

COMMUNITY PREPAREDNESS IN CHEMICAL INDUSTRIAL DISASTER MANAGEMENT

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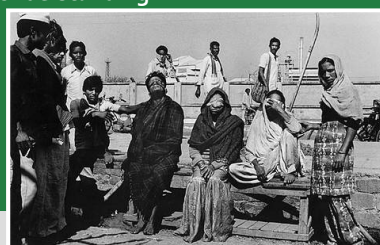
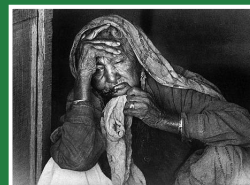


- Use of chemicals is not a new phenomenon, but the **production and use of chemical products has increased exponentially.**
- **Vast number and possible combinations of chemical materials within or passing through communities**, there is a variety of accidents possible.
- Chemical accidents often require specialized protective measures and highly sophisticated responses. **These responses are not well understood even by emergency agency personnel in the local communities, and certainly not by the general public**
- **The challenge with Communities residing in and around MAH Units**

Bhopal Disaster December 3, 1984

•Combination of Legal, Technological, Organizational and Human Errors

- Lack of safety protocol
- Lack of drills to check the functioning of back up system
- Lack of preparedness in all sectors
- Lack of community awareness – No communication with the community
- Lack of experts/biomedical researchers/specialists/SOPs
- Lack of identification of appropriate antidotes and stocks there of
- Lack of SOPs, education , knowledge and training
- Lack of chemical detection equipment, scientific understanding



Slide #3

THE IMPACT ON THE COMMUNITY – SOME GLIMPSES

2010

- June 14 : Nearly 103 persons fell sick after inhaling chlorine gas leaking from a cylinder stored in Bombay Port Trust (BPT) premises at Sewri.

2009

- October 29: The Jaipur oil depot fire broke out on October 29, 2009 at 7:30 PM (IST) at the Indian Oil Corporation (IOC) -half a million people were evacuated from the area.

2008

- June 6: Explosion in the Indian Petrochemicals Corporation Limited (IPCL, Nagothane, Maharashtra, 4 died and 46 injured. 205 maintenance workers

2006

25 October: Reliance Industries Refinery, Jamnagar, Gujarat, Leaked hot vacuum gas oil catches fire in air, 2 died

- 19 September : Ravi Organics Ltd., Muzaffarnagar, UP, Gas
- 18 July: Anjana Explosives Ltd., Peddaparthi Nalgonda District, Andhra Pradesh, Spillage of haz chem , 5 died
- 29 March: Kanoria Chemicals and Industries Ltd. Renukoot, Sonbhadra, Uttar Pradesh, Chlorine release, 6 died 23 injured

2007

- 5 March: A major fire broke out in the Indian Oil Corporation's Guwahati refinery's crude distilling unit

2001

- **August 17: Twenty-two killed in a blast at the Tamil Nadu Industrial Explosive Ltd plant near Katpadi in Vellore.**
- **May 31: Twenty-two young labourers, mainly from Bengal, die after a gas cylinder bursts** at a gold-processing unit in Mumbai's crowded Bhuleshwar area.

1997

- **September 14: Vapour cloud explosion in the Hindustan Petroleum Corporation Limited Refinery (HPCL), Vishakhapatnam, 80 died and 50 injured. Most victims were casual labourers employed on a contract.**

1996

- **September 26: 64 miners drown in the Gasiltand mines of Bharat Coking Coal in Katra, near Dhanbad, Bihar, after torrential rains breach a river embankment and water gushes into the mine.**
- **September 14: Eighteen children hospitalised in Narkheldanga, West Bengal, after inhaling poisonous fumes**

OFFSITE EMERGENCY MANAGEMENT

COMMUNITY ENGAGEMENT AND PARTICIPATION

- **Planning**
 - Hazards Surveys and Hazards Assessments; Emergency Response Organization; Offsite Response Interfaces; Program Plans and Procedures
- **Emergency Preparedness**
 - Training, Drills, and Exercises; Emergency Facilities and Equipment; Emergency Public Information
- **Emergency Response**
 - Responder Decision-Making – to include situation size up, categorization, classification, notifications, communications, protective action formulation, reentry, consequence assessment, release of public information, termination
- **Readiness Assurance (Monitoring and evaluation)**
 - Assessments and Performance Monitoring; Self-Assessments; Corrective Action Management; Exercise Planning, Conduct, and Evaluation

MULTISTAKEHOLDER PARTNERSHIP - ADMINISTRATION , INDUSTRY, NGOs, COMMUNITY

SOME OBSERVATIONS:

- Off-site Emergency Plans had not been prepared and tested in most of the industrial areas barring very few districts
- Lack of coordination and control between the industrial and public service departments together involved in responding to chemical disaster
- **Onsite Emergency Plans** of the cluster / district / town/city are not properly integrated
- **Off site emergency Plans** were physically **stitching** all onsite emergency plans together and not organised
- District Administration not adequately briefed about the role
- Specific Emergency Responses are not clear
- Population is not adequately briefed
- Multiple agencies administering the issue

The needs of the Community....

- Educate the community on how to respond to accidents/disasters
- Promote the coordination between representatives from the industry, the local level institutions and the public
- Prepare integrated community preparedness Plan – prepare the community for early warnings

RISK ASSESSMENT AND MAPPING:

SIZE AND POTENTIAL OF RISK:

- ✦ Population densities in the vicinity.
- ✦ Presence of Chemical Sources
- ✦ Possibility of contaminating drains, crops and natural water sources .
- ✦ Potential of multidimensional disaster.

IS RISK MAPPING ADEQUATE ENOUGH BOTH FROM THE ONSITE AND OFFSITE PERSPECTIVE?

COMMUNITY AWARENESS

- Because of the statutory provisions, industry is obliged to provide appropriate information to the community living in the vicinity of a hazardous plant/installation.
- A well informed community is an asset to both the industry and local authorities
- Rapport between local authorities and industry is beneficial and mandatory
- Training of Community Educators – including Information on specific chemicals handled in the Industrial Area
- Use all possible means of media to cover the community particularly not digitally enabled

ARE THESE EFFORTS PROMPT AND ADEQUATE TO MAKE THE END STAKEHOLDERS (WORKERS AT PLANTS AND COMMUNITIES RESIDING IN AND AROUND PLANTS) AWARE OF THE CONSEQUENCES OF ANY MISHAP/ACCIDENT

LEGAL PROVISIONS

- Is everybody aware
- Is there full compliance
 - Or are we waiting for a PIL?

COMMUNITY PREPAREDNESS

- Training on Community Level Response
- Ready availability of tools such as fire fighting devices, rescue and safety equipments.
- Guideline on Do's and Don'ts.
- Mock drills on specific potential disaster scenario.
- Compliance of action points as a result of mock-drills
- Refreshers

ARE THERE ADEQUATE INVESTMENTS BEING MADE TO TRAIN END STAKEHOLDERS ON EMERGENCY RESPONSE?

ARE THE STAKEHOLDERS EQUIPPED WITH NECESSARY RESOURCES TO TACKLE THESE MISHAPS?

5 C ON COMMUNITY PREPAREDNESS....

- COMMUNICATION
- COORDINATION
- CLARITY (OF ROLES AND RESPONSIBILITIES)
- CAPACITY BUILDING
- CONTINGENCY PLANNING

Road ahead....how far ????

FROM OUR STANDPOINT:

- NDMA is formulating national guidelines on community based disaster management which will stress on the essentials with respect to chemical industrial disaster preparedness
- Roll out of EMExes in 1 million plus population cities where CIDP is one of the components
- National Disaster Management Plan (work in progress) includes the dimension of CIDM.
- Support to MoEF and NIC on state wise capacity building on GEPR
- Formulation of a Demonstrative Project on CBDM which will include perspective on Chemical Industrial disaster preparedness

- Thank You