

Technical workshop on Crisis Management in the Danube Delta

A general introduction

Industrial accident or crisis

An “industrial accident” means an event resulting from an uncontrolled development in the course of any activity involving hazardous substances that can cause severe damage and harm as well (human health, environment, livelihoods and property).

They can be caused by chemical, mechanical, civil, electrical or other process failures due to an accident, negligence, incompetence or faulty decision making in an industrial plant.

Key features of a crisis

- Low probability
- High impact
- Uncertain / ambiguous causes and effects
- Differential perceptions

Common features of a crisis

- A threat to the organization
- The element of surprise
- Short decision time
- Situation materializes unexpectedly
- Decisions are required urgently
- Time is short
- Specific threats are identified
- Urgent demands for information are received
- Sense of loss of control
- Pressures build over time
- Demands are made to identify someone to blame
- Outsiders take an unaccustomed interest
- Reputation suffers
- Communications are increasingly difficult to manage

Specific threats to organization

- Operational viability
- Reputation
- Credibility
- Financial stability
- Legal action

Crisis management

Crisis management is the process by which an organization deals with a major event that threatens to harm the organization, its stakeholders, or the general public.

It includes the development of plans to reduce the risk of a crisis occurring and to deal with any crisis that do arise, and the implementation of these plans so as to minimize the impact of crisis and assist the organization to recover from them.



Plans are needed

A crisis management plan generates order out of chaos. It needs strong leadership by well-trained and rehearsed individuals. Everyone within an organization should know what his or her role is in a crisis and should be prepared to deal with one.

Top 10 pitfalls (emergency) plans

1. No support from top management
2. Insufficient involvement of employees
3. No or bad planning
4. Insufficient training and exercise
5. No designated leader
6. Plan is not maintained and not 'up to date'
7. No method and system for alarming the employees
8. Legislation for health employees is not included in the plan
9. No procedures for stopping critical processes
10. Employees are not informed how to act in cases of emergencies

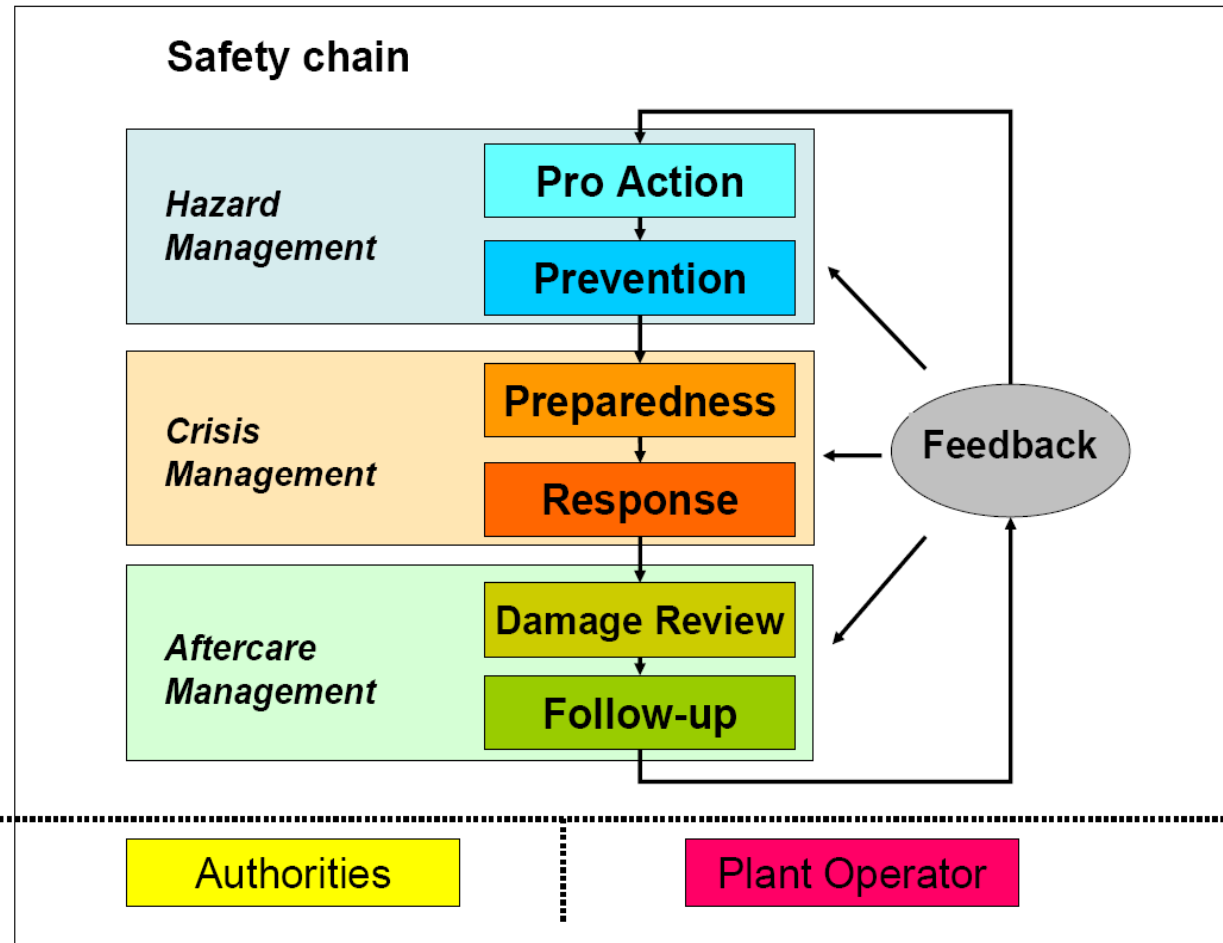
Safety chain

The 'safety chain' approach is a widely used model for policy making and evaluation in terms of risk management. Based on going through the links of the chain, plans can be developed.

Phases and interlinked elements of risk mitigation and crisis management:

- Proaction
- Prevention
- Preparedness
- Response
- Damage review
- Follow-up

Safety chain



Safety chain

- Continued evaluation of the elements of the safety chain will lead to optimal risk and crisis management of accidents
- A close involvement of the industry and the authorities within the establishment of each link is highly important
- Obligations applicable under legislations and policy must be implemented
- Extra or specific measures must be taken to encourage and secure a safe environment
- Organizational measures must be included such as a safety management system
- Compliance monitoring by responsible authorities in each stage of the safety chain is a condition

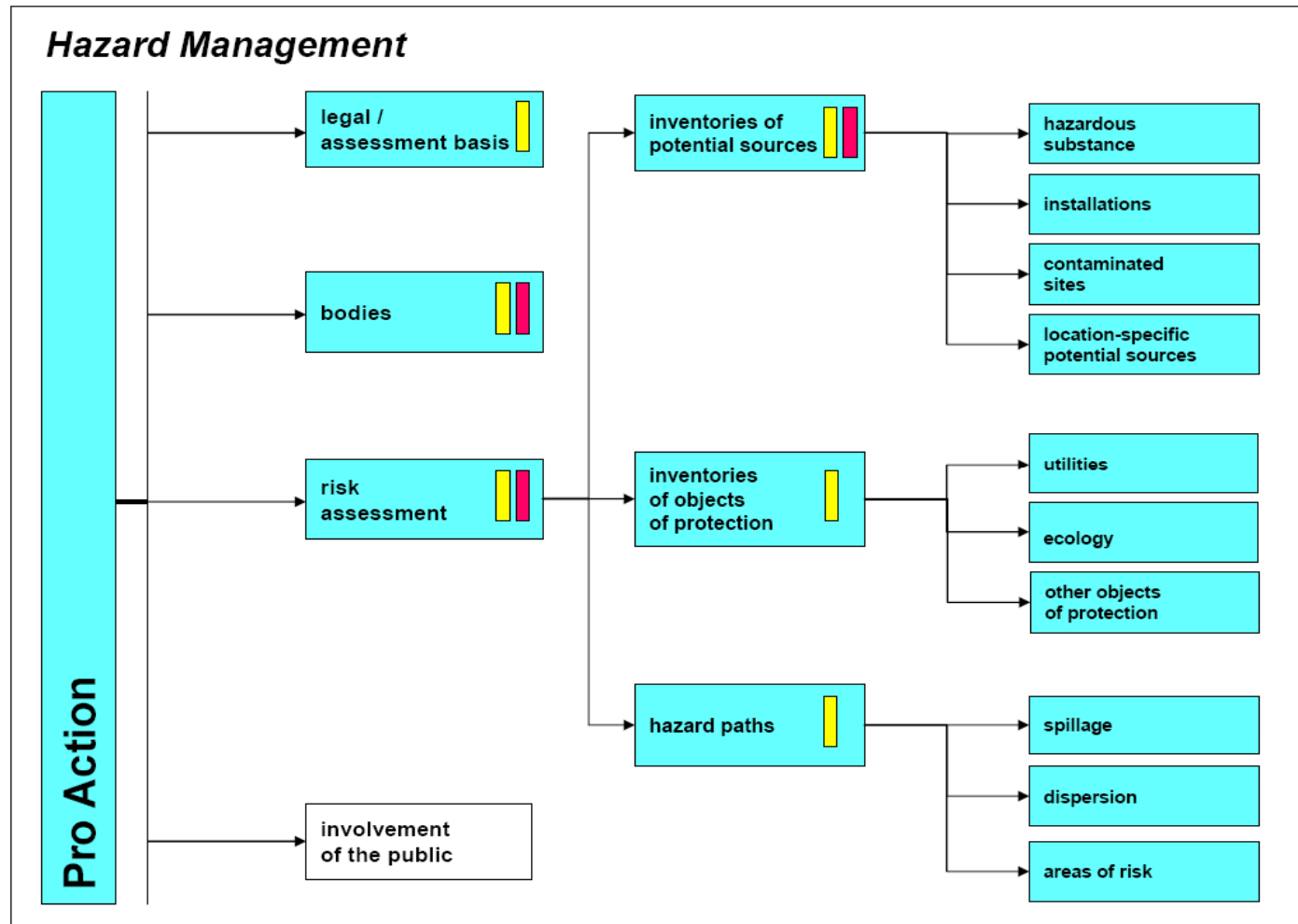
Hazard management: proaction

Proaction stands for the elimination of structural causes of incidents.

It includes:

- Standardization
- Legislation
- (spatial) planning

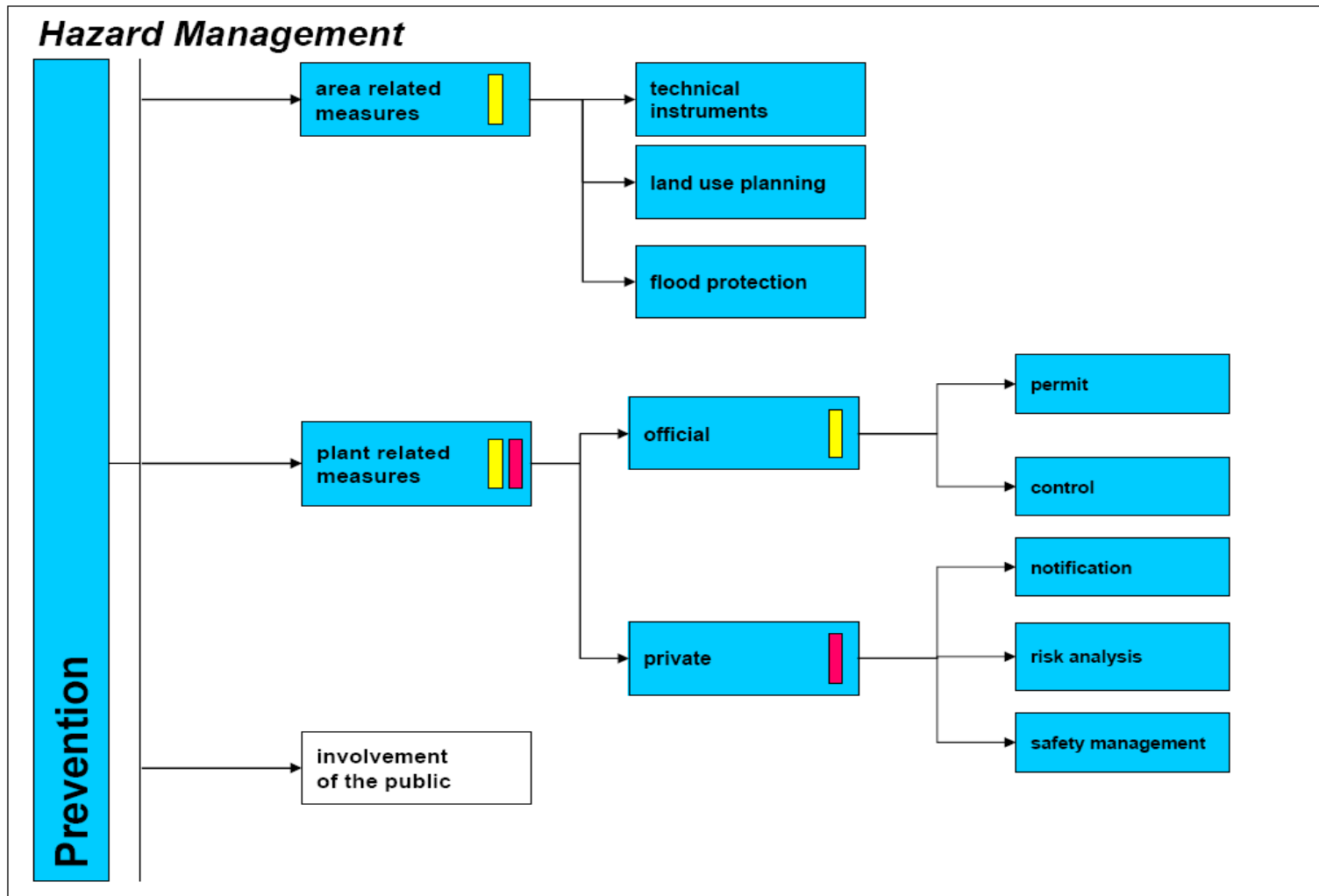
Hazard management: proaction



Hazard management: prevention

- Prevention focuses on reducing the effects of an incident which is likely to happen.
- It focuses on long-term measures for reducing or eliminating risks
- Measures can be structural and non-structural
- Most cost-efficient method for reducing the impact
- Includes regulations regarding evacuation and communication

Hazard management: prevention

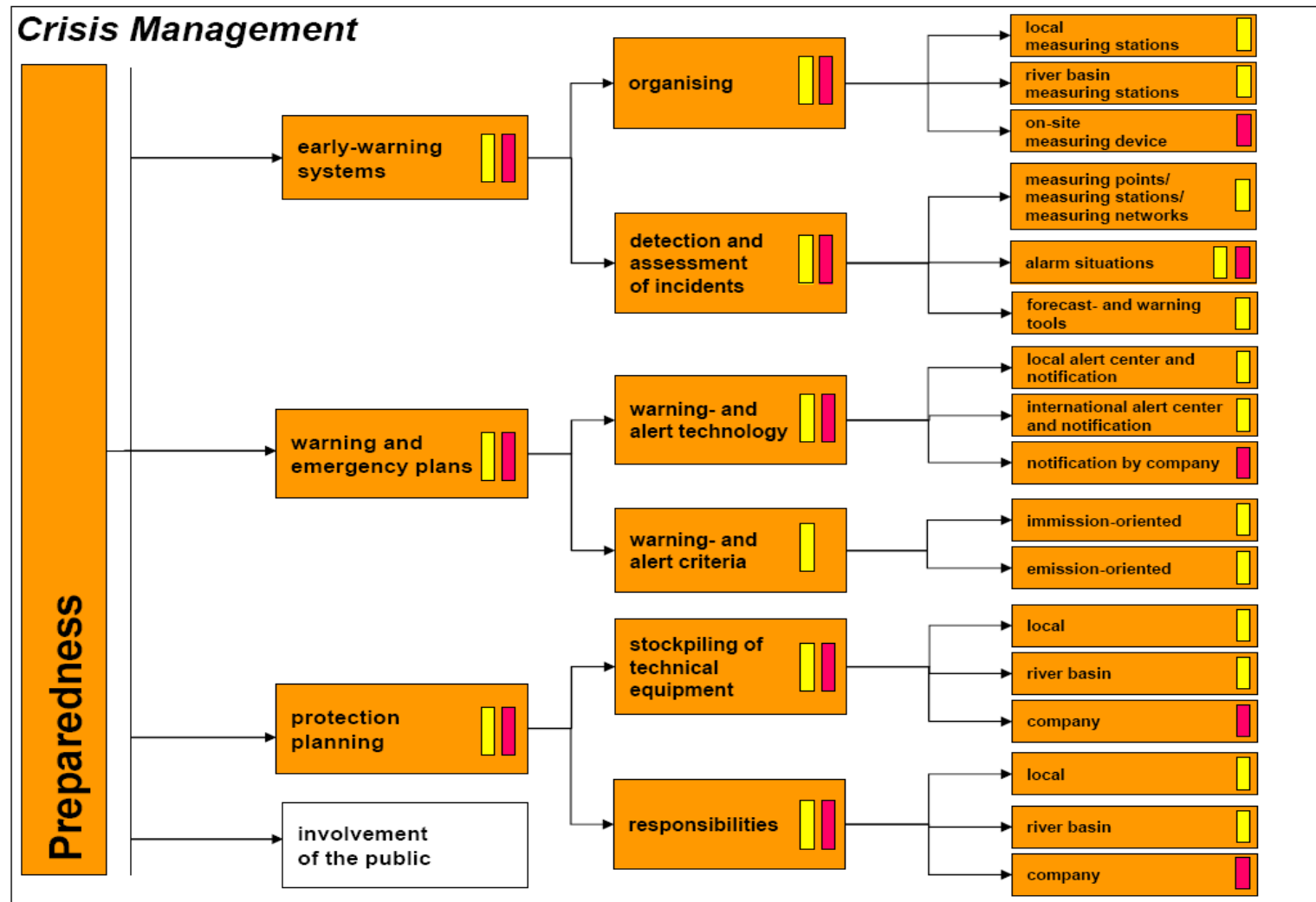


Crisis management: preparedness

Organizations must be prepared for scenario's by:

- Risk evaluation
- Accident scenario's including casualty prediction
- Communication plans (public and emergency workers)
- Development and implementation of control plans and accident emergency plans etc.
- Ensuring of the readiness and functioning of crisis management instruments
- Training and maintenance of emergency services
- Development of and rehearsing assessment methods and evacuation plans
- Development and stocking of inventory, supplies and equipment
- Institutionalizing of professional emergency agencies, networks and coordination centre's

Crisis management: preparedness

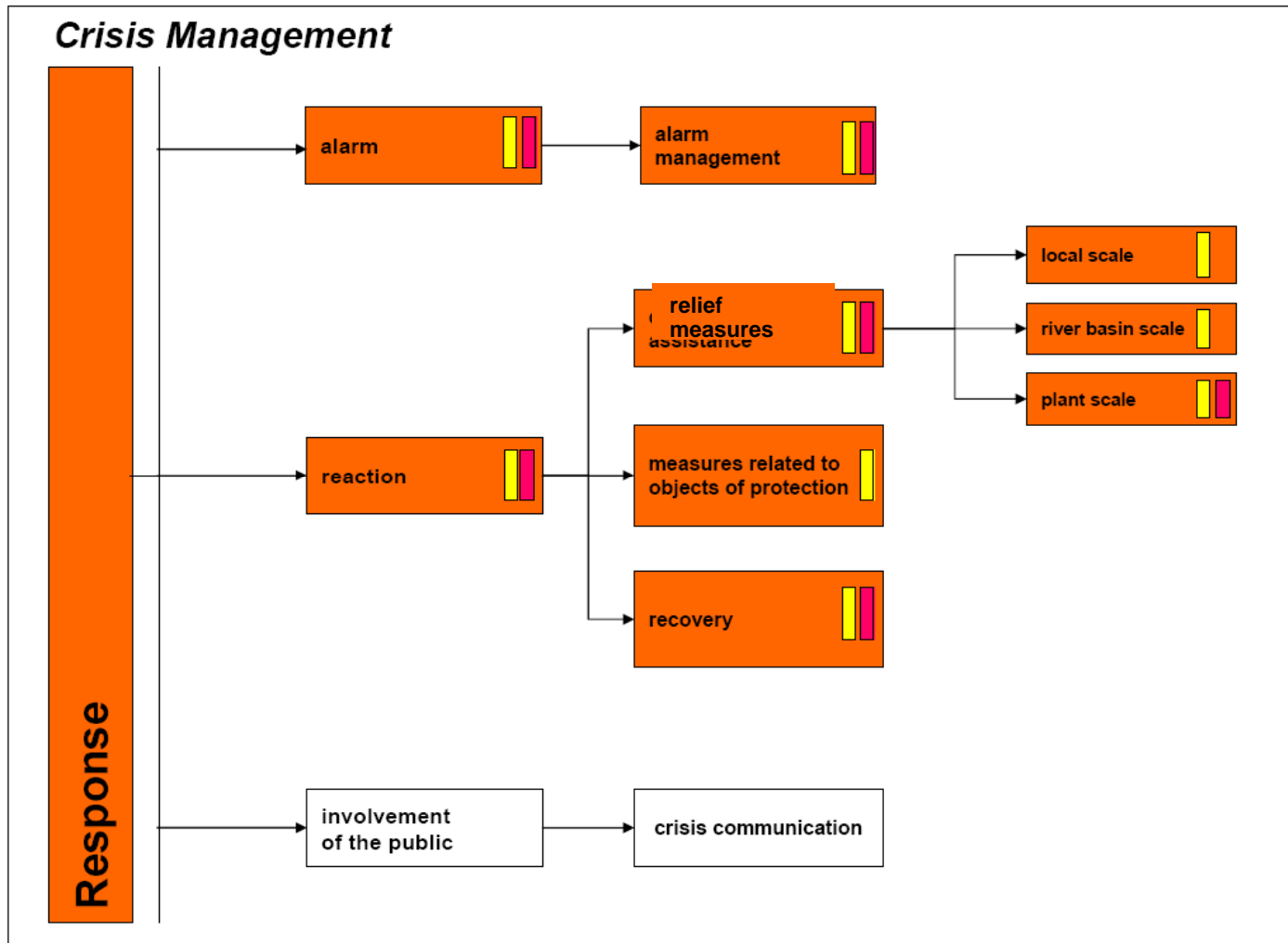


Crisis management: response

Response means actual action taken to relieve the effect of a serious accident or disaster.

- Mobilization of the first (core emergency) responders
- Support by secondary emergency services (such as specialized environmental assessment teams)
- Effective coordination of the deployment of the services based on a rehearsed emergency plan
- Involvement of local, regional en national services (when needed)
- Effective communication

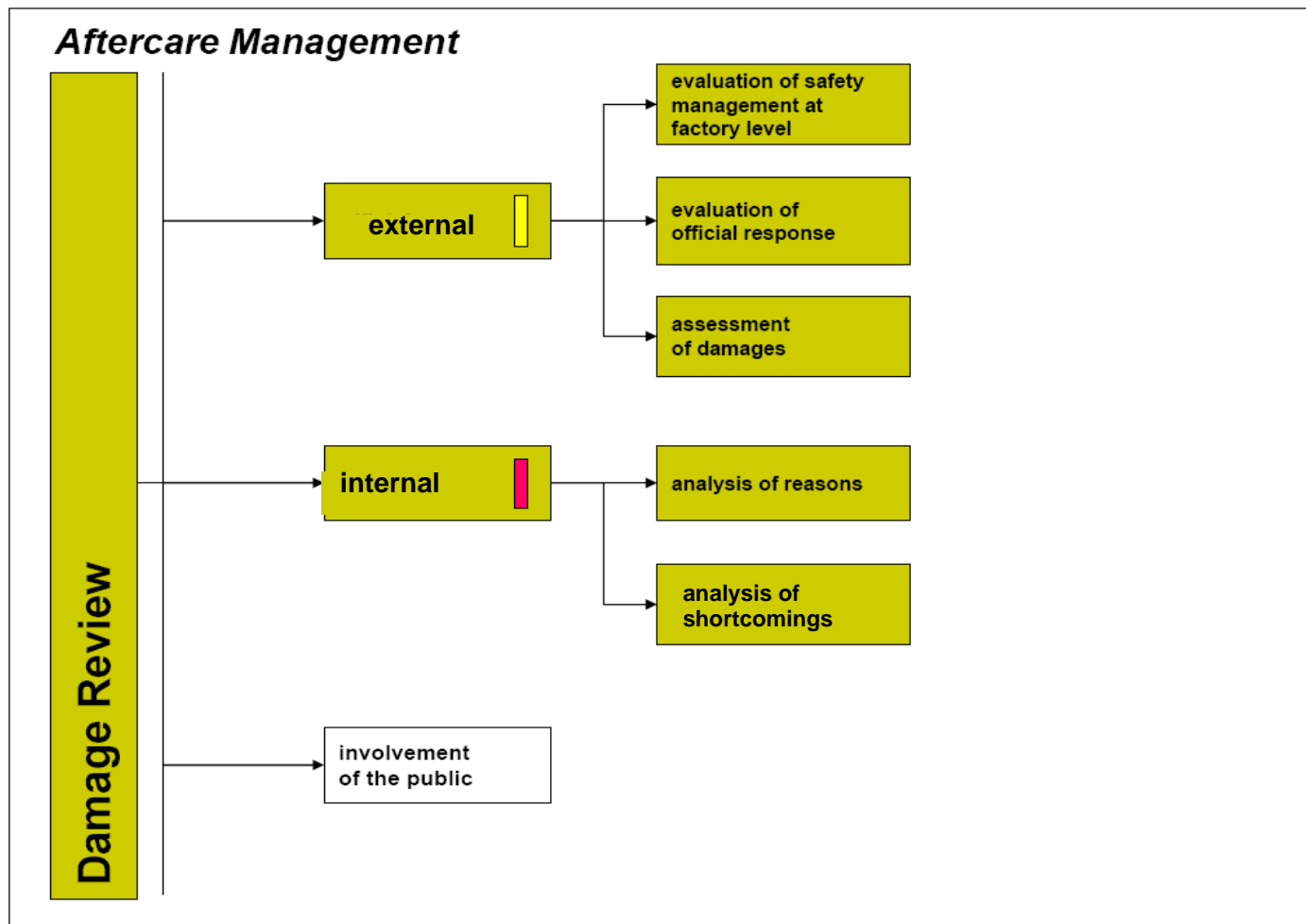
Crisis management: response



Aftercare management: damage review

- Review and recovery are needed to return to a normal and restored situation after an incident or disaster
- An important aspect of recovery is evaluation

Damage review: aftercare management



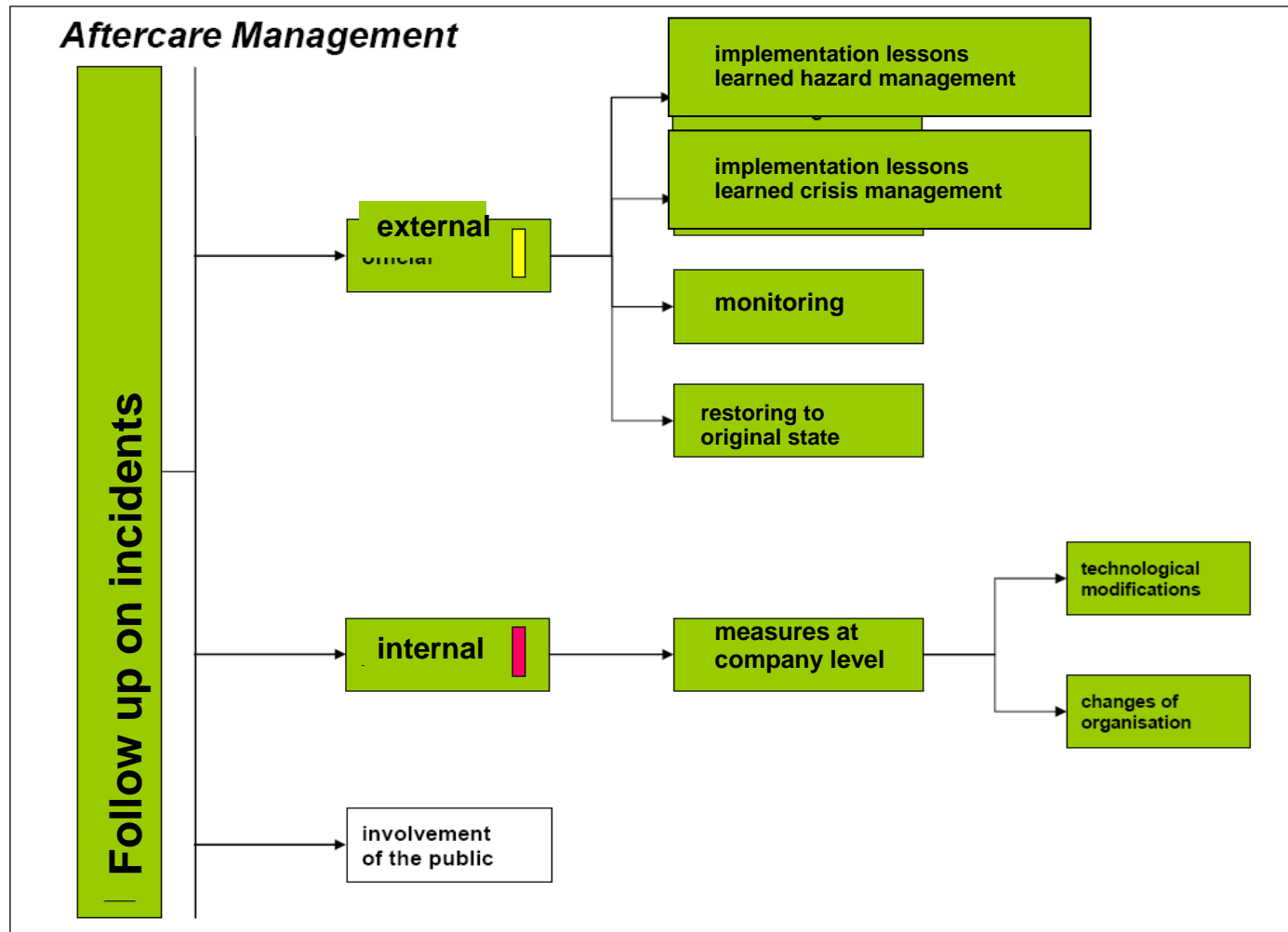
Aftercare management: follow-up

Finding (latent) failures and root causes of an incidents and accidents is the only way to stop the reoccurrence of such accidents and are vital for improving the safety of industrial activities.

Therefore the evaluation must focus on:

- the causes of the incident
- the quality of the proaction and prevention
- the system and process preparedness of response
- Recommendations for improvement of all elements of the safety chain

Aftercare management: follow-up



Conclusion

- The prime responsibility for safety lies within the industry
- Solid prevention and safety programs must be in place
- Plans and programs must be up-to-date, maintained and trained
- Authorities share in the responsibility to prevent accidents (legislation and compliance monitoring)
- Only by systematically going through checks of all aspects of the safety chain and an adequate follow-up on the findings the chances and affects of severe accidents will be minimal

Organizing the response

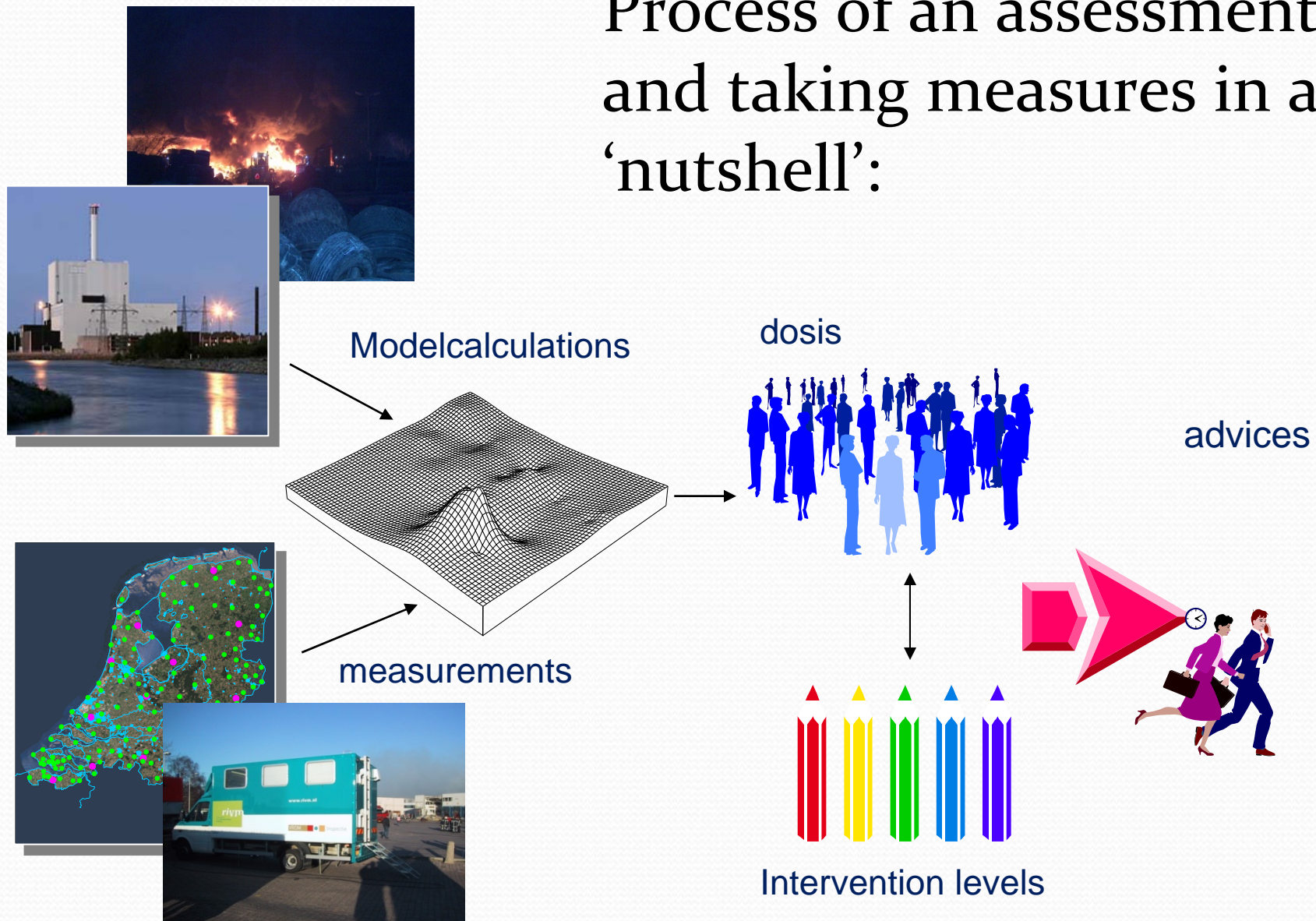
- Responsibilities on local, regional and national levels
- Organize the cooperation on all levels
- Include all response capabilities in response plans
- Train the variety of scenario's
- Create where possible (in)formal networks for specific assessments (health, environment)
- Make use of existing capacities and capabilities and organize a smart and efficient 24/7 availability
- Crisis management = network management
- Evaluate all incidents, identify lessons and learn from them

Crisis management = network management



‘Who needs what I have and who has what I need’

Process of an assessment and taking measures in a 'nutshell':



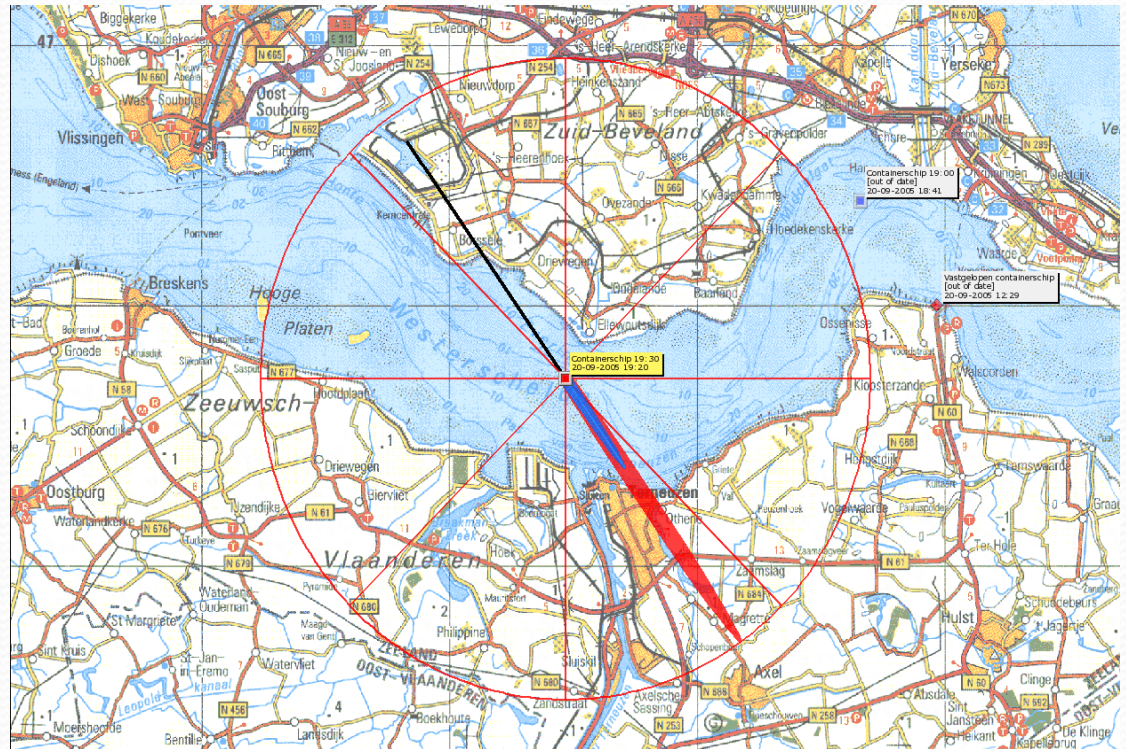
Network organizations Netherlands

- Emergency Planning and Advisory Units (EPA's) for:
 - environmental emergencies
 - nuclear and radiological emergencies
 - drinking water emergencies
 - terroristic threats and attacks (= National Laboratory Network)
- The network organizations:
 - are 'virtual' and to be activated during an emergency
 - are staffed by experts of 16 scientific institutes (> 100 members)
 - have a flexible structure
 - perform integrated advices

Available expertise

- Measure and sampling strategies
- Chemical analysis
- Risk and plume calculations
- Modelling (exposure) and future scenario (e.g. dispersion in air and water)
- External safety risks
- Risk analysis health impact
- Toxicological information
- Meteorological information
- Risk assessment aquatic environment
- Assessment food safety
- Assessment CBRN exposures
- Managing emergency response measures
- Crisis management experience

Example: risk and plume calculation



Challenges

- Industrial and chemical safety assume greater importance due to high growth near manufacturing and industrial areas
- Quality standards and better norms for enforcement
- Standardization of on- and off-site emergency plans
- Proper system of certification for risk assessment, emergency plans and safety audit
- Regular drills for checking the effectiveness of the plans and of the emergency preparedness
- Training and capacity building at all levels
- Involvement of insurance companies for better risk management in the industrial sector
- Increased awareness among workers and communities