and in the second phase rest of the country. The State govts should be asked through SDMA's by NDMA to complete the off-site emergency management plans. MoEF should also participate by providing technical and if possible by financial support.

NDMA is organizing mock drills on chemical disasters on the selected and identified industrial pockets in the country. These drills should be used to check the On-site and Off-site emergencies management plans prepared by individual industry as well as district administration. DMI may help in these activities in coordination with other state governments. It will continue for long time and observation will again be used for review of whole mechanism in 7<sup>th</sup> and 8<sup>th</sup> years.

- d. NAP-CIDM recommends the action for various necessary activities with various responsible agencies as per the Table 6.1 to be completed in two year for effective CIDM.
- iii) Networking with Ministries

The main key players of union govt and state govt have been shown in Fig. 6.1. NAP-CIDM advocates the constitution of a monitoring high level group under the chairmanship of Member, NDMA to know the progress of all issues discussed earlier in this document. Since chemical industrial disaster management is technical issue hence, the chairman of SEC should also be a member from State / UT govt. The meeting should be quarterly and will carry out analysis of environmental hazard data for formulation of alternative land use plans for different geographical and administrative areas with a holistic approach.

This is more relevant to mega cities, metros and high-density urban settlements for safer location of habitat and other critical facilities. A review of master plans and their compliance, on priority, will be essential and regarded as the paramount responsibility of the States/UTs. At the macro-level, there is a need for preparation of land use planning based on the inventory database of various uses. As far as urban settlements are concerned, the future land use is to be assessed keeping in view with the anticipated intensity of development.

Effectiveness can only be possible when there is coordinated time bound action on various key issues.

## 6.4 Requirement of Budget

NAP-CIDM proposes that NDMA should issue direction to all SDMAs and all ministries to work out for financial requirement for next five years on all subjects discussed in NAP-CIDM. Priority should be given for training, HIRA, On-site and Off-site Emergency Management Plan, Establishment of EOC at various levels.

MoEF should ensure financial requirement for making GIS based Off-site Emergency Management Plan and should make a plan to cover whole country in next three years for MAH districts of the country.

NDMA should ask through MoEF from all MAH industries to project annual budget estimate for Health, Safety & Environment (HSE).

NDMA should ask Finance Ministry, Govt. of India to work out some financial incentive package for hazardous industries which are doing serious efforts in safety.

**Table 6.1: Overall Recommendation of Action Plan for Short term (0-2 years)**

Sl.	Actions	Responsible Agencies
1.	Preparation of Guidelines for On-site Emergency Plans	MoEF
2.	Preparation of Response Plan incorporating the IRS for CIDM at state level.	SDMAs/ SCGs /SECs
3.	Incorporation of IRS for CIDM in the syllabus of ATI and other training institutions for training of Central and State Government Officers	NDMA / DMI / SDMAs/ SCGs / SECs / Heads of ATI and other training institutes
4.	Identification of suitable officers at different levels for the various positions in the IRS for CIDM organisational structure and formation of IRTs at the State, District, Sub-Division and Tehsil / Block levels through issuing Standing Orders at respective levels;	SDMAs / SECs /SCGs/ DDMA's / DCGs/ State Governments / District Administrations
5.	Development of Master Trainers and Key Resource Persons for the capacity development of the key resource person in each district	SDMAs / SECs / SCGs / / DMI / State Governments / District Administrations
6.	Development of training modules and training calendar for master trainers of the state	SDMAs / SECs / SCGs / / DMI / State Governments / District Administrations / NIDM
7.	Development of off-site emergency management plan for all district of the country having MAH industries	MoEF/ SDMAs / SCGs/ DCGs
8.	Conduct of mock exercise and sensitising the IRTs on IRS members	NDMA/ SDMAs / SCGs/ DDMA's / DCGs
9.	Conduct of mock exercises to test the efficacy of DM plans, and sensitising the IRTs members on the principles of IRS. NDMA will guide the conduct of such mock exercises and sensitising the IRTs on IRS whenever requested.	NDMA / State Governments / SDMAs / SCGs/ DDMA's / DCGs / SECs / District Administrations
10.	Strengthening of EOC in each State and District as per norms laid down in the Guidelines and ensure establishments of IT Solutions for: (i) standardisation of command structure; (ii) proactive planning facilities; (iii) strategic and tactical response; (iv) comprehensive resource management; (v) GIS, situational awareness and decision support; (vi) enhancing modeling capability for predicting casualties and mobilisation of resources for large scale incidents including CBRN emergencies.	SDMAs / SECs / State Governments /District Administrations
11.	Organising the existing communications network so as to meet the requirements of any emergency in the State. This should include plan for quick and easy linking of existing independent networks of all the different line departments of the State Governments. The communications plan should also include alternative communication facilities like HAM radio, wireless, satellite phone, Skype etc.	SDMAs / SECs / State Governments / District Administrations / Line Departments