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# Involvement of local and regional authorities in major hazard management

Higher Institute of Emergency Planning

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The information contained was received from the participants in the survey
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The Higher Institute of Emergency Planning (ISPU) carries out comparative studies of legal and organisational aspects of major hazard management for the EUR-OPA Major Hazards Agreement of the Council of Europe in order to identify lessons and good practice that might help in reducing major risks.

Following the adoption in 2006 by the ministers of the Agreement of a recommendation on the role of local and regional authorities in reducing major hazards,[1] the ISPU offered to continue studying this subject and began an extensive questionnaire-based survey of Agreement member states and specialised centres to highlight and illustrate the role of local and regional authorities in major hazard management.

In 2009, two workshops were held for respondents to the questionnaire from the following countries: Algeria, Armenia, Belgium, France, Greece and Luxembourg. Each participant was asked to give a brief outline of his or her country's administrative structure and hazard management system, with specific reference to the role of local and regional authorities, explain two problems that the latter had faced and give two examples of good practice.

The survey findings, available in English, French and Dutch,[2] together with the workshop results, have enabled the ISPU to carry out a comparative analysis of the following countries: Algeria, Armenia, Belgium, Croatia, Cyprus, France, Greece and Luxembourg. This analysis will be added to as comments and contributions are received from other member states.

The ISPU is currently developing an interactive website (www.ispu.eu) covering the survey replies, the comparative analysis, relevant legislation and recommendations and examples of good practice. The site can be used as a platform for Agreement partners (member states and specialised centres), local authorities and risk management experts to improve their knowledge of neighbouring major hazard management systems and learn lessons from abroad.

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## Preliminary remarks: A unified approach to major hazard management

I. The ISPU's 2007 questionnaire survey was intended to provide an overview of major hazard management from the local to the national scale, including the intermediate levels, and to assess the importance of the role played by local and/or regional authorities in this system, the problems they are facing, the support offered by higher levels and the attempts at harmonisation in order to prevent incompatible or conflicting measures from being taken in the same risk area.

States have a duty to protect their populations against major natural and technological hazards. The way in which they manage major risks on their territory will hinge on their administrative systems. Depending on the extent of devolution or decentralisation in a country, local and regional authorities will be involved to varying degrees, either being authorised to devise their own risk reduction strategies or being asked to implement standard measures adjusted in some measure to local circumstances.

A risk area is clearly not going to match administrative boundaries, and it is therefore legitimate to ask whether a risk will be managed more effectively locally or centrally.

- Local authorities are better informed about the characteristics of their areas and communities. They are credible intermediaries for the public and allow direct human contact, which also gives them a certain permanence considering how fragile telecommunication systems are in an emergency. However, faced with a serious emergency, their resources may rapidly prove inadequate. If they are then forced to seek co-operation from other localities or call on support from higher echelons, their strategies can never form part of an effective and co-ordinated emergency response, unless these strategies have been previously shared with these partners.

- Having more extensive resources and a wider network of partners, the upper echelons of authority will generally intervene if an event affects the territory of more than one locality or if local resources prove inadequate. Co-operation between local authorities would enable special features to be taken into account and local cultures to be respected.

Accordingly, we cannot say that one level of authority is more appropriate than another for managing a risk. However, it is true that the type of risk may sometimes point to a particular level as being more relevant: some risks can be effectively managed locally, but if their foreseeable consequences are so serious that the local authority would be unable to cope, the higher echelons must intervene, either in a support role or as the crisis management authority. Local authorities may recognise this in their risk analysis and call on the services of higher echelons for risks with which they are unable to cope. In Belgium, for example, it has been decided that a Seveso-style accident would be managed by the Governors rather than the mayors, although the latter would be required to implement the Governors' decisions in their municipalities. The challenge therefore appears to be, on the one hand, improving risk awareness and, on the other, gradually achieving a more integrated approach to risk management by improving co-ordination between the various levels of authority.

All the different levels are thus involved and interdependent. Each player is vital to the system's success: the alarm may be raised by the mayor, but higher levels will take over if the crisis grows. It is therefore essential to build the capacity of all these players to work within a network with the same objective of saving lives. Such networking means establishing meeting

points (real or virtual) and developing methods and procedures able to promote better top-down and bottom-up information flows. Major reforms are not necessary for this purpose; small steps are enough, as and when required. However, networking means that everyone involved must be speaking the same language. And this is the first problem, since, apart from Cyprus and the co-ordinating work of its District Officers, there is no uniform risk-management terminology in the countries studied. There are certainly a few definitions based on legal provisions that are often passed into domestic legislation as a result of binding international standards (such as those relating to Seveso,[3] nuclear energy,[4] use of genetically modified micro-organisms,[5] etc.) but there is no real agreement. We should nevertheless note some attempt at harmonisation:

- In Greece, with the adoption of Law 3013/2002, specifying local-authority powers, and Ministerial Decision 1299/2003[6] on a national emergency response plan containing a series of definitions relating to civil protection. The General Secretariat for Civil Protection (GSCP) has also published a *Manual for the development and harmonisation of civil protection (emergency) plans for ministries and central government agencies*;
- In Croatia, which will endeavour to harmonise its Protection and Emergency Response Plan;
- In Belgium, with the adoption of the Royal Decree of 16 February 2006[7] defining the broad outlines of local emergency planning and setting out some specific definitions (emergency, emergency plans, workstreams, co-ordinating committee, operational control centre, etc.). It lays down the minimum content of emergency plans and the mandatory composition of the strategic and operational bodies to be managed by the two tiers of local government (the 11 provinces and 589 municipalities). According to this decree, an emergency is '*any event entailing or likely to entail harmful consequences to society, such as a serious disturbance of public order or a serious threat to human life or health and/or significant material interests, which requires co-ordination of the workstreams to eliminate the threat or limit its harmful consequences'*;
- In France, where the Ministry of Ecology, Development and Sustainable Planning has drawn up a scale to classify the seriousness of damage when an accident occurs (incident, accident, serious accident, major accident, disaster):
    - An incident is an event with no casualties and material damage totalling less than 300,000 euros.
    - An accident is an event with one or more casualties and material damage totalling 300,000 to 3 million euros.
    - A serious accident is an event with 1 to 9 deaths and material damage ranging from 3 to 30 million euros.
    - A major accident is an event with 10 to 99 deaths and damage ranging from 30 to 300 million euros.

[3] Directive 1996/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances; Directive 2003/105/EC of 16 December 2003; the Helsinki Convention on the Transboundary Effects of Industrial Accidents; ILO Convention No. 174 concerning the Prevention of Major Industrial Accidents.

[4] Convention on Early Notification of a Nuclear Accident, IAEA document INFCIRC/335; Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, IAEA document INFCIRC/336/Add.1.

[5] Council Directive of 23 April 1990 on the contained use of genetically modified micro-organisms (90/219/EEC); Council Directive 98/81/EC of 26 October 1998 amending Directive 90/219/EEC on the contained use of genetically modified micro-organisms.

[6] HRGG No 423/B/10.04.2003

[7] Royal Decree of 16 February 2006 on emergency and contingency planning, *M.B.*, 15 March 2006.

- A disaster is an event with over 99 deaths and material damage exceeding 300 million euros.

- In Algeria, Law No. 04-20 of 25 December 2004 on major risk prevention and disaster management in a sustainable development approach defines a major risk as *'any likely threat to humans and their environment that may arise out of exceptional natural hazards and/or human activity'* and sets out the basis of major hazard management in Algeria:
    - The precautionary principle, whereby the absence of certainty, in the current state of scientific and technological knowledge, must not delay adoption of effective and proportionate measures to prevent all risk to property, people and the environment in general at an economically acceptable cost;
    - The concomitance principle when identifying and assessing the consequences of a hazard or vulnerability, which takes account of their interaction and the increased risks if they occur concomitantly;
    - The principle of preventive action and the priority on rectification at source, whereby action to prevent major risks must, as far as possible, use the most effective techniques and first deal with the causes of the vulnerability, at an economically acceptable cost, before enacting measures to control its effects;
    - The public participation principle, whereby all citizens must have access to knowledge of the hazards that they are running and information on the relevant vulnerability factors as well as the complete set of measures for major risk prevention and disaster management;
    - The principle of integrating new technology, whereby the major risk prevention system must monitor and, wherever necessary, incorporate technological developments in the field of major risk prevention.

II. In order that readers may better understand the meaning of certain terms used in this study, the following list provides definitions of the various components of major hazard management.

**Risk**

A risk is the result of the interaction between a **hazard** and an **exposed asset**. A risk is considered to exist whenever a hazard might occur in an area with human, economic or environmental assets. If there are no untoward consequences, a hazard on its own is therefore not a risk. The seriousness of the risk is proportional to the **vulnerability** of exposed assets.

**Hazard**

A hazard is an act or phenomenon that is either natural or results from human activity and is potentially dangerous and destructive.

**Exposed assets**

Exposed assets are all the people, property and services that could be affected by an incident. Population growth, spatial planning strategies and an insufficient awareness of existing risks increase exposure of the assets. The impact of the hazard on the assets depends on their extent (number, nature, etc.) and vulnerability.

**Vulnerability**

This term refers to and measures the predictable extent of the hazard's impact on the exposed assets. It reflects the degree to which an asset is able to withstand the impact of an incident. A community's vulnerability to the impact of a hazard may be heightened by certain factors such as poverty,[8] climate change, loss of biodiversity, etc.

**The different stages of major hazard management**

**Risk awareness**

Risk awareness has a number of components:

- Identifying potential hazards. This involves gathering all the historical data on past disasters and on material factors such as location of industrial estates, hazardous substances used there, prevailing winds, path and flow of watercourses, etc. It should be noted that some risks are not specific. For example, as far as the transport of hazardous products is concerned, the areas exposed to technological risk are spread out along the transport networks.
- Analysing the characteristics of hazards in order to understand their nature, assess the likelihood of their occurring and determine how they might spread and develop. Understanding an incident makes it possible to anticipate its occurrence and possible consequences and is essential to effective preparatory and preventive measures. In view of the uncertainties, the emphasis needs to be placed on the vulnerability of exposed assets.
- Identifying exposed assets. This involves identifying people, environment, property and essential services in the area at risk. The public authority should, for example, identify buildings that are either particularly vulnerable (schools, hospitals, prisons, nuclear power stations, industrial complexes, etc.) or important because of their role in rescue operations (fire stations, airports, etc.).
- Analysing the vulnerability of exposed assets. This involves determining an incident's predictable consequences for exposed assets, taking account

[8] Poverty frequently leads to ever larger communities living in poorly constructed housing in areas exposed to risk. They also lack the resources for recovery.

of ageing of the population, people with reduced mobility, building strength, etc. In addition to the foreseeable consequences, there are hundreds of scenarios that could reduce or heighten the impact of an incident, depending on variables such as timing (holiday period, day/night), wind direction and strength, weather, etc.

**Prevention**

Prevention is interpreted in different ways from one country to another. It is usually taken to encompass all activities to avoid a foreseeable incident expected to cause harm to individuals or the community as a whole. The European Union has attributed a broader meaning to the concept to cover not only measures designed to prevent a risk occurring but also measures to reduce its consequences if it should occur.

**Preparation**

Preparation encompasses all the activities to reduce the harmful effects of hazards on exposed assets. It includes emergency planning, which covers everyone responsible for emergency management. In the light of the risks involved, these emergency managers will plan the resources to be deployed and the co-ordination and control required for emergency management.

**Management**

Faced with an emergency, the competent authorities must take and co-ordinate all appropriate measures to reduce/eliminate the threat or control the emergency, limit its consequences as much as possible, and maintain or, if necessary, restore public order.

**Recovery**

Emergency management by the competent authority should not automatically stop once the active stage of emergency control has ended. The authority should ensure that the necessary steps are taken to provide victims with material and psychosocial support. As regards the latter, for example, it could set up national support systems or provide information on how to make insurance claims for repair of damage.

**Lesson-learning and feedback**

This covers any lessons learnt from drills or emergencies which can help to improve the overall hazard management system.

**<u>Risk cycle</u>**

The risk cycle is a theoretical model that we shall use throughout this study to illustrate the interdependence of the different stages:

- Risk awareness is essential for devising prompt measures to avoid (prevention) or reduce (preparation and management) a hazard's effects on exposed assets.
- Preparatory and preventive measures help to ensure better emergency management. They reduce the impact of a disaster and therefore the cost of management and recovery.
- Risks that cannot be adequately dealt with at the prevention stage will be taken into account in order to improve emergency response planning and preparation.
- Feedback contributes to better risk awareness.
- Shortcomings observed during management of an emergency will help to improve the entire system, including the interfaces to be established between the various stages of the risk cycle.

The dividing lines between each of these stages are very blurred, and responsibilities for major hazard management are extremely fragmented. This results in:

- A lack of interaction between the players involved in the various stages of the cycle: they do not do enough to pass on their knowledge of risks (identification and analysis

of major risks). Interfaces must therefore be created between the prevention and preparation stages and between the management and recovery stages;

- Policies and strategies adopted within individual fields of responsibility without consulting the others players;
- The risk of passing on confusing information to the public in an emergency, which would have the effect of worsening the crisis and causing a loss of confidence.

**Local and regional authorities**

The concept of a local or regional authority varies from country to country, since each country has its own specific features (federal/unitary structure, size, population density, risk exposure, resources, etc.), and while some operate with only one tier of local government in the form of municipalities (*Luxembourg, Malta, Portugal*, etc.), others have two tiers: (i) municipalities and (ii) counties, provinces or regions (*Belgium, Croatia, Cyprus, Greece*, etc.). Yet others have three tiers, such as France (municipalities, *départements* and regions) and Spain (municipalities, provinces and autonomous communities). And while authorities on the same level usually have fairly much the same structure, some countries have established a special structure for their capitals (France, Hungary, Poland, Romania, etc.). Add to all this the fact that local and regional authorities' power to act varies from country to country depending on the degree of decentralisation or devolution and therefore of the powers conferred upon them as a result of their individual national history. Cyprus's five District Officers, for example, are decentralised authorities, subordinate to the Minister of the Interior and are responsible for interministerial co-ordination in their districts. Belgium's Governors have a different role: they come under the regions as regards their administrative and financial status but may be assigned duties by the federal government,[9] although they do not co-ordinate at municipal level the various projects and policies pursued by the various regional and federal departments.

The concept of the region is also interpreted in a variety of ways depending on whether or not the country concerned has a federal structure. In most countries, the region is a subordinate power, but this is not the case in Belgium, for example, where there is no hierarchy between the Federal Government, the Communities and the Regions, since decrees and orders have the same force as laws.

Consequently, certain examples of good practice identified in a particular country may sometimes be explained by the administrative structure specific to that country and cannot necessarily be exported.

# Involvement of local and regional authorities in each stage of major hazard management

## 1. Risk awareness

Awareness of a territory's risks enables urban sprawl to be directed towards less exposed areas and is essential when it comes to taking appropriate preventive and preparatory

[9] They then become 'federal government representatives'. Among these duties, they have been assigned all aspects of emergency planning and crisis management by the Minister of the Interior: Ministerial Circular of 20 December 2002 on duties performed by provincial authorities on behalf of the Federal Public Service of Home Affairs (*M.B.*, 23 May 2003).

measures. Moreover, risk management and post-event recovery[10] are directly related to this. Unfortunately, our present-day societies are increasingly vulnerable owing, on the one hand, to the spread of urbanisation and, on the other, to the growing complexity of interdependent processes. For example, disruption of the electricity supply will have an impact on the provision of other essential services such as lighting, heating, water supply, computer systems, traffic lights, banking systems and telecommunications. Consequently, while we have learnt many lessons over the years and are ready to cope with recurrent and/or avoidable risks, we must continually adjust to new and increasingly complex risks.

As we have seen, awareness of major risks covers a number of fields: identifying hazards, analysing their characteristics, identifying exposed assets and analysing their vulnerability. It is therefore necessary first of all to make a list of risks (hazards + exposed assets). Depending on how many risks are found, a list of priority risks may have to be drawn up. The following criteria for priority risks were cited in the survey: likelihood of an incident, its intensity, and its impact on the population, the environment, property, the economy, essential services and the food chain. In Belgium, the emergency planning authorities (mayors, Governors and the Minister of the Interior) have begun by adopting a comprehensive approach: a general emergency plan must be produced for each tier of government, and this plan must cover every type of emergency. It can then be supplemented by individual plans with special provisions for specific risks.

Once the list has been drawn up and priorities established, a more detailed analysis must be undertaken of the characteristics of the hazards listed and their foreseeable impact on exposed areas and communities (population, infrastructure, housing, services, etc.). Analysis of a specific risk's foreseeable impact might include its harmful socio-economic consequences. Risk analysis must therefore go beyond the physical characteristics of hazards to cover the vulnerability of exposed assets. Since this is constantly changing, the analysis must be up to date.

All the players in major hazard management must carry out their own risk analyses for their areas of responsibility. There are consequently as many different methods of analysis as there are players. At this stage, it is therefore essential to consider how they can best exchange information. This means data compatibility (for maps, for example) and consequently a degree of standardisation.

As we have seen, local authorities have the advantage of being on the spot for producing more detailed and specific risk analyses but the national level has more resources and a wider network of partners. Our survey has shown that, in the countries studied, local authorities are usually involved in identifying and analysing risks but to varying degrees: they are either informed by higher tiers of the nature of the risks in their areas or else they are involved in identifying these risks and required to draw up a list. They are also indirectly involved through licensing procedures for hazardous activities and through control of town planning and spatial planning.

- In Belgium, mayors and Governors are under a statutory obligation to produce a list and analysis of risks in their areas but are free to use their own methods.[11] The survey highlighted the problems that some had encountered in developing appropriate

[10] Serious consequences may become apparent a long time after an event. Carbon monoxide poisoning has sometimes been observed long after an earthquake – because of chimney damage.

[11] Civil Protection Act of 31 December 1963, *M.B.*, 16 January 1964. Section 2 *ter*, which lays down the obligations of mayors and governors regarding risk identification/analysis and emergency planning, was added to this Act by the law of 28 March 2003 and came into force on 26 April 2003. Royal Decree of 16 February 2006 on emergency and contingency planning, *M.B.*, 15 March 2006

methods. Not knowing where to begin, some of them had therefore asked the federal government for support in the form of information and guidance on existing good practice in other provinces and localities. In response, the Crisis Centre of the Federal Public Service of Home Affairs provided Governors with a set of standard tools to facilitate co-ordination whilst respecting local features and cultures. It began by clarifying the legal framework by publishing a number of circulars, then organised information and exchange sessions on good practice and lastly provided a model approach in its *Operational Support Guide for Local Risk Analysis*.[12] This handbook covers the following elements: the underlying rationale, the make-up of a local team, the running of this team, the data-gathering process, the analysis and assessment process, possible use of results, and examples in the shape of case studies.

- In Cyprus, mayors are responsible for risk identification but the District Officers co-ordinate the various approaches through regular meetings.
- In Croatia, methods are laid down in the *Rules of methodology for making threat assessments and protection and rescue plans*.
- Armenia has also assigned risk identification to the local level and is pursuing the same type of approach as Belgium through harmonisation of local emergency plans.
- In Algeria, considerable efforts are being made to harmonise the methodology. These include constantly improving emergency action and response plans and the operational plans of emergency units set up during past disasters.
- In other countries, such as France and Greece, the methodology itself is determined by central bodies but risk identification is more a local matter. In France, for example, the *Préfet* has to use a methodology developed by the Ministry of Ecology, Energy, Sustainable Development and Planning when drawing up prevention plans for foreseeable natural risks in relation to avalanches. Greece, for its part, is planning to publish guidance for local authorities.

In addition to its greater resources and wider network of partners, the central authority is better placed to make a comprehensive survey of events across the country.

- In France, for example, it is the *Préfets* (who are in charge of decentralised government departments in their *départements*) who undertake risk identification in an important document entitled the *Département* Record of Major Risks (DDRM).[13] This document, designed to provide the public with preventive information,[14] is based on existing knowledge, including information from the municipalities. It specifies risks for drainage basins, industrial areas and sites, mountain areas and forest areas.
- In Algeria, the law on major risk prevention and disaster management in a context of sustainable development sets out the major risks covered by national prevention arrangements: earthquakes, geological risk, flooding, climatic risks, forest fires, industrial and energy risks, radiological hazards and nuclear risks, human health risks, risks to animal and plant health, and air, land-based, marine and water pollution, as well as disasters owing to large concentrations of people.

If local authorities conclude from their analysis that their resources are inadequate to cope with a particular emergency, they usually turn to higher levels, which will either provide them

[12] This guide was based on research from GLIMMER (Global-Local Information Merging for Maturing Emergency Response) adapting the APELL approach (Awareness and Preparedness for Emergencies at a Local Level) used by the United Nations. The project was overseen in association with the University of Liège and CEMAC (Crisis and Emergency Management Centre).

[13] Pursuant to Article R125-11 of the Environment Code.

[14] Preventive information is a right enshrined in the Environment Code under Articles L.125-2, L.125-5 and L.563-3 and Articles R.125-9 to R.125-27.

with support or else, if necessary, take over management of the emergency. In the latter case, however, it is possible that local authorities may keep some duties. It is therefore the nature of the risk that will determine the most appropriate authority to take action. In some countries, such as Cyprus, Greece and Luxembourg, the authority responsible for risk analysis will also depend on the type of risk concerned.

- Thus in Greece some risks are the responsibility of the central authority (radiological hazards, for example), while local authorities have a greater role for others.
- In Luxembourg several authorities may share responsibility for certain risks, each in its own field.
- In Cyprus some ministries have highly specialised departments. The Ministry of Agriculture, Natural Resources and the Environment, for example, has a Forestry Department with responsibility for forest fires, a Water Department with responsibility for flooding, and a Geological Survey Department with responsibility for landslides.

The survey shows that, even in countries where their independence is limited in terms of risk management, local authorities possess relevant information through their control of spatial planning and their role in licensing activities entailing major hazards. It is therefore essential, in every case, to involve these authorities in risk analysis.

Interfaces have gradually been established in most countries to facilitate the exchange of relevant information between different levels. This may occur at various points:

- During emergency planning: In Belgium, for example, the emergency planning bodies (Contingency Planning Units) set up in the 589 municipalities have their counterparts at provincial level (10 provinces + Brussels Capital Administrative District), and this provincial level acts an interface with the federal level. The system resembles a Russian doll, since the provincial Contingency Planning Units disseminate information from the federal government to the municipalities in their area and, conversely, convey information from the municipalities to the federal government. Emergency plans, and drills to test their arrangements, also enable the various players to pool their knowledge. In Cyprus, emergency planning also constitutes an opportunity for the various services to talk to each other, since they are required to prepare and forward their emergency plans to the Civil Defence Department.
- In France, the obligation to inform the public of the risks to which it is exposed also offers an opportunity for the various echelons to pool knowledge on major risks.
- Information exchange may also be organised by using all the risk data for a risk exposure map. Often authorities whose powers include an element of risk management (or a responsibility unrelated to risk management but which might prove useful for the latter) have their own special maps which may include the location of Seveso establishments, earthquake faults, flood plains, high-tension power lines, gas supply networks, etc. These maps are many and various, but examples of joint mapping also exist. In France, for example, the Minister of Ecology and Sustainable Development has set up a national system for sharing *préfectures'* existing risk maps through publication on the Internet. This system, called *Cartorisque*, enables all the players to have an overview of known natural and technological risks in France.

As regards horizontal information pooling, interfaces would appear to be harder to establish:

- In Belgium, knowledge of risks is built up from various fields, which may be the responsibility of federal government (civil protection, workers' protection), regional government (environmental protection, town planning) or the municipalities (health, education, etc.).[15] Since each of these constituent parts of government is independent

[15] Institutional Reform Emergency Act of 8 August 1980, *M.B.*, 15 August 1980

from the others, any field requiring co-operation must necessarily entail intergovernmental dialogue. And it has to be recognised that while there are formal co-operation structures for Seveso[16] and a few novel initiatives, there is no overall co-operation for major hazard management. Co-operation sometimes occurs at local level: for example, one municipality has brought together staff from two different departments in the same workplace, one in charge of emergency planning (a federal responsibility) and one in charge of town planning (a regional responsibility).

- In Greece and Cyprus, this problem seems to have been partially solved. In Greece, this is the result of co-ordination by the prefects. In Cyprus, District Officers co-ordinate measures from all ministries within their administrative districts (and at all stages: awareness, prevention, preparation, management, recovery and lesson-learning).

Dialogue must therefore be encouraged between the different levels of authority, but the private sector, together with industry and the research community, should also be involved, since many firms possess considerable risk-related expertise. The major petrochemical groups, for example, spend large sums on assessing the risks inherent in their own activities as well those present within a certain radius of their installations but linked to unrelated factors.

There is a need for close collaboration with industry, not only to prevent accidents but also to mitigate their consequences for the population and the environment. The Local Information and Co-ordination Committees (CLICs) in France are an interesting example of this. Their task is to improve co-ordination and information among the various players regarding technological risks, propose measures to help reduce environmental hazards and pollution and discuss ways of preventing and reducing risks.

In any case, manufacturers are usually required to declare the nature of the products that they are using to the authorities. The exact nature of this requirement will depend on the circumstances:

- Declaration of the use of hazardous products is usually an integral part of the licensing procedure, and the latter usually involves local authorities. In many countries, an application for an operating licence must be accompanied by an environmental impact assessment, a public inquiry or an annual environmental report for the most hazardous activities.
    - For European Union member states, these environmental impact assessments come under Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment.
    - In France, the legislation on classified installations[17] provides for two types of procedure: a simple declaration by the operator to the *Préfet* for classified installations presenting limited risks, and a *Préfet*'s licence if the installation presents serious risks or hazards. The main stages in the licensing procedure are the public inquiry, the impact study regarding the environmental

[16] Co-operation agreement of 21 June 1999 between the Federal Government, the Flemish and Walloon Regions and the Brussels Capital Region on controlling hazards relating to major accidents involving hazardous substances, *M.B.*, 12 October 2000.

[17] Law of 30 July 2003 on natural and technological risk prevention and damage repair relating to control of building development around high-risk sites.

and health effects of the future installation, and the safety report.

- In Algeria too, an application for planning permission must be accompanied by a dossier including a sheet explaining the nature and quantity of any liquid, solid or gaseous substances harmful to public health, agriculture or the environment contained in discharged wastewater or gas emissions, as well as arrangements for treatment, storage and filtering.[18]
- In Belgium, prior authorisation is a matter for the regions.[19]

- In France, under its industrial risk prevention policy, operators of classified installations subject to licensing must produce, for review by the *Préfet*, a 'safety report' listing the risks to which an industry may expose its neighbourhood and describing the measures taken to reduce the likelihood, kinetics and seriousness of the consequences. It must be updated every five years and include the domino effect. The *Préfet* has the power to order the preparation or updating of a safety report. He or she may also have the report assessed by a third-party expert and charge this to the operator.
- In several countries, including Cyprus, it is mainly for reasons of worker protection that manufacturers are required to declare the nature of the substances used in their operations. Operators must make this declaration to the Department of Labour Inspection of the Ministry of Labour and Social Insurance.
- In Belgium, manufacturers are also required to co-operate with local authorities by providing them with all the information needed to prepare the latter's emergency and response plans, including a risk analysis.

In some countries, dialogue between neighbouring industries is encouraged or, in some cases, mandatory. In Belgium, for example, establishments or groups of establishments where the likelihood or consequences of a major accident may be greater because of their location or proximity to other establishments are required to exchange relevant information with each other.

Expert input must also be sought from the research community. In Algeria, official technical bodies and specialist research centres such as the Centre for Scientific and Technical Research on Arid Areas (CRSTRA) are responsible for risk analysis in their fields.[20]

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[18] Executive Decree No. 91-176 of 28 May 1991 establishing the procedure for processing and issuing parcelling certificates, planning permission, certificates of compliance and demolition permits.

[19] The following legislation exists in the regions: *Flemish Region:* The benchmark for environmental licensing is VLAREM, the Flemish regulations for environmental licences, passed by order of the Flemish Government on 6 February 1991. See also the environmental decree on environmental licences dated 28/6/85 and the order of the Flemish Government dated 26 June 1996, published on 3 July 1996. *Walloon Region*: Decree of 11/3/99 (*MB*, 6/8/99) on environmental licences, as amended; Walloon Government order of 4/7/02 (*MB*, 1/10/02) establishing the operating requirements for establishments referred to in the decree of 11/3/99 on environmental licences ('General Requirements' order), as amended; Walloon Government order of 4/7/02 (*MB*, 21/9/02) establishing the list of classified installations and activities and installations subject to impact studies ('List' order), as amended; Walloon Government order of 4/7/02 (*MB*, 21/09/02) on procedures and implementation for the decree of 11/3/99 on environmental licences ('Procedures' order), as amended; Walloon Government order of 4/7/02 (*MB*, 21/9/02) organising environmental impact assessment in the Walloon Region ('Impact Assessment' order), as amended. Website: http://www.permisenvironnement.be. *Brussels-Capital Region*: Order of 5/6/97 (*MB*, 26/6/97) on environmental licences, consolidated text; Brussels-Capital Government order of 4/3/99 (*MB*, 7/8/99) establishing the list of Class IB, Class II and Class III installations; order of 22/4/99 (*MB*, 5/8/99) establishing the list of Class IA installations. Website: www.ibgebim.be/entreprises/permis.

[20] The Research Centre for Astronomy, Astrophysics and Geophysics (CRAAG) is responsible for the scientific aspects of earthquake risk. It has, for example, produced an earthquake map for Algeria and manages the national earthquake monitoring network. The CRSTRA is responsible for the scientific aspects of risks in arid

Unfortunately, we often find a lack of co-ordination, with the result that many research teams tackle the same subjects without being aware of the fact. They should therefore be encouraged to publicise their activities more and provide a list of the various programmes completed or in progress. In their co-operation with teams of researchers, the authorities should seek to steer them in the desired direction by setting them the objective to be attained, which is to make sufficient structured information available to risk managers to guide them in their actions. Achieving this is no easy task in view of the underlying nature of some of the research being done, which does not foster knowledge transfer and practical applications.

Feedback and good practice in other countries are an invaluable source of information but one which, unfortunately, is not sufficiently exploited. The same is true of cross-border mapping, which could be used to identify risks common to several countries and plan joint protection measures. A common mapping system is being developed in Benelux, more specifically in connection with the Senningen agreements. The information included will relate to aspects connected with power transmission, health, transport and establishments handling hazardous substances.

# 2. Prevention

Prevention, for the purposes of this study, means avoiding a risk becoming a reality. Since a risk is the result of the interaction between a hazard and an exposed asset, it is therefore a matter of preventing a potentially destructive hazard from having serious consequences for the assets. How can this be done? Either by decreasing the number of exposed assets or by reducing their vulnerability. This study covers a number of measures: planning, construction of defences, environmental damage control, risk monitoring and public information. Other measures are, of course, possible.

1. **Sustainable spatial planning**

When risk analysis is used to determine the foreseeable impact of a risk, this must be taken into account in various planning and development projects, and appropriate measures must be taken for industrial, agricultural and housing development in order not to increase the vulnerability of the exposed area.[21]

The survey shows that, in all countries studied, planning policies do indeed show awareness of this aspect:

- In Luxembourg, the government has adopted a development plan that moves development policies in the direction of sustainable spatial planning.

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and semi-arid areas. Examples of its work include: design of a quantifier for blown sand in transit to assess sanding-up risks for basic infrastructure, installations and engineering structures in particular; preparation of maps to raise awareness of desertification and sanding-up; preparation of maps of aquifer pollution vulnerability.

[21] Risk reduction is considered to be one element of sustainable development, the latter being defined as '*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*'. In this connection, see the Hyogo Framework for Action, which maintains that until risk reduction becomes an integral part of development plans and programmes, any social and economic progress achieved will constantly be undermined by recurrent disasters. World Conference on Disaster Reduction: Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, Kobe, Japan, 2005. http://www.unisdr.org/wcdr/intergover/official-doc/L-docs/Hyogo-framework-for-action-english.pdf

- In Belgium, since responsibility for town planning and spatial development falls to the individual regions, policies in the Flemish, Walloon and Brussels regions may differ, although they all include major risk reduction. To give one example, the Walloon Regional Planning, Development and Heritage Code specifies that when planning permission relates to property exposed to a natural risk, a major hazard or major geotechnical constraints such as flooding, rock fall, karst, mining subsidence or seismic risk, work may be either prohibited or subject to special conditions concerning protection of people, property and the environment. The municipalities, which are responsible for issuing planning permission, must follow the guidance that they have been given, although they are permitted to imposer stricter conditions: the Mayor and Deputy Mayors, the municipality's executive, may refuse to grant permission, even if the Region's representative has given a favourable opinion. This is an important power granted to local authorities.
- In France, the *Préfets* have their specialist departments draw up a risk prevention plan (*plan de prévention des risques*, PPR) for each municipality at risk, and this is then notified to the mayors following an approval procedure which includes discussion by the municipal council and a public inquiry. This plan defines the areas exposed to either natural risks (PPRN) or technological risks (PPRT) and lays down the preventive, protective and safeguard measures to be taken by property owners, local authorities and public institutions. Risk prevention plans apply to any public body or private individual wishing to construct new buildings or installations or already owners of the property. The provisions set out in these plans must be complied with when issuing land-use permits (planning permission, declaration of building alterations, etc.). The mayor must therefore take them into account when considering planning permission. Through the planning procedure, the mayor also has a wide range of legal instruments for risk prevention:

    * Spatial planning directives (*directives territoriales d'aménagement*, DTAs), which set out basic central-government guidelines and objectives in various general fields. DTAs are limited to those parts of the country with substantial exposed assets.

    * Territorial cohesion strategies (*schémas de cohérence territoriale*, SCOTs), which lay down general land-use guidelines and determine the overall balance between urban development areas and natural and/or forest areas.

    * Local urban development plans (*plans locaux d'urbanisme*, PLUs), which define urban and natural areas, within which the relevant rules based on the local situation are set out with regard to development and land use. PLUs are drawn up and overseen by the municipalities.

  All these planning documents (PPRs, SCOTs and PLUs) must take account of the information provided by risk maps (*Cartorisque*). Mayors also have enforcement powers under which they can, for example, require individuals to clear a 50m radius around their properties to reduce the risk from forest fires.[22]
- In Algeria, building is prohibited in the following risk areas: areas on earthquake faults deemed to be active, geological danger zones, flood-risk areas, wadi beds and downstream of dams below the flood level, "precaution" zones around industrial

[22] Articles 2212-1 *et seq.* of the General Code of Local Government. Article L.2212-2: '*The purpose of the municipal police is to guarantee order, safety, security and public health. This shall cover the following: […] The task of preventing, through suitable precautions, and bringing to an end, through provision of the necessary assistance, accidents and disasters and pollution of all types, such as fires, flooding, dam failure, landslides, rock falls, avalanches and other natural accidents, epidemic or contagious diseases, and epizootic diseases, and immediately to take all emergency measures and, if necessary, call for assistance from a higher authority.*'

estates, land-take of oil, gas and water pipelines, and energy feeds with which any interference might entail a major risk.[23]

These countries also ensure that their land-use policies take account of the consequences of major accidents involving dangerous substances:

- In Algeria, planning permission may be conditional on a public enquiry, an impact study and consultation of civil protection authorities for construction of industrial and commercial buildings and, more generally, for all public-access buildings.
- Directive 96/82/EC on the control of major-accident hazards involving dangerous substances, known as the Seveso II Directive, strengthens the regulation of certain aspects, including land-use planning around high-risk industrial sites. This directive has improved safety for populations living near hazardous industries in all European Union member states.
- In France, the technological risk prevention plan (PPRT) specifies the risk-exposure zone around installations. Inside this zone, various types of regulation can be applied to limit the vulnerability of the persons exposed:
  * Pre-emption, allowing a public authority to buy a property if the owner wishes to sell it. This right enables the public authority – usually the municipality – to interpose between buyer and seller.
  * The right of the owner of a property to demand that the local authority purchase it at a price fixed either by agreement or by a judge.
  * Compulsory purchase, allowing the authorities to purchase a property in the public interest with prior compensation.

Spatial planning policies in the countries studied thus all pursue a philosophy of sustainable development, since they limit structures in areas exposed to major risks. It should be added that in Algeria a structure totally or partially destroyed by a disaster due to a geological and/or seismic risk can be rebuilt only after a special inspection procedure to check that the causes of this total or partial destruction have been duly resolved.

As for seismic risk, countries that are particularly exposed, such as Algeria, France,[24] Croatia, Greece and Cyprus, have divided their territory into zones of varying seismicity and require structures in these zones to meet earthquake-resistant building standards. There are two main consequences of failure to comply with these special standards: the builders may be held accountable, and insurance companies may refuse to pay compensation.

- In France, the technical inspection that already applied to high-rise building was extended in 2006 to cover other buildings in earthquake areas.
- Algerian law also provides for inspection and appraisal procedures for structures in earthquake areas.

Vulnerability studies are produced for some special structures, such as dams and nuclear power stations, to ensure that they have been designed to withstand likely external events such as flooding or earthquakes. This type of study could be extended to all structures that are particularly important because of their role after an earthquake (fire stations, hospitals, etc.),

[23] Section 19 of Law No. 04-20 of 25 December 2004 on major risk prevention and disaster management in a context of sustainable development.

[24] Article L.563-1 of the Environment Code provides as follows: '*In areas particularly exposed to seismic or cyclonic risk, special rules regarding earthquake-resistant or cyclone-resistant construction may be laid down for amenities, buildings and facilities. If a natural risk prevention plan has been approved [...] it may [...] lay down more specific rules.*'

because of the secondary risk they represent (nuclear power stations, industrial firms, etc.) or because of their considerable economic or cultural value.

- In France, not only these special structures but also hospitals and sites of historical importance (Eiffel Tower) and economic importance (Millau Viaduct) have been taken into account.
- In Algeria, Section 46 of the law on major risk prevention and disaster management in a context of sustainable development specifies that strategic and heritage buildings in cities must be covered by vulnerability plans designed to protect them from the impact of major risks.
- In Cyprus, all schools (state and private) were inspected between 1999 and 2005 to check their earthquake resistance. In some cases, strengthening was ordered. All schools and public buildings also have evacuation plans, and drills are carried out regularly.

Local authorities, which frequently have the task of implementing land-use and planning policies, are thus key risk-prevention partners. Moreover, they have a decisive role in providing information when they issue planning permission, since they inform property developers, architects, entrepreneurs, clients and the public in general about areas at risk. In this way they can direct development to less risk-prone areas. Here France has a requirement covering all property, whether developed or undeveloped (flats, houses, land, etc.), to the effect that any seller or landlord must, depending on where the property is situated, attach to the sale contract or letting agreement a statement of risks and, where appropriate, a list of insurance claims paid to the seller/landlord. For this to apply, the property in question must be in an area covered by a natural or technological risk prevention plan or in an earthquake area, or else have been the subject of one or more compensation payments after an event recognised as a natural disaster. Failure by the seller or landlord to comply with this twofold requirement may result in cancellation of the contract or a reduction in the price. In addition, the information contained in the deeds is included in the *Cartorisque* risk mapping system.

### 2. Development of defences

Defences must be erected to reduce risks wherever necessary (dyke strengthening, stabilisation of dunes, etc). Since this will require planning permission, local authorities will again play a leading role here.

- In Algeria, planning permission for structures in flood-risk areas must, if it is to be valid, specify all works, alterations and piping designed to reduce the risk.
- In France, the natural and technological risk prevention plans (PPRNs and PPRTs) lay down the preventive, protective and safeguard measures to be taken in danger zones[25] and "precaution" zones by public authorities as part of their responsibilities and those which are incumbent on individuals.

### 3. Environmental damage control

Major-risk prevention and environmental protection are closely linked. Obviously, major-risk prevention helps to protect the environment, since it attempts to prevent a foreseeable event having an environmental impact, but environmental damage control can also help to reduce vulnerability. Sustainable use of forests and environmentally sound management of

[25] 'Danger zones' are areas exposed to risks. 'Precaution zones' are areas which are not directly exposed to risks but where buildings, structures, developments, farms, forestry development, small enterprises and business and industrial concerns could increase risks or create new ones and to which restrictions therefore apply that are similar to those for danger zones.

watercourses, for example, reduce the risks of flooding and landslides. This is clearly all directly connected to the idea of sustainable development as well.[26]

Given that risk prevention can be considered part of environmental protection and sustainable development, attention should be paid to projects and programmes in these fields. In this respect, France has adopted local Agenda 21s. A product of the 1992 Rio Conference, local Agenda 21s are intended to introduce collective sustainable development projects at local level. They include action to prevent risks and reduce pollution and other environmental and health hazards. In Cyprus, every major project requires an environmental study, which must take account of major risks.

### 4. Risk monitoring and periodical inspection

Hazard monitoring is essential if the public are to be warned to take shelter or evacuate. Local monitoring centres could be set up to complement the inventory and analysis of risks. As regards flooding, for example, gauging stations can be used to predict high water-levels and monitor developments.

- In Algeria, a prevention master plan for each major risk has been enacted by decree.[27] Each plan contains general rules and provisions applicable to the major risk concerned:
  * It must lay down the national monitoring system, the national warning system, simulation programmes and the system used to assess the scale of the relevant hazard;
  * It must also specify the regions, wilayas, municipalities and areas that have particular vulnerabilities and the measures taken to reduce the risk and mitigate vulnerability;
  * Lastly, each prevention master plan must determine the areas in which all building is prohibited on account of a major risk as well as measures applying to existing buildings. It must also contain special provisions for the risk in question (for example, the flood prevention master plan must contain a national flood-risk map indicating all flood-risk areas), provisions for strategic securing measures (e.g. securing of the road network) and additional preventive measures (such as systematic use of a national insurance scheme for insurable risks).

One problem at this stage lies in the fact that some events, such as earthquakes, are harder to predict and therefore harder to deal with in terms of warning. Another problem is assessing the threat: a misevaluation will inhibit early warning.

As for industrial risks, operators of companies engaged in hazardous activities must take appropriate measures to prevent major accidents and limit the latter's on-site and off-site impact. In all the countries studied, these measures were monitored by teams of inspectors with binding powers. Local authorities should be systematically involved in monitoring.

- In Belgium, surprise inspections are organised in co-operation with the municipalities. An inspection team has been set up for each of the three regions (Flemish, Brussels-Capital and Walloon). Each team includes a regional-government representative together with one representative from each of the relevant federal ministries. If an operator's measures are deemed inadequate, the inspectors may file a report, set a deadline for sorting out the situation or prohibit further activity. The inspectors may call on the police for assistance in the performance of their duties. In addition,

[26] The expression 'disaster risk reduction' often used at international level denotes the conceptual framework for the elements to be taken into account in reducing vulnerability factors and preventing risks of a disaster in the whole of a given society with the aim of avoiding (prevention) or limiting (disaster preparedness and mitigation) the harmful impact of hazards in the wider context of sustainable development.

[27] Section 16 of Law No. 04-20 on major risk prevention and disaster management in a context of sustainable development.

operators who fail to comply with requirements are liable to prosecution and administrative fines.

- In France, state inspectors carry out inspections of classified installations subject to licensing. If an inspector finds that an operator has not complied with the conditions, the *Préfet* will give the operator notice to meet these conditions within a given period. Upon expiry of this period, the *Préfet* can have the requisite measures automatically enforced (at the operator's expense) or may, as a last resort, demand suspension (by means of an order of the *Préfet*) of the operating licence for the installations concerned pending compliance.
- In Cyprus, monitoring is carried out by the inspectors of the Department of Labour Inspection of the Ministry of Labour.
- In Croatia, responsibility lies with the Ministry of Environmental Protection.

## 5. Information on risks

Information on the characteristics of risks, together with recommendations on action to be taken before, during and after an event, will encourage individuals to exercise greater care and help reduce unmanageable large-scale reactions when dealing with an emergency situation.

One of the problems identified in our first workshop was that, despite all the work already done, there was a lack of information about risks. One of the reasons might be a fear on the part of municipalities highly exposed to major risks that information on such risks could be economically damaging to them (in terms of property development projects, tourism, job creation through new industries, etc.). But the public also has occasion to bemoan a lack of information, even though, paradoxically, this is a priority for the authorities: although the information has indeed been provided, it has not achieved its purpose since it has not been properly tailored to the public or else is too uniform, not explanatory enough, etc.

Information on risks could therefore be improved further. This must be a continuous process. Every opportunity must be taken to convey information whilst ensuring that all stakeholders are on the same wavelength.

- In Algeria, the general public is told about the risks to which they are exposed and informed of warning procedures and action to be taken by means of local and national radio and other media and through information campaigns. In some cases, posters and leaflets are used: for example, health hazards are publicised through fact sheets – also available in airports – in addition to broadcast information.
- In EU member countries, Directive 2003/4/EC on public access to environmental information guarantees the right of access to environmental information held by or for public authorities and requires the latter to ensure that this information is disseminated systematically and in stages to the public in order to ensure that it as widely available as possible. These are obligations for '*government or other public administration, including public advisory bodies, at national, regional or local level'*. Directive 89/618/Euratom of the Council of the European Communities lays down a specific requirement to inform the general public about nuclear material: the population likely to be affected by a radiological hazard must be given prior information about the health-protection measures that will apply and the action to be taken in the event of a radiological emergency. Since the practical arrangements for providing this information are not specified by the European Union, methods can be chosen freely and may differ from one country to another (e.g. mail shots, poster campaigns, information sessions, articles in local newspapers or on websites, etc.).

- In France, the Environment Code provides as follows: '*Citizens have a right to information about the major risks to which they are subject in specific geographical areas and about the measures taken to safeguard them. This right applies to technological risks and to foreseeable natural risks.'* This duty to inform the public is performed by either the *Préfet* or the mayor by means of the *Département* Record of Major Risks (DDRM) in the former case and the Municipal Information Record of Major Risks (DICRIM) in the latter.
    - The DDRM comprises: a list and description of major risks in the *département*; a statement of their foreseeable consequences for people, property and the environment; a chronology of known events and accidents indicative of the existence of these risks; and an overview of the general preventive, protective and safeguard measures planned by public authorities in the *département* to limit the impact of these risks.
    - The DICRIM provides instructions concerning each of the risks that could affect a municipality. It may be accompanied by a communication plan in the form of poster and information campaigns. The mayor produces this communication plan, which may make use of various media, together with leaflets and posters, all on the pattern laid down by the ministries responsible for the environment and emergency preparedness. The mayor may order these posters to be displayed in premises frequented by over 50 people, blocks of more than 15 flats, and campsites and caravan sites for over 50 people. In municipalities for which a natural risk prevention plan has been required or approved, the mayor must provide the public with information at least once every two years through local public meetings or by any other appropriate method. This information will cover the following points: characteristics of known natural risks in the locality, possible prevention measures and safeguards, the provisions of the plan, warning methods, organisation of assistance, risk management measures taken by the municipality, and safeguards under Article L.125-1 of the Insurance Code.
- In Belgium, the Governors and mayors running their 'Contingency planning units' must appoint a colleague for 'Workstream 5', whose task is to provide the public with information. Province 'communicators' sit on working parties at federal level and provide the interface with the municipalities.
- In Cyprus, information centres are provided at local level.

For 'Seveso upper-tier' sites, manufacturers are required to provide information for the populations that might be directly exposed to risks generated by their facility. This information campaign is co-ordinated by central government but entirely funded by the generator of the risk. The Seveso II Directive requires these campaigns to be repeated at least every five years. The messages conveyed during such campaigns must inform the exposed population about the exact nature of the risks on each industrial site and the safety procedures to be implemented in the event of an accident. Since the Seveso II Directive, the public has had access to the content of safety reports as well as the inventory of dangerous substances present in the facility. Similarly, the public are consulted on the location of new industrial sites: they can ask questions and express reservations during the public inquiry which is part of the permit application procedure. In Belgium, unlike other European countries, Seveso information is the responsibility of the Federal Public Service for Home Affairs rather than

the operator. However, information campaigns are financed indirectly by operators, who pay an annual contribution to the Seveso fund.

Certain information entails responsibilities for the public. In France, for example, the risk prevention plans (PPRNs and PPRTs) lay down preventive, protective and safeguard measures to be taken by individuals. In the specific case of forest fire prevention the mayor may also, under the General Code of Local Government, require owners to clear a 50m radius around their properties. Lastly, still in France, the Environment Charter requires the public to prevent any damage that they might cause to the environment or, failing this, to limit its consequences.

# 3. Preparation

However much effort is put into prevention, risks can never be eliminated entirely. Preparing for an emergency means increasing capabilities for appropriate action and thus reducing the impact of a risk – thinking ahead in order to handle the situation more effectively. Preparation therefore aims to improve the response from the authorities and responding services and use training and emergency planning to ensure that the public are better informed when an emergency occurs.

## 1. Preparing a unified strategy for major hazard management

Defining the statutory framework

Since major hazard management is a very heterogeneous field, covering many different responsibilities, there is little domestic legislation that deals with it as a unified whole. Algeria's Law No. 04-20 on major risk prevention and disaster management in a context of sustainable development is an interesting case in this respect, since not only does it deal with major hazard management as a unified whole, but it also ensures that these rules are consistent with sustainable development: *'The rules for major risk prevention and disaster management seek to anticipate and deal with the impact of major risks on human settlements, human activities and the environment with the aim of protecting and securing the development and heritage of future generations.'* The purpose of this law is to lay down rules for major risk prevention and disaster management. It covers the entire cycle of risk management.[28]

[28] It first establishes a list of the risks covered by the prevention and management arrangements that it regulates. It sets out the aims of risk prevention measures: better risk awareness, closer monitoring and better forecasting, and more prior information about these risks; allowance for risks in construction and in use of land, and reduction of the vulnerability of people and property to hazards; establishment of arrangements for consistent and appropriate integrated management of any natural or man-made disaster. It lays down principles for public information and training, introducing risk education at all stages of school education. It also deals with prevention in the narrow sense (generic plans for major risk prevention) for each type of risk and some special risks (earthquakes, geological risk, flooding, climate hazards, forest fires, industrial and energy risks, radiological hazards and nuclear risks, risks to animal and plant health, and risks due to large concentrations of people), and with emergency planning (ORSEC emergency response plans at national, multi-wilaya, wilaya and municipal levels and for sensitive sites, and special response plans) and establishment of strategic reserves for managing the emergency phase and setting up a system to deal with the damage. Lastly, it provides for criminal penalties for anybody failing to comply with its planning requirements (such as Section 19 on prohibition of building and Section 23 on rebuilding a structure after an earthquake only subsequent to an inspection to ensure

While it is important to take a unified approach to major hazard management, it is also essential to specify the responsibilities of each player while being careful not to set them in stone, since the law will probably change on the basis of experience and also because some special circumstances may call for a degree of improvisation.

Lastly, we should not confine ourselves to the statutory framework: good legislation is sometimes badly implemented, and good practice sometimes arises out of the search for answers to poor legislation.

Concluding international agreements

Thanks to the survey it has been possible to draw up a list of co-operation agreements on major hazard management signed by the participating states.[29] Amongst other things, these agreements cover:

- Exchange of experience and good practice and pooling of geographical data;
- Organisation of European master's degrees and in-service training;
- Joint measures to be taken at the various stages of major hazard management: prevention, preparation, response and recovery.

These agreements may also provide for co-operation between local and regional authorities located on either side of a national border. The following are some examples:

- Council of Europe Madrid Outline Convention (1980)

Its aim is to foster transfrontier co-operation between the Contracting Parties, understood as relations between adjoining local and regional authorities and communities within the jurisdiction of two or more Contracting Parties. This co-operation must take place in line with the powers conferred on local and regional authorities by the domestic law of each state.

The Outline Convention offers local and regional authorities a choice of forms of cross-border co-operation and sets out for states various means of supervision and control for ensuring observance of the principle of state sovereignty wherever necessary.[30]

- Benelux Convention on transfrontier co-operation between territorial communities or authorities[31]

The Benelux Convention is an application of the Madrid Outline Convention and concerns transfrontier co-operation between local and regional authorities and communities. It enables municipalities, provinces, inter-municipal consortia, public social assistance centres and urban agglomerations to co-

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that the cause of its destruction has been duly taken into account) and for operators of industrial facilities having failed to prepare internal response plans (Section 62).

[29] See Question 34 of the questionnaire.

[30] Explanatory report on the Outline Convention: http://conventions.coe.int/Treaty/EN/Reports/Html/106.htm
The European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities, drawn up within the Council of Europe by the Committee on Co-operation in Municipal and Regional Matters and adopted by the Committee of Ministers, was opened for signature by the member states of the Council of Europe on 21 May 1980.

[31] Signed in Brussels on 12 September 1986.

operate directly with authorities and communities on the other side of the border. They can do this in three ways: by administrative agreement, by setting up a joint transfrontier body or by establishing a public body with legal personality able to take decisions that are binding on the partners and the public.

- European grouping of territorial co-operation (EGTC)[32]

Regulation (EC) No. 1082/2006 of the European Parliament and of the Council of 5 July 2006 provides for the possibility of setting up 'European groupings of territorial cooperation' (EGTCs), adding a further option to those already provided for by the Council of Europe.

An EGTC can implement programmes and projects co-financed by the European Union and engage in territorial co-operation on the initiative of a member state or a local or regional authority.

It should nevertheless be pointed out that this co-operation has run into a number of difficulties, such as different organisational structures in different countries, significant differences between major hazard management terminologies and concepts, the range of players involved, the need to clarify their respective roles, identification of common needs, incompatibility of geographical data, and language problems.

Setting up the co-operation needed to pave the way for integrated emergency management

1) Improving interministerial co-ordination

The survey confirmed the need to create interfaces between players whose functions include elements that would be useful for co-ordinated major hazard management. In some countries these players, although they will have to work together in an emergency, routinely operate in a highly compartmentalised manner. A case of pollution in Belgium, for example, will involve not just one or more regions (independent from federal government), which have responsibility for environmental protection, but also the relevant federal government departments responsible for protection of people and property (Ministry of the Interior), protection of health and the food chain (Ministry of Public Health), and workers' protection (Ministry of Employment). It is therefore important to determine their individual capabilities. The regional authorities, for example, possess air monitors, which supply key information for emergency teams responding to pollutants. The relevant departments must provide support for crisis management and their work must be taken into account at the emergency planning stage.

This aspect must therefore be discussed by all ministries whose functions cover one or more fields that could be useful for managing an emergency.

- In Luxembourg, interministerial co-ordination takes place in the Crisis Cell of the Council for National Protection (CC/CSPN), which is chaired by the High Commission for National Protection. The Crisis Cell includes representatives of the following authorities: police, army, customs, intelligence service, press and information service, health service, emergency services and the government communications centre.

[32] Regulation (EC) No. 1082/2006 of the European Parliament and of the Council of 5 July 2006 on a European grouping of territorial cooperation (EGTC).

- In some countries, the Prime Minister is in charge of interministerial co-ordination, whereas in others, such as France and Belgium, it is the responsibility of the Minister of the Interior. In these countries, similar co-operation between different branches is also to be found at local level.
    - In Belgium the Government Crisis and Co-ordination Centre, reporting to the Federal Public Service for Home Affairs, acts as a national platform for discussion on how to improve unified major hazard management. At local level, provinces and municipalities each have their individual multi-workstream bodies called 'contingency planning units', which consist of the administrative authority (the Governor at province level, and the mayor at municipal level) and, among others, a public health inspector, a Crown prosecutor and a Ministry of Defence representative. The contingency planning units have the task of identifying risks within the province or municipality and preparing emergency and response plans.
    - In France, the National Council for Civil Protection (CNSC) is responsible for information exchange on risks. It is chaired by the Minister of the Interior and brings together the main ministries concerned, the main public service operators, the most relevant specialist and research bodies, elected representatives and emergency service providers, including the French Red Cross and the National Federation of Civil Protection. At *département* level, each *Préfet* has an Interministerial Civil Defence and Protection Department (SIDPC), which liaises with all decentralised government departments involved in civil defence and protection in terms of either regulation or operations.

In Cyprus, interministerial co-ordination is organised by the District Officers, who act as the interface with the municipalities in their districts. For example, in March every year they call together municipalities, public bodies and essential services to discuss and decide on measures to prevent forest fires or, if this is not possible, at least to mitigate their consequences.

2) Establishing a permanent central body for crisis management

Round-the-clock monitoring, seven days a week, will enable the authorities to take prompt and targeted action when the situation so requires.

- In Belgium, the Government Crisis and Coordination Centre[33] gathers, analyses and circulates, on an ongoing basis, the necessary information to policy-makers and executive agencies. It also provides the tools and procedures for managing emergencies and, if necessary, makes its facilities and expertise available for national emergency co-ordination and interdepartmental management. The Government Crisis and Co-ordination Centre holds the general emergency and response plan (PGUI) for each of the eleven provinces, which specifies a contact that can be reached around the clock, seven days a week. Each province also holds the general emergency and response plans for all the municipalities in their territory, and each municipality holds

[33] Royal decree of 18 April 1988 establishing the Government Crisis and Co-ordination Centre, *M.B.*, 4 May 1988.

the general emergency and response plan of its province. All the contingency planning units (at both province and municipal levels) have also circulated the general emergency and response plan to all their members, including those responsible for the following tasks: rescue operations, medical assistance and psychosocial support, maintenance of order, logistical support and information.

- In France, the Interministerial Crisis Management Operations Centre (COGIC) has a permanent monitoring unit that operates around the clock. This unit daily gathers and analyses information relating to protection of people, property and the environment and notifies the office of the Minister of the Interior about any situation that calls for emergency measures. It can respond to any request for an expert opinion – from the *Préfecture*, for example – and provides national resources for public relief and assistance for *départements* and defence zones as well as for abroad in connection with humanitarian aid. The centre is manned by a duty officer, a duty controller, a cartographer and a switchboard operator. This team may be reinforced with one or two officers and with senior managers selected for their specialist fields. ORSEC emergency response plans for *départements* include the means and procedures for warning local authorities and all public bodies and private individuals concerned.
- Other countries, such as Armenia and Luxembourg, have set up operations centres to run emergency service operations in the field. In Luxembourg, an Emergency Aid Centre (CSU-112) is fully equipped to handle and record emergency calls, activate warnings, mobilise appropriate assistance according to the nature and seriousness of the accident or disaster, and co-ordinate the response.

### 3) Encouraging preparation of local authorities for front-line emergency management

Local authorities are the first link in the emergency management chain. They are on the front line in the initial hours as regards co-ordination of first aid and provision of information to the public. We shall see that in some countries they are required to prepare by drawing up their own emergency and response plans while in others they are involved in implementing national plans. The former method ought to encourage a response that is perhaps better adapted to local circumstances, but it is also possible that the latter method may, in practice, be adapted to a certain extent. The second method has the advantage of providing a standard response for the country as a whole, which makes it easier for neighbouring municipalities to assist each other.

### 4) Spreading a risk culture and building awareness in relevant sectors

Risk management involves a large number of players, which each have their own professional culture, that is, their own terminology, perception of risk, etc. Moreover, they are accustomed to working on their own in the normal course of things. How can they therefore be encouraged to work together under a single command in an emergency? Especially as there may be NGOs and foreign emergency teams on the ground, adding foreign languages to the list of difficulties.[34] Although an emergency is no time for exchanging visiting cards, that is often what happens.

These various players can gradually be brought together through awareness-building, information and training and through the periodic organisation of exercises. In Belgium, the

[34] In Greece, planning includes mobilisation of volunteers.

workstreams for rescue, medical assistance and psychosocial support, logistical support and public information come together regularly at both province and municipal levels in contingency planning unit meetings (which are held at least once a month in some provinces) as well as at national level, since the senior managers of these tasks meet regularly in the Government Crisis and Co-ordination Centre. The European Union and its civil protection mechanism also help to spread a common risk and safety culture.

In order to build awareness in the relevant sectors (manufacturing, science, transport networks, medicine, pharmacy, insurance, etc.), it is also essential to include safety training in courses for managers, engineers, doctors, pharmacists, insurers, journalists and persons in high-risk professions.

5) Keeping a record of risk

Once the crisis is over, all the data gathered can be centralised in a database classifying by geographical region all available risk-related information, such as good practice, feedback, training, research and reference works. This database could be networked for consultation by all the players concerned. Converted into geographical data, the information could also be used for common mapping. As a result, the authorities concerned would be better able to determine risk areas, the position of emergency facilities, and response areas. Pinpointing fields requiring special attention also allows these authorities to rationalise the allocation of available resources. Maps exist but are many and various. Every authority responsible for managing some aspect of a particular risk has developed its own maps for its own specific field: Seveso, flooding, seismic risk and forest fires, for example. In Cyprus, the Forest Fires Department of the Ministry of Agriculture, Natural Resources and the Environment keeps an up-to-date forest-fire exposure map which locates the various factors that could start or spread a fire. Public authorities must engage in co-operation both across borders and at national level as well as with the private sector in order to pool such knowledge. This co-operation must obviously cover questions of system compatibility, updating and data confidentiality.

- In France, the *Cartorisque* system[35] provides an overview of known major hazards in France. This system puts online all maps of major natural and technological risks supplied by *préfectures*. *Cartorisque* enables professional users (local and regional authorities, etc.) to display up-to-date maps on their geographical information systems (GISs).
- Croatia also has a major-hazard exposure map, produced by the National Protection and Rescue Directorate (DUZS).
- As regards cross-border cooperation, a common mapping system for Belgium, Luxembourg and the Netherlands is being developed within Benelux, more specifically in connection with the Senningen agreements. It will include information on power transmission, health, transport and installations handling hazardous substances.

Allocating the necessary resources for efficient risk management

The resources made available to local and regional authorities often depend on population density; yet some less densely populated regions are very vulnerable to risks because of their isolation and inaccessibility, the recurrence of events affecting them, etc. A disaster in such an

[35] The ministerial circular of 4 July 2006 on dissemination of risk maps presents the *Cartorisque* system and explains it in detail: (http://www.prim.net/professionnel/cartographie/circulaire_Cartorisque_040706.PDF).

area can claim a large number of victims. It is therefore better to rationalise resources, and mapping is an essential tool in this respect.

All preparatory measures forming part of an effective response, such as preparation of emergency plans, require co-ordination entailing substantial long-term work. The people assigned to this work should not hold several positions concurrently.

In Belgium, specific financial resources are available for Seveso risks and nuclear risks:

- The law provides for an annual levy on businesses subject to the Seveso directives. The revenue generated by this levy goes to two funds: the Major Accident Hazards Fund, included in the Ministry of the Interior budget, and the Major Accident Prevention Fund, included in the Ministry of Labour and Employment budget. The former is used to cover administration, operations, research and investment costs. The fund has thus been used to finance information campaigns and equipment for response services, for example. Contract staff are also employed by the provinces to draw up Seveso special emergency and response plans.
- The Nuclear Accident Hazard Fund was set up to cover all costs arising from enforcement of measures to protect the population and the environment from ionising radiation hazards, particularly in connection with the national emergency plan for nuclear risks. The fund receives it revenue from annual fees paid by nuclear energy producers. It is used to cover administration, operations, research and investment costs, and to finance nuclear exercises, information campaigns, detection and protection equipment, videoconferencing, GIS, staff, etc.[36]

Setting priorities for the allocation of available resources

Our societies are threatened by numerous risks, both natural and those caused by human activity. As the resources allocated to manage these risks are limited, the authorities will take action according to priorities based either on the recurrence of certain disasters or the seriousness of the foreseeable impact of a hazard on individuals, property and services. Once priority risks have been defined, an assessment must be made of the resources needed to prevent them occurring or to mitigate their effects, and the required relief and co-ordination mechanisms must be organised. At this stage, the various authorities involved in managing these risks will determine their respective contributions, their methods of co-ordination, their available resources and the resources lacking.

Communication

Clear, unambiguous and transparent crisis communication from a legitimate source improves trust, and therefore public mobilisation, and must accordingly be considered a risk-reduction or resilience factor.

When it is a matter of adapting standard information to local circumstances, dissemination should be through local channels (local press, political or religious community leaders, a

[36] Section 66 *et seq.* of the law of 6 August 1993 on social and other provisions, *M.B.*, 9 August 1993; Section 12, paras 1 and 2, of the law of 15 April 1994 on protection of the population and the environment from ionising radiation hazards and on the Federal Agency for Nuclear Control, amended on 15 May 2007, *M.B.*, 8 June 2007; Royal Decree of 24 August 2001 determining the amount and terms of payment of fees collected pursuant to the regulations on ionising radiation, *M.B.*,30 August 2001.

municipal call centre, etc.). These channels also ensure a degree of permanence, given the fragility of communication systems (power cuts, overload, etc.).

When it is a matter of disseminating unambiguous information to a wide audience, the message should be conveyed at national level, using as many channels of communication as possible. The media have proved a vital partner in this respect, since they can be used to disseminate public advice promptly and answer clearly and unambiguously questions such as: 'What is happening?' 'How is the situation going to develop?' 'What should be done?' Care must nevertheless be taken that the public is clear about the difference between the official message and the journalists' message. This partnership should therefore be arranged beforehand and be covered by an agreement. In Belgium, the Federal Public Service for Home Affairs (through its Crisis Centre) has entered into a 'public warning partnership' with the country's main news agencies. In the event of a federally or provincially managed emergency, this partnership provides for the dissemination of a standard official warning and information message to the public through a focal point for all the Belgian media. Similar agreements have been concluded in France by the Interministerial Crisis Management Operations Centre (COGIC).

Increasing public involvement

Feedback shows that many rescues are made by accident witnesses, neighbours, family, etc. This involvement must be increased, and the public must be encouraged to anticipate and prepare for emergencies. It is necessary to create a climate in which they will trust their own ability to take responsibility for themselves and look after their families immediately in the event of an emergency.

Public education includes information about risks and training in first aid, but it should also be made clear to the public:

- that they must not expect the authorities to meet all their needs. Even the most efficient hazard management systems will experience periods of disorganisation. Moreover, relief may be delayed because of access problems (owing to traffic, panic, etc.);
- that if there are a lot of victims, the emergency services (which may also have been badly affected) cannot be everywhere at the same time;
- that this is not an abdication of responsibility by the authorities: the purpose is not to recruit volunteers but to increase individuals' abilities to protect and rescue themselves;
- what is expected of them before, during and after the emergency.

To be effective, this process must take account of how the public perceives the risk. In the public mind an emergency is usually considered unlikely (unless already encountered), and the public is already the passive recipient of a large number of prevention messages: road safety, sexually transmitted diseases, cancer, etc. The message must not be just another message but must be tailored to the priorities of the people for whom it is designed. One useful approach is to begin by making the public aware of the risks of most immediate concern to them, such as risks in the home. Indeed, the resulting injuries are the same as those found in emergencies: bleeding, burns, poisoning, etc. Knowing what to do when they happen allows the public to cope with them in any context.

Competent and credible personnel are needed to inform the public and make them aware of how to respond appropriately before, during and after an emergency. In addition to the community role of local government, special attention should be paid to doctors, pharmacists,

teachers and any other professionals who can play a role here. We may therefore applaud the important awareness-building work carried out by the national societies of the Red Cross and their leading role in the provision of first-aid training. The French Red Cross, for example, has run a Europe-wide disaster risk reduction project called 'Best practice and emergency kits for protection of the European public in the event of accidents in the home or disasters'. The purpose of this project was to provide the public with information on appropriate action before, during and after a disaster and to specify the contents of emergency kits. The results of its work and its final report are available on http://www.autoprotectionducitoyen.eu.

The media can also convey an educational message by explaining risks, their consequences, preventive and curative action and the hazard management system (individual roles, warning, response). It would be preferable to avoid messages with negative overtones which encourage fear rather than motivate people to be prepared. Every emergency abroad with similarities to situations that might one day occur at home should be used to remind the public of how to protect themselves in an emergency.

## 2. Managing human and material resources

Efficient risk management primarily requires human and material resources. So the first thing to do is list the available resources[37] and assess any needs.

### Difficulty in having all the necessary equipment

It is vital to acquire the material resources required for the safety of the response and rescue teams.[38] However, it is impossible to plan for and invest in heavy equipment specific to every individual crisis, and therefore each country invests in the equipment it needs for its recurring events[39] and may in some cases enter into co-operation agreements with its neighbours providing for rapid mobilisation of the necessary personnel and equipment. Similar arrangements may exist within a state, where transfers may be organised between the various tiers of government and between localities.

### Recognition of relief operators on the ground

The various relief operators must be easily recognisable by casualties, witnesses and other teams. Their task can usually be identified from their tunics, whose features, such as colour, must be decided prior to an emergency. Methods of recognising operators on the ground must be standardised nationwide. Given the possibility of support from neighbouring countries, they might even be standardised more widely.

### Training of the various players, including local authorities

Since increasingly complex risks are emerging, every state will be required to consider the type of training to be given to the various players involved in risk management and to determine the fields in which experts are needed. In France, the ORSEC emergency response

[37] Including support that could be provided by other states.
[38] For example, chemical, biological, radiological and nuclear (CBRN) equipment.
[39] The Netherlands and Germany, for example, have invested heavily in flood equipment, since flooding is the main hazard in their countries.

plan covers arrangements for preparation and training of all public bodies and private individuals in their civil protection duties.[40]

Local authorities are on the front line when a disaster occurs and must therefore be able to deal with it as effectively as possible. After every new election, time must therefore be taken to explain the problems to councillors and give them a minimum of training. There must be regular follow-ups to this basic training, which should be supplemented by explanations whenever reforms are introduced. Training for administrative authorities and civil servants involved in preparing emergency plans does not seem to be laid down in the regulations of the states that took part in the survey, with the exception of some special risks such as nuclear risks.[41] Emergency planners train by studying existing local, regional and national response plans.

- In Greece, the General Secretariat for Civil Protection has been co-operating with the National School of Local Administration since 2007 for the purpose of establishing a specialist programme on civil protection.
- In Belgium, emergency planners keep the records and are thus the contact points for mayors and Governors. The Higher Institute of Emergency Planning (ISPU), which is a research and reference centre of the Federal Public Service of Home Affairs, organises briefing sessions on current regulations as well as training – in crisis communication, for example. Training provided by the federal government is usually designed for the eleven provinces, which are responsible for passing the information on to the 589 municipalities.
- In France, training of local elected representatives is mandatory (www.mementodumaire.net).

Local and regional authorities need to have access to experts in order to be able to take effective measures in an emergency. At this stage, agreement should also be reached with these experts on the terms (including financial) of their co-operation in the event of a crisis.

## 3. Emergency planning

The action to be taken in the event of an emergency needs to be planned, and this must be done in such a way as to guarantee the timely mobilisation and co-ordination of the necessary skills and resources.

This stage must link up with the other stages of major hazard management:

- Risk awareness: This must evolve in the light of newly identified risks and changes in exposed assets and their degree of vulnerability. It must also include lessons learned from actual situations. Emergency planning instruments should therefore be suitably flexible.
- Prevention: Emergency planning must recognise the limitations of prevention. Information on uncontrolled or uncontrollable risks must be made available to everyone involved in emergencies so that they can include it in their preparations. In some countries, the authorities which take/co-ordinate preventive measures are the same as those that prepare for crisis management. This is the case in France (*Préfet*) and Cyprus (District Officer). In other countries, they are different authorities, as in Belgium.

[40] Article 2 of Decree No. 2005-1157 of 13 September 2005.
[41] See, for example, Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations.

Emergency planning is therefore an opportunity to create a platform for exchange of information between different players. In many countries, the preparation of emergency plans forces the various authorities involved in major hazard management to talk to each other. The survey shows that it is also sometimes the only form of training that exists for administrative authorities.

Local, regional and national emergency and response plans

Proper planning entails drawing up response plans that bring together all emergency personnel. Taken as a whole, they can:

- provide lists of available resources and determine any additional resources needed so as to allow decision-making based on an assessment of all available resources;
- specify procedures for alerting response services, warning the public and informing the latter of the necessary safety measures;
- set out, in broad terms, immediate public protection and safeguard measures such as evacuation and containment procedures. In Greece mayors are required to draw up evacuation plans;
- provide a framework for contacts with other countries and international organisations;
- lay down co-ordination mechanisms;
- plan stockpiling of emergency supplies and identify refuge areas and storage and supply areas;
- specify how to implement measures to assist and support the local population.

In all the countries studied, emergency plans had to be prepared in compliance with existing laws, regulations and administrative provisions for dealing with major natural or technological hazards.

- In Luxembourg, there is no requirement for local authorities to prepare their own emergency plans. However, they are usually involved in implementing national plans and are therefore required to make preparations for such implementation.
- In other countries participating in the survey, each tier of government plans its own capacity to manage an emergency – extending from the local level right up to national level, depending on the seriousness of the situation. As regards the local level:
    - In Belgium, mayors and Governors are required to draw up a plan sufficiently flexible to cope with any emergency: the general emergency and response plan (PGUI). Unlike other countries, Belgium has adopted a multiple-risk approach. Mayors and Governors can subsequently decide to supplement their general plans with additional instructions for specific risks. This is mandatory for nuclear and Seveso risks and the use of genetically modified micro-organisms. Each mayor or Governor is assisted in this task by his or her contingency planning unit, whose members include not just the emergency planner but also the workstreams for rescue, medical assistance and psychosocial support, logistical support and public information. Risks requiring national co-ordination are covered by a national emergency plan which is the responsibility of the Federal Public Service of Home Affairs.
    - In Algeria, in the event of a disaster, and depending on its nature, seriousness and scale, ORSEC emergency response plans may be activated on any level from sensitive-site right up to national. ORSEC emergency response plans exist for

national, multi-wilaya, wilaya and municipal levels and for sensitive sites.

- In France, *Préfets* are responsible for preparing ORSEC emergency response plans for *départements*, natural risk prevention plans (PPRNs), technological risk prevention plans (PPRTs) and special response plans (ORSEC PPIs), which are a type of ORSEC emergency response plan specific to classified installations. Mayors are responsible for preparing municipal protection plans (PCSs).
- In Cyprus, co-ordination is organised on two tiers: at national level by the Minister of the Interior on behalf of the Cabinet, and at local level by the District Officer. All essential services are required to draw up emergency plans (government districts and municipalities, and also police, civil defence force, fire service, health service, etc.). These plans must be submitted to the District Officer.
- In Croatia emergency plans are drawn up at all levels: nationally by the DUZS (National Protection and Rescue Directorate) and at other levels by Prefects and mayors.

With regard to local response plans, devolution has led to considerable diversity as regards both terminology and content. So, it is necessary to try to maintain consistency between the various plans while respecting specific local features. Without imposing a general framework, central government could assist the authorities by making a glossary available and specifying the minimum content of a plan. The survey highlighted the following cases:

- In Belgium, the Federal Public Service of Home Affairs has published a circular laying down a standard structure for the general emergency and response plan. This circular is sent to Governors, who are instructed to pass the information on to mayors.
- In Cyprus, the Minister of the Interior has provided essential services with an emergency planning guide to assist them in preparing their plans.
- In Croatia, all plans use the same methodology *(Methodology for Making Assessments and Plans*) and are subject to approval by the DUZS (National Protection and Rescue Directorate).

Central government could also provide local authorities with common tools such as a computerised risk-mapping system and studies on specific risks.

At national level, emergency plans should reflect a co-ordinated approach among all the departments concerned: usually the different departments work on those aspects of the risk falling within their own areas of competence, with one department co-ordinating all the work and ensuring overall consistency (the lead department).

- In Luxembourg, the lead department for the plan depends on the risk in question. For example, for industrial risks it is the Ministry of Labour and Employment, while for the ‘mass casualty’ plan it is the Ministry of the Interior, which is responsible for the emergency services.
- In other countries, there is only one lead department. This is the case in Belgium and Greece, where it is the Department of the Interior (through the Crisis Centre in Belgium and the General Secretariat for Civil Protection in Greece).

Emergency plans can also be drawn up at other levels:

- *Business:* The industrial facility generating the risk must be able to control an on-site accident. In all the countries that took part in the survey the operator could be required to draw up an internal emergency plan. This requirement might be the consequence of specific regulations, such as those relating to nuclear or Seveso accidents, or come under a broader framework, such as promotion of better health and safety at work.
    - In Luxembourg, preparation of an internal plan is an integral part of the licensing procedure.
    - In France, operators of Seveso II 'upper-tier' facilities are required to establish an internal management plan (POI). Other licensed or 'Seveso lower-tier' sites may be required by the *Préfet* to establish such a plan if he or she considers that on-site risks are of a nature to require such emergency arrangements (for example, if accident developments might threaten a neighbouring establishment). The operator is solely responsible for the on-site emergency response but must notify the *Préfet* if the incident is likely to have an impact outside the establishment. The *Préfet* will then decide whether or not to activate the special response plan (PPI). It is the *Préfet* who will be in charge of emergency operations, although the site manager will manage emergency operations on-site.
    - In Belgium, all Seveso firms (upper-tier and lower-tier) must have an internal emergency plan (PUI), and the Ministry of the Interior ensures that an external emergency plan (special emergency and response plan – Seveso PPUI) is prepared for each establishment. It is the task of the Chemical Hazard Inspection Division of the General Directorate for Labour Welfare Inspection of the Federal Public Service of Employment and Labour to monitor operators' compliance with the regulations. If internal plans are lacking or the measures are inadequate, this division will ask the operator to sort out the situation and may, if necessary, suspend operation (very rare). Internal and external emergency plans must be tested at least every three years and reviewed if necessary.
    - In Greece, internal emergency plans for Seveso II upper-tier establishments are evaluated by the local fire brigade.

  The operator must identify risks associated with the business's activities and describe measures to control likely incidents and limit their consequences. This description can include safety equipment and available resources. Ideally, the operator should make provision in the risk analysis for any external events that might threaten the facility. These events are often already identified (through safety reports in France and Belgium, for example). The plan may also include warning procedures, evacuation instructions and calls for assistance.
    - In France, the internal management plan (POI) is limited to management of an on-site accident but takes account of external hazards that might threaten the establishment. These external hazards are usually already covered in the safety report, which includes the domino effect and must be reviewed every five years.
    - In Luxembourg, the competent authority requires any establishment applying for a licence to take account of external hazards.

An internal emergency plan provides the authorities with an initial set of measures in the event of an industrial accident – hence the importance of organising prior consultation between the authorities and industrial concerns in order to harmonise operators' internal plans and the authorities' external plans. Internal plans may thus cover provisions ensuring that in the event of an incident the authority responsible for activating the external emergency plan (usually the local authority) is informed promptly, as well as the type of information to be provided without delay and measures concerning more detailed notification of information as it becomes available.

- In France, great care is taken to ensure that the two plans are consistent with each other. The internal management plan (POI) is prepared by the plant manager but must be approved by the *Préfet*, who delegates to the civil protection department the task of checking that it is consistent with the special response plan (PPI). To ensure that this stage is a mere formality, the internal management plan is prepared in consultation with the *Département* Civil Protection Directorate, the *Département* Fire and Rescue Services Directorate and the classified facilities inspectorate.
- In Belgium, the Governors, who are tasked by the Minister of the Interior with preparing the Seveso special internal emergency plan (Seveso PPUI), are assisted in this task by a steering committee on which operators are invited to sit. Co-ordination between the internal plan and the external plan is specifically addressed by regulations only for some specific risks. For nuclear risks, for example, the authorities may, in consultation with the operator, take steps to control an emergency on the operating site at any time if public order or safety make this necessary. Similarly, the rules on confined use of genetically modified micro-organisms require users to provide the mayor with an internal plan containing a procedure for transition to the external plan. Belgium is currently considering how to improve co-ordination of internal and external plans.
- In Luxembourg, the authority that issues operating licences is also responsible for risk assessment and preparation of external plans. As explained above, issue of a licence is subject to preparation of an internal emergency plan. It is therefore the same authority that is responsible for examining internal plans and drawing up external plans, thereby guaranteeing a degree of consistency and harmonisation.

- *Schools:* In Belgium, all schools in the French Community must have an emergency plan[42] to deal with both internal risks (such as fire) and external hazards (such as a Seveso accident).

- *Hospitals:* In Belgium, every hospital must have an 'action plan to deal with major domestic accidents'.[43] Hospital departments have also drawn up casualty reception

[42] See, for example, French Community Circular No. 1215 of 2 September 2005 and No. 2115 of 3 December 2007. The former lays down an internal radiological emergency plan for schools of the French Community within the area of a nuclear power station, and the latter lays down the same plan for all schools of the French Community.

plans, also known as hospital department warning plans (MASH plans). These plans enable hospitals to deploy essential resources rationally, effectively and quickly to cope with a mass influx of casualties. In France, such plans are called '*plans blancs*'.

- *Sectors providing essential services:* Some sectors are clearly identifiable as essential to the welfare and survival of the population and the functioning of government: health, transport, energy, food, water supply, etc. These assets will be recorded, together with their locations, by the authorities responsible for hazard management, which will study their interdependence and their domino effects if one or more of them should fail. Co-operation with operators can also be used to reduce vulnerability as much as possible and guarantee minimum service in an emergency. Thus, continuity plans may be prepared by operators to reduce risks of disruption as far as possible and ensure a rapid response in order to guarantee a return to normal at the earliest opportunity.

- *Public-access buildings:* Emergency plans in France and response plans in Belgium deal mainly with fire hazards, but the co-ordinated emergency response that they offer can also be used to deal with other hazards. Some public-access facilities, such as football grounds and large auditoriums have also drawn up evacuation plans. In Belgium, for example, the law of 21 December 1998 on safety at football games[44] states that match organisers must prepare an internal emergency plan providing for evacuation, amongst other things.

- *Response and rescue services:* Many different professionals are active on the ground in an emergency: firefighters, operational civil-protection units, doctors, police officers, the armed forces, NGO relief workers, etc. Each team plans its own work in the field and has its own specific procedures, which must mesh with each other and the measures planned by the competent authority.

    - In Belgium, each 'workstream' must draw up a 'workstream plan' consistent with the overall response set out in local authorities' general emergency and response plans.[45]
    - This is also the case in Cyprus, where all essential services (police, civil protection, fire service, health service) prepare their own plans.
    - In France, the *Département* Civil Protection Council, which comes under the *Préfet*, calls on the expertise of bodies involved in prevention, preparation and response and helps to focus their work and experience.

- *Crisis information providers:* An agreement can stipulate in advance the procedures for disseminating information to the public (specifying the channels to be used: the

[43] Royal decree of 23 October 1964 laying down standards to be met by hospitals and hospital departments, *M.B.*, 7 November 1964.
[44] Law of 21 December 1998 on safety at football games, *M.B.*, 3 February 1999.
[45] Since an emergency may require action by a number of different response services belonging to different municipalities, authorities and/or other bodies, workstream plans always contain a section dealing with the province level, which lays down common measures and procedures for use everywhere and specifies the resources to be used for this purpose. Depending on the workstream, plans are then supplemented by sections for the municipality, the police area or the rescue area.

media, sirens, the police, call centres, etc.) and to the media (designating a press centre).

- *Public authorities:* Every public authority can also assess its own vulnerability with regard to risks and consider measures to maintain or restore its normal operation.

- *The public:* Every household can assess its own vulnerability and try to reduce it as far as possible by identifying the risks to which each of its members is exposed (at home, school and work, on holiday, etc.) and by studying the best course of action to avoid accidents or to respond if an accident does happen.

By definition, these plans can never be considered final. They must be updated in the light of circumstances (risk awareness, changes in risk, changes of contact details, etc.) and feedback from exercises and actual situations.

- In Algeria, emergency plans are reviewed annually, and automatically after a disaster;
- In Cyprus, they are also reviewed annually;
- In France, the review interval must not exceed 5 years;
- European Union member states are also required to review their Seveso emergency plans every three years. There is a similar obligation for operators and their internal plans;
- In Belgium, the municipal and province contingency planning units are required to have up-to-date emergency and response plans.

It is important to retain some flexibility in order not to hamper innovation and improvisation in the face of the unexpected. Emergency plans do not contain all the answers; in exceptional circumstances it is necessary to be able to take initiatives if the conventional management plan does not work.

Preparation of emergency plans is a task that should not be underestimated; it should be given to persons for whom it is their main occupation and who do not hold a number of positions concurrently.

Exercises

Emergency plans are often complex and voluminous documents. Their users sometimes summarise the basic principles in emergency-response fact sheets to make them simpler to understand, remember and implement. In this respect, an attempt should be made to standardise these tools to some degree.

Regular exercises are essential, since they make it possible to:

- test the relevance and effectiveness of emergency plans;
- gain the knowledge required and understand the tasks involved (for emergency personnel);
- gauge the time needed to put operational arrangements in place;
- reveal any inconsistencies in existing procedures and any problems with co-ordinating the many different rescue and response services, such as their respective means of identification[46] and communication.[47]

[46] Distinguishing between different operators in CBRN suits, for example.
[47] The operators' masks make communication difficult.

Although exercises are often a statutory requirement, no timetable seems to be laid down, other than for nuclear and Seveso risks. Emergency plans are sometimes evaluated in anticipation of a major event. For example, Greece scheduled a large number of emergency planning exercises in the run-up to the 2004 Olympic Games.

## 4. Educating the public: information and training

EU legislation[48] requires member states and their local authorities to ensure that environmental information, including emergency plans, is systematically and in stages made available to the public as widely as possible. The authorities may nevertheless exclude from this requirement a certain amount of confidential information relating to public order and security, protection of nuclear material, national defence, and protection of copyright and trade secrecy. They may also refuse a request concerning information that is '*incomplete or in the process of being prepared and whose disclosure may give rise to misunderstanding'*. In Croatia, emergency plans are made available for public consultation 30 days before being officially adopted.

Information on risks and what to do in an emergency must be specific and within the public's grasp. If it is issued at national level, it must be adapted to local populations (immigrants, tourists, etc.) and take account of the most vulnerable sections of the public (senior citizens, the sick, people who cannot read, persons with disabilities, etc.). Local channels should be preferred for disseminating information. They will be various: local authorities, companies,[49] fire service, tourist offices, etc. Local authorities might, for example, hold neighbourhood meetings during which they could start by making a list of the questions asked by the public and then provide the answers. These meetings would offer an opportunity to clarify local circumstances and ensure that policies, practices and facilities were all suited to them. Central government might, moreover, try to identify common denominators from these various attempts in order to improve its own communication strategy.

It is important to take every opportunity for raising public awareness of risk management. A 'safety week' might be organised, for example, covering activities such as:

- Presentation of the role of the local rescue, care and relief system;
- Personal experiences;
- Stands presenting civil-protection work;
- Explanations of how the warning system is run and the alarm given;
- Distribution of emergency-response fact sheets containing information and advice on preparing for an emergency.

Similarly, it might be possible to organise a small-scale emergency exercise with people living near a hazardous location, as well as training sessions in household emergency planning, free first-aid training, etc.

In some countries, the school-age population represents a large swathe of the population, and any initiative seeking to promote risk education/awareness-raising through the school curriculum would be an example of good practice to be encouraged, since children are effective communication channels:

[48] Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information, *O.J.E.C.*, L 41/26 of 14 February 2003.

[49] For 'Seveso upper-tier' sites, industrial plants are required to provide information to the population exposed to the risks that those sites might generate. This information covers the exact nature of the risks on the industrial site and the specific safety instructions that will apply in the event of an accident.

- They are the most vulnerable group when a disaster occurs, and so they should be informed about how to react;
- They are tomorrow's adults and will be involved not only as citizens but perhaps also (who knows?) as strategic or operational players. If they are well informed, they will be able to improve major hazard management;
- They are also able to make their parents more aware of the problem.

# 4. Management

When there is an imminent danger, the authorities gather initial information, activate warning and response procedures (mobilisation of various services, recall of civil servants, setting-up of victim support units), try to eliminate the threat and prepare for the possibility of the risk materialising in order to limit the damage as far as possible. This stage may be short or could indeed be non-existent if the disaster occurs without any forewarning.

The psychological dimension will play a major part when the disaster strikes. Whatever the circumstances, there will be a period of shock during which people will react by reflex. Local rescue teams on the front line may also be in a state of shock; they may have lost members; their resources may be inadequate, etc.

Once the initial stupor has passed, information must be gathered on the ground. The first teams to reach the scene of the disaster will be able to give the authorities an initial estimate of the number of casualties (dead, injured, homeless, isolated, etc.), an assessment of the state of infrastructure and communications, an account of any social unrest, etc.

Initial priority action on the ground will include:
- Rescuing casualties and evacuating everyone it is possible to evacuate;
- Managing the flood of people fleeing the affected area and the rescue services that are still trying to gain access to it;
- Preventing additional accidents by controlling any fires, gas leaks, etc;
- Cordoning off danger areas;
- Identifying vulnerable and isolated people;
- Informing residents of the situation and giving them instructions on what to do;
- Implementing the various plans (such as the workstream plans in Belgium, hospital resource allocation plans, and the *plan blanc* in France).

For the authorities, priority action will include:
- Mobilising various services and recalling civil servants;
- Implementing the various plans co-ordinating action on the ground by all teams involved in managing the emergency (for example, the Municipal Protection Plans and ORSEC emergency response plans in France, and the general emergency and response plans in Belgium);
- Mobilising operational staff (firefighters, nurses, special teams, etc.);
- Identifying the necessary management resources (administrative, technical and operational staff in the public sector and their requisitionable counterparts in the private sector) and emergency resources (conventional rescue services and special operations in dangerous environments);
- Communicating with higher authorities;
- Requesting back-up if necessary;
- Preparing for mass reception of casualties (medical assistance and psychological support);

- Setting up family support units;
- Setting up a public information unit which will prepare press conferences, etc.

**1. Information gathering and sorting**

Some countries have a permanent round-the-clock monitoring body which routinely gathers, checks, analyses and disseminates the information needed by the political and executive authorities and can be converted if necessary into a crisis centre, bringing together the skills, technology and information needed for decision-making in an emergency. This is the case, for example, in France, Belgium, the Netherlands[50] and Germany.[51]

- In Belgium, the Government Crisis and Coordination Centre – Crisis Centre, for short – has a rota of 28 people on duty round the clock (seven days a week) in order to gather and analyse urgent information of all kinds and disseminate it to the proper authorities. This active monitoring enables the government to take prompt and targeted action when the situation requires. Information is obtained from the media and a large number of partners. These partners are also the recipients of relevant information in their fields of competence. The Crisis Centre is an information hub as well as a focal point. It is also the official national and international contact point for warnings. Through it, the relevant authorities can be promptly notified of any event occurring at home or abroad that may have an impact on safety in Belgium. Depending on the circumstances, it may activate warning procedures. The Crisis Centre also makes available its facilities and its expertise in interdepartmental management and national crisis co-ordination.

- In France, the main permanent crisis-management body is the Interministerial Crisis Management Operations Centre (COGIC). The COGIC has a monitoring system that operates round the clock to gather and analyse information relating to protection of people, property and the environment. This information comes from various internal sources (*préfectures*, *département* fire and rescue centres, defence zone staff) and external sources (meteorological office, gendarmerie, partner network, etc.). The information gathered may concern anything from a simple accident to the threat of serious disorder. In its own field, the COGIC supplies information to the departmental staff of the Minister of the Interior on any situation warranting emergency measures. It can respond to any requests for expert opinions made by the *Préfet*. It uses national resources for the purposes of public relief and assistance not only in French *départements* and defence zones but also abroad in connection with humanitarian aid.

There are few permanent monitoring structures at local level. Mention may nevertheless be made of area operations centres in France, which mainly monitor health hazards and weather events or events affecting operation of key public services. It is more usual to find local contact points with a telephone answering service together with cascading procedures for alerting members of the emergency committee.

**2. Official response**

Assessing the situation and obtaining information on the ground

[50] Nationaal Crisis Centrum (NCC) (http://www.minbzk.nl/onderwerpen/veiligheid/crisisbeheersing/nationaal)
[51] Gemeinsames Melde- und Lagezentrum von Bund und Ländern (GMLZ).

It is very often the local authorities, being closest to the ground, which make the initial assessment of the situation. They have various information networks. Sometimes they will have been alerted by the permanent round-the-clock monitoring body, which will already have checked the information. But usually they receive their warnings from the emergency services, the safety department of the plant where the accident has occurred, counterparts in neighbouring areas similarly affected, etc.

The teams on the ground will provide the local authority with information and advice enabling it to take the necessary protective measures and consider escalating the response if necessary. Consequently, there must be constant liaison with the field on the one hand and higher echelons on the other. In France, the Ministry of the Interior makes standard use of Synergi software (Synergi = *système numérique d'échange de remontée et de gestion des informations* – digital information exchange, feedback and management system) through a secure extranet that can be accessed via the Internet.

It is not always easy to make an accurate assessment of the nature, scale and potential consequences of a serious incident, and it is possible that this assessment may require special knowledge or technical resources which the local authority does not possess. Central government will be able to provide support for local authorities as regards expert appraisal. In the event of a chemical accident, the operator or the operator's engineers may also make their technical skills available to the crisis manager. In many situations, a representative of the firm affected will also be very valuable on the ground.

Setting up strategic co-ordination bodies

In the initial stages of a disaster, all the players needed for decision-making meet in a predetermined place to assess the situation and take appropriate decisions. This place should be easily accessible and have a reliable communications infrastructure enabling constant contact with command structures on the ground, the media, the public, etc. These strategic co-ordination bodies may exist at different levels; those which are not – or not yet – involved in managing the emergency can be put on early warning and monitor the situation.

- In Belgium:
    - Locally, the mayor or Governor responsible for managing the emergency will convene his or her Co-ordinating Committee (CC), which, in addition to the emergency planner, includes a representative from each of the workstreams for rescue, medical assistance and psychosocial support, logistical support and public information.
    - In the Federal Public Service of Home Affairs, it is the Government Crisis and Co-ordination Centre that provides support for emergency management.
- In France:
    - Usually it is the mayor who directs rescue operations: having police powers, he or she is responsible for organising emergency assistance and implementing measures to protect the public (warning, evacuation, support, etc.). The mayor's main partner is the *département Préfet*. The mayor has a municipal control centre, is assisted by members of the municipal council and may also mobilise the municipality's civil defence reserves.

- The *Préfet* liaises with the *département* operations centre when taking strategic decisions and co-ordinating the work of all the rescue services (emergency medical aid, firefighters, first-aid volunteers, etc.) and the security services (police, gendarmerie, etc.) concerned by the crisis.
- The defence zone *Préfet* has a defence zone operations centre which allocates additional resources and co-ordinates action.
- Within the Civil Defence and Protection Directorate (DDSC) of the Ministry of the Interior, the COGIC is able to activate a crisis centre that will initiate an interdepartmental or interministerial operation and therefore be in charge of every aspect of the crisis and co-ordinate the action of all human and material relief resources, whether public or private, local or national.

- In Luxembourg, there are two separate situations: a short-term emergency primarily involving the rescue services and a crisis affecting part or all of the country which necessitates interministerial management:
  - In the first case, the competent authority is the Minister of the Interior and Regional Planning. Practical implementation is entrusted to the Emergency Services Authority.
  - In the second case, it is the Ministerial Council for Civil Protection (CMPN) which is responsible for interministerial management of the crisis; it consists of members of the Cabinet and acts as a crisis-management command and decision-making body. The Emergency Committee of the Civil Protection Council (CC/CSPN) is a body set up to prepare decisions regarding the emergency measures needed and to advise the Ministerial Council for Civil Protection (CMPN).

<u>Implementing emergency plans</u>

Local authorities are closely involved in emergency management. They are the lead body as long as the harmful consequences remain confined to their areas and they can manage the situation with their own resources and back-up or with the resources usually available to them:

- In Belgium, the mayor, assisted by his or her Co-ordinating Committee, will implement the general emergency and response plan (PGUI, mandatory) and, if necessary, the special emergency and response plan (PPUI, optional).
- In France, the mayor will implement the municipal protection plan (mandatory in municipalities identified as being exposed to a major hazard, that is, those with a risk prevention plan or which come within an area covered by a special response plan).

But if the consequences of the event require more comprehensive management of the situation, if at least two municipalities are affected, if the local authority is no longer in control of events, or if it so requests, management will be transferred to a higher authority, which will use its own emergency plans:

- In Belgium:
  * The Governor of the province, assisted by his or her Co-ordinating Committee, may decide to activate the province stage on his or her own initiative or at the mayor's request. The Governor will then implement the province's general emergency and response plan (PGUI) and, if necessary, its special emergency and response plan (PPUI), which is mandatory for nuclear and Seveso accidents but otherwise optional.

This is usually the level at which emergencies relating to Seveso establishments are managed.
* If the emergency necessitates co-ordination or management at national level (a nuclear or radiological emergency, for example), the Minister of the Interior will take over, and the Governors will be responsible for implementing the minister's decisions at local level.

- In France:
  * The *Préfet* can also take over management of operations if the situation is such as to trigger the ORSEC emergency response plan. The *Préfet* is supported by the defence zone staff and the Interministerial Crisis Management Operations Centre (COGIC), which provide the necessary resources. The ORSEC plan provides for a graded response from continuous monitoring to successive levels of mobilisation and escalation in order to provide additional operational resources. It brings together a hard core of players able to solve certain problems and with their own types of emergency response (internal emergency plans for nuclear power stations; internal management plans for Seveso upper-tier establishments). Each level entails activation of elements of the chain of command, such as the *département* operations centre. The *Préfet* may also implement other emergency plans in the event of specific accidents; accordingly, he or she can activate the *département*'s major incident plan for emergency assistance if a major event results in multiple casualties. The *Préfet* may implement a special response plan in the event of a dam failure, an industrial accident on a Seveso upper-tier site, or an accident extending beyond the limits of a nuclear site. He or she may also set in motion special emergency plans to deal with specific risks such as forest fires, cyclones and transport of dangerous substances.
  * If the emergency increases in scale and exceeds the response capabilities of the *département Préfet*, the next tier of local government responsible for managing the crisis will be the defence zone. The defence zone *Préfet* will co-ordinate police, army and civil-protection resources. There are seven defence zones, with their headquarters in Bordeaux, Lille, Lyon, Marseille, Metz, Paris and Rennes. The *Préfet* can activate the ORSEC emergency response plan for the zone and may delegate some or all of his or her functions to the *département Préfet*.
  * If necessary, the existing system may be backed up by the government. The Ministry of the Interior is the lead ministry for civil protection, and more specifically the Civil Defence and Protection Directorate (DDSC), which will supervise national operational departments and all those involved in the emergency response.

<u>Informing the public</u>

The public is informed mainly through warnings conveyed by all available means, particularly through local-government facilities, and subsequently through regular dissemination of information on the situation. Warnings are effective only if the public can recognise them and are familiar with the relevant safety instructions – hence the close relationship between prior information and public warning.

- In France, the mayor must use every available means within the municipality to ensure that the warning is effective. Use of new technologies is now well developed, with automatic calling machines, personal telephone calls in risk-prone areas, text messaging and variable message signs. It should nevertheless be noted that no warning system is infallible. Municipalities without such technological resources can be just as effective through well-organised people-based management, including neighbourhood networks and knocking on doors. Costly state-of-the-art technical solutions may be unsuited to a municipality's needs. They may also prove ineffective,

for example if the infrastructure used to convey information has been destroyed or if the network is saturated. The Interministerial Crisis Management Operations Centre (COGIC) can perform a vital role in informing the public through the national warning system thanks to its pre-established links with the main national media. This warning will be relayed by the sirens of manufacturing plants for a Seveso warning, by the alarms of public-access buildings and by the warning and detection systems of high-rise buildings.

- Cyprus has a public warning system (PWS) in the form of a network of sirens across the island to warn the public and communicate with them in an emergency – if an area is cut off after an earthquake, for example.

The authorities must provide information immediately, clearly and transparently: making clear what they know and what they do not know, what has been done and what is going to be done to control the emergency and what is the best course of action. At this stage, the aim will be to give the public a full and objective picture of the situation, but this should be limited to the facts and not deal with responsibilities. Spokespersons, who will ideally have been appointed in advance, will disseminate information on measures taken and the instructions to be followed.

- In France, the *département* operations centre centralises information for the media and the general public in its public information unit, which is activated in order to answer telephone calls. It sets up a call centre with a single emergency number. This forms part of the *département* emergency communications plan, which pools all the communications resources of *département* authorities. Large municipalities usually also set up an automated answering service to reply to questions from the public.
- In Luxembourg, information procedures are the same for all emergencies and come under the Press and Information Service (SIP) of the Ministry of State. This service is in charge of a unit consisting of key players and acts as the main channel for government communications, the media being its main partner.
- In Algeria, the ORSEC emergency response plan provides for an 'information unit', which will be the main co-ordinating body for public and media information.
- In Belgium, depending on the level at which the emergency is managed, it will be the Municipal Information Director, the Province Information Director or the federal information unit that will co-ordinate public and media information. The methods for disseminating the information – indicating the departments, people and resources to be used – form part of the minimum content of the general emergency and response plan. These measures are laid out in more detail in the workstream plans for Workstream 5 (Information) which are drawn up in the provinces and municipalities by their respective Contingency planning units. While the national W5 workstream plan provides guidance for crisis communication in Belgium as a whole, the plan is adapted at provincial and municipal levels to reflect local circumstances. These plans may provide for consultation with neighbouring provinces/municipalities.

This information is usually reported by the media, which therefore play a vital role. This intermediary role must be plain to the public and clearly distinguished from journalistic investigation. The authorities will often have designated in advance the main body responsible for co-ordinating information, which will be recognised as such by the media.

- In France, it is the *département* operations centre that co-ordinates information for the media. Agreements are drawn up with local and national radio stations (the Radio France broadcasting corporation) and motorway radios to make it easier to broadcast official messages. The COGIC communications centre has a radio studio which can be brought into service immediately in the event of a national warning in order to broadcast messages on the France Inter and France Info radio stations. There is also a

direct line between the COGIC communications centre and the France Presse news agency for immediate distribution of press releases.

- In Belgium, a memorandum of understanding has been signed with the media to ensure optimal crisis management at both national and province level. This understanding covers the practical arrangements for prompt dissemination of official information and recommendations for the public from the crisis-management authorities. A computer system has been developed for this purpose by the Belga news agency. All the signatory media have undertaken, through this partnership, to assist the authorities in disseminating urgent messages and official recommendations in an emergency. In return, the media are guaranteed that the information and its source are genuine.

Recording separate actions in a logbook

A logbook is a book in which the various players record the progress of emergency management. It is a vital tool for exchanging information, ensuring a record of risks, improving awareness and improving future measures taken in the same circumstances. In France, Synergi software enables real-time data to be shared by all operators. It contains an application for creating and managing incidents, together with reference material, an operations directory and response sheets. It has recently been merged with Sizif, another digital logbook. A single folder is opened for each incident, either by the *département* fire and rescue operations centre or by the area operations centre in the *préfecture*. All players involved in major crisis management have access to it, including the mayor, the *Département* Public Works Directorate and the *Département* Health and Social Services Directorate. When the parties concerned have new information, they enter it into the computer log in accordance with the recommendations previously set out by the *Préfet*. Users can thus ascertain the state of play at each site in the area and ensure that information is up-to-date. Employed routinely throughout the year, Synergi can be used to manage all administrative, geographical, regulatory, historical and media information about the risks in an area. In a major emergency, it is a tool for assessing the standard of rescue and response.

## 3. Operational response

Assessing the risk for response and rescue teams

It is essential to assess the risks run by response and rescue teams and suggest appropriate safety measures. In Belgium, the Operations Director appoints an adviser who is responsible for this task.

Securing the scene

For localised risks, an exclusion zone will often already have been drawn around the presumed point of impact (hazardous plants, for example) at the emergency planning stage. The emergency plan can provide for the response within such zones and specify access rules, position of rescue facilities, deployment of rescue services, areas to be evacuated, containment areas, etc. In France, there are special provisions for determining response zones for dam failure, nuclear accidents and, more specifically, terrorist acts involving radioactive material.

The response zone is determined in the light of the actual situation. In Belgium, this zone is divided up as follows:

* Red zone: Access limited to response services, experts and technical staff, subject to approval by the Operations Director;
* Orange zone: Access for persons living or working there, subject to approval by the Operations Director; this is where logistical support for the response services is organised;
* Yellow zone: Access not recommended for persons not living or working there, in order to facilitate access to the disaster zone by the response services.

Setting up operational co-ordination bodies

Operational co-ordination seeks to harmonise the actions of the various teams working on the ground. It is provided from a single control centre set up at or close to the scene. This centre must be easily recognisable and accessible to rescue services arriving on the scene. It will be in constant contact with the strategic co-ordination body which it must keep regularly informed of developments.

- In Belgium, operational co-ordination is provided from the Operations Control Centre (PC-Ops). The Operations Control Centre is run by the Operations Director (Dir-PC-Ops). The latter is the highest-ranking fire officer present. In the event of equal ranking, the most senior will take precedence. Depending on the nature of the emergency, the competent authority may appoint a manager from another workstream as Operations Director – such as a police officer if the emergency mainly entails maintaining order. The Operations Control Centre consists of the Fire Service Director (Dir-Si), the Medical Assistance Director (Dir-Med), the Police Director (Dir-Pol), the Logistics Director (Dir-Log) and the Information Director (Dir-Info), in so far as these workstreams have a part to play in the emergency. In many emergencies, a representative of the institution or business affected should also be involved in operational co-ordination.
- In France, the *Préfet* relies, for tactical action and work on the ground, on the operations control centre, which is a mobile structure set up on site. Depending on the scale and extent of the event, there may be several control centres in the same *département*. Whether management of rescue operations is the responsibility of the mayor or the *Préfet*, control of the rescue operations is the responsibility of the *Département* Director of Fire and Rescue Services.

The control centre will perform various tasks:

- Sending situation reports to the competent authority as quickly as possible;
- Making regular reports on how the situation is developing;
- Advising on strategic co-ordination;
- Implementing decisions relating to strategic co-ordination;
- Managing the emergency response sites;
- Using one main communication centre to warn and call rescue services and other services or individuals needed at the scene of the emergency, notifying this centre of the arrival of the services called and keeping it up to date on developments.

# 5. Recovery

Once the acute and immediate consequences of the emergency have been alleviated, another challenge arises: the return to normality. Even societies prepared for the worst-case scenarios will take time to find their way out of the confusion and reorganise. Attention must therefore

be paid to an event's long-term consequences: care of victims and their families, rebuilding, rehabilitation of the land and its surroundings, resumption of business, etc.

A distinction is usually made in practice between the initial reception of people, which is part of the management stage, and longer-term care, which comes under recovery. But the transition from one stage to the next is blurred and the distinction made in practice is seldom reflected in existing legislation. Interfaces therefore need to be established to ensure continuity in care of victims and their families.
- In Belgium, the royal decree on local emergency planning addresses recovery by prohibiting the emergency management authority from calling an end to the emergency stage without having first taken the necessary steps to ensure that victims are either given aid or else directed to a more appropriate type of assistance, such as psychosocial support or help from a disaster fund.
- In Cyprus, there are certain specific units, such as the Post-Earthquake Restoration Unit in the Department of Civil Defence of the Ministry of the Interior, which deal with reconstruction.

Recovery is a joint task in which all the emergency-management authorities should be involved. Local authorities, which are often vested with police powers, will again be in the front line implementing recovery measures in their areas after an event. They will usually be supported in this task by higher authorities, depending on their needs. Operators also have certain obligations, being required – as in France, for example – to clean up and restore the environment if an accident from their plant has caused serious damage.

There is often no predetermined unitary body to co-ordinate the various aspects of recovery. We have nevertheless been able to find a few examples:

- Algeria has a substantial legal framework that recognises the changing nature of an emergency. Section 55 of its law on major risk prevention and disaster management in a context of sustainable development states that ORSEC emergency response plans are to be planned and structured in three phases: the emergency or 'red' phase, the assessment and control phase, and the rehabilitation and/or reconstruction phase. This law lays down structural measures for care of victims. These measures include establishment of strategic reserves (medicines, tents, accommodation areas, etc.) for the acute phase, introduction of a system for paying damages, and creation of a specialist institution: the National Office for Major Hazards, responsible for assessing and co-ordinating action within the national system of major risk prevention and disaster management.
- The PACA region (Provence-Alpes-Côte d'Azur) in France has an Exceptional Hazards Management Unit. This unit will play a part before, during and after a crisis. After the crisis, it will make its contribution to recovery by assessing the effectiveness of action taken and improving crisis management procedures. It should also be pointed out that the Hazard Management Subdirectorate of the Ministry of the Interior has a general duty to ensure consistency between the different stages.
- In Belgium, a Co-ordination Unit for Victim Support and Information was set up after the Ghislenghien disaster.[52] In particular, it centralised information on victim support services and the various associations set up after the disaster, provided information on what to do regarding insurance claims and acted as an interface with the public prosecutor's office, the investigating judge, the police, the legal advice centres in the country's various judicial districts, and the psychosocial services. A monitoring

[52] On 30 July 2004 the explosion of a section of gas pipeline devastated the Ghislenghien industrial estate in Belgium, killing 24 people, including five firefighters, and injuring 132 others, a number of whom suffered serious burns.

committee was then set up to make sure that all parties were continuing to exchange information. The Co-ordination Unit produced an end-of-mission report stressing the importance of prior consideration of a number of questions: preserving on-site evidence after the disaster, drawing up an exhaustive list of victims, communicating with victims and the press, dealing with insurance and compensation, including the specific role of the courts in emergency planning and the post-crisis phase, and establishing a body to act as interface between the management stage and the post-crisis recovery stage.

- In Quebec (which was not covered by our survey), a Reconstruction Office set up after the summer 1996 floods served as an effective interface between the affected area and the government, enabling the administrative procedures to be speeded up.

Care of victims and their families

Account needs to be taken not only of the physical but also of the psychological harm suffered by people who have witnessed an event (disaster victims, grief-stricken families, response and rescue teams, etc). Psychosocial support teams specially trained to handle the specific type of emergency concerned should be carefully designated in advance in order to provide victim support. Their involvement should be carefully planned, since inappropriate services constitute an additional trauma. In Algeria, the psychological impact, especially on children, has been taken into account since the Boumerdès earthquake. In some cases, information for disaster victims is also broadcast on radio and television in order to reach as many people as possible and provide better guidance for victims.

Victims and their families should also be given relevant information on the steps to take regarding insurance claims and any public compensation funds available as well as on the role they are expected to play in post-disaster inquiries.

- In Belgium, the basic tasks of the co-ordination unit set up after the Ghislenghien disaster included the following: providing an interface between explosion victims and all French and Belgian organisations (public prosecutor's office, investigating judge, police, legal advice centres, psychosocial services and support services); providing permanent reception and answering services for victims and their families; offering initial guidance on services able to provide answers to questions asked; centralising information on financial assistance in order to ensure transparency; organising regular briefing sessions for victims and their families; making sure that people unable to attend these sessions were kept informed and updating the unit's website without delay.
- In France, the Ministry of Justice and local authorities funded the setting-up of a national network of victim support associations in the early 1980s. These associations were brought together in the National Institute of Mediation and Victim Support (*Institut national d'aide aux victimes et de médiation*, INAVEM) in 1986, which officially became their umbrella group in 2004. Member associations are funded through grants from central and local government. The National Institute forms part of the arrangements for managing all emergencies arising out of air, rail, maritime or road accidents, industrial disasters or acts of terrorism. The disasters that have recently led to the involvement of the victim support associations include the Mont Blanc Tunnel fire (24 March 1999) and the explosion at the AZF plant in Toulouse (21 September 2001). On occasion, the National Institute and victim support associations have also been involved in allocating emergency funds to meet the immediate needs of victims' families. Where insurance is concerned, victim support associations help victims to enforce their cover and legal protection clauses. The

National Institute and victim support associations will act for victims, as regards material assistance and psychological support, right up to criminal proceedings.

Compensation

In some countries, such as Belgium, the law allows individuals to bring an action for (civil and/or criminal) damages against the authorities in order to obtain compensation for the injury they claim to have suffered as a result of a negligence during management of an emergency.[53] Local elected representatives, whose duties are constantly growing, are uneasy about this accountability. Such fears may substantially curb their desire to innovate and also deter candidates from standing, leading to a drop in numbers.

# 6. Lesson-learning

Debriefings immediately after an exercise or actual emergency provide a clearer understanding of the nature of the event, its consequences and any failures in the (human, technical or organisational) systems. The lessons learnt can be used to improve prevention and preparation measures and ensure a more effective response in managing an emergency and may also lead to changes in the law:

- In Algeria, Law 04-20 of 25 December 2004, which covers virtually every aspect of major risks (with general provisions applicable to all risks and specific provisions for individual risks) and all the different stages, was enacted after the country had experienced some major disasters (Bab El Oued floods, Boumerdès earthquake, and floods inland, especially in the Sahara);
- In France, the government has taken various steps to reduce industrial risks since the AZF disaster in Toulouse:

    - It passed Law No. 2003-699 of 30 July 2003 on natural and technological risk prevention and damage repair. Its provisions hinge on four principles: improving information and consultation on major risks, controlling building development in risk-prone areas, preventing risks at source and improving the terms of compensation for disaster victims.
    - Technological risk prevention plans (PPRTs) have been introduced.
    - Local Information and Consultation Committees (CLICs) for discussion between operators, employees, residents and elected representatives have been set up near industrial risk areas.
    - Buyers and tenants of real estate within a defined exposure area around high-risk establishments have to be informed.[54]
    - Inspection of classified installations has been strengthened and modernised. The parliamentary report produced subsequent to the AZF disaster highlighted a shortfall of a thousand inspectors for inspection of classified installations. The number of classified-facility inspectors in Regional Directorates for

[53] Law of 4 May 1999 on the civil and criminal liability of mayors, deputy-mayors and members of provincial councils, *M.B.*, 28 July 1999.
[54] Environment Code, Articles L.125-5 and R.125-23 to R.125.27.

Industry, Research and the Environment (DRIREs) has been raised by around 350 since 2002, including 206 extra staff since 2004.

- An emergency support unit (*Cellule d'appui aux situations d'urgence*, CASU) has been set up within the National Institute for Research into Industrial Environments and Risks (INERIS) to mobilise technical experts round the clock in the event of an incident or accident.
- Law 2004-811 of 13 August 2004 on modernisation of civil protection created the tools needed for the mayor in his or her role as a key emergency-management partner by instituting the Municipal Protection Plan (PCS) and the Municipal Civil Protection Reserve (RCSC) and involved the mayor more closely in any exercises held. This law also established two new bodies for dialogue and planning: the National Conference of Fire and Rescue Services, and the National Council for Civil Protection.

Post-crisis analysis of human, social and economic consequences should also encourage the relevant authorities to invest more heavily or more effectively in prevention and preparation. Insurance companies have information on the amount of compensation paid out after disasters, but it must be borne in mind that this never reflects the actual cost of the damage, since the latter is never fully covered by insurance. Moreover, the increase in building development suggests that if past events happened again with the same degree of severity they would claim many more lives and wreak much more damage.

It is essential to encourage exchange of knowledge and experience in the field of risk management. Since emergency planning and crisis management rely very heavily on the experience and expertise of local authorities, it is important for them to have their say.

- The European Forum for Local and Regional Disaster Management, set up under the auspices of the Council of Europe's Congress of Local and Regional Authorities, is an example of a platform for exchange of experience. It brings together representatives of cities and localities that have already suffered a disaster or are aware of their vulnerability and wish to benefit from the experience of others in order to improve their awareness of the risk and their measures to manage it.

- In Belgium, the Crisis Centre of the Federal Public Service of Home Affairs has made a film for local authorities with contributions from mayors who have already had to face emergencies. Its purpose is to provide support for local authorities to improve their contingency planning units, emergency plans and crisis communication.

Unfortunately, it seems that in the countries studied there is generally no systematic method or standard official framework for feedback. Interministerial feedback is usually confined to major incidents; otherwise there is feedback for individual workstreams without any overall review. Feedback at local level is therefore typically very different from one locality to another.

# Conclusions

Major hazard management is a field in which exceptional situations bring together players who in normal circumstances meet all too rarely. Since each player is essential to the system's overall success, central government has the problem of harmoniously combining their various missions in order to ensure that they are as effective as possible in an emergency.

The involvement of local authorities in each stage of the process (identification, prevention, preparation, management, recovery and lesson-learning) enables central government to take greater account of specific circumstances and different local cultures. Their closeness to the grass roots and the population, and the police powers with which they are usually vested, also make them leading partners in organising emergency assistance and implementing measures to protect the public. The way in which they handle the first few hours of an emergency will be a decisive factor in reducing the consequences of major risks.

Local authority involvement also makes it possible to reach the public directly. The latter make legitimate demands of the public authorities: preventing a recurrence, avoiding the avoidable and reducing the consequences of an emergency by ensuring that they maintain close contact with victims through assistance, explanations and sometimes compensation. But the public must be aware of their own capacity to reduce the consequences of major risks for their own lives, those of their families and the environment. Central government must develop this capacity by providing information on what to do before, during and after an emergency. Because of their proximity to the ground, local authorities are well-placed to adapt a standard message to each section of their population (expatriates, children, older people, tourists, etc.).

Unfortunately, overall experience shows that local authorities face numerous problems, some of which arise from a lack of information (as to what constitutes a risk, how to ascertain the effects of this risk on the local area and population, the minimum content of an emergency plan, the people who should be involved in preparing it, responsibility for a misjudgement, etc.), a lack of training (as to providing the public with information, talking to the media, organising an exercise, etc.) and also resources that are too limited to implement the necessary measures (availability of staff to undertake risk analysis, staff to prepare emergency plans, protecting rescue teams if a risk materialises, etc.).

Central government can provide local authorities with support and guidance for their duties. Below are a number of proposals based on existing good practice:

1. Pool all information forwarded by local authorities, convert it into geographical data and provide all players with a national risk-exposure map.[55]
2. Define the key concepts and lay down guidelines for hazard management in a statutory framework.[56]
3. Set up a permanent consultation body in order to promote a comprehensive major-hazard management policy.[57]

[55] In France, the *Cartorisque* pooling system offers an overview of major risks across the country.

[56] The Algerian law on major risk prevention and disaster management in a context of sustainable development takes a comprehensive view of major hazard management and ensures that its rules are consistent with sustainable development.

[57] In France, the National Council for Civil Protection (CNSC) brings together the main ministries concerned, the main public service operators, the most relevant specialist and research bodies, elected representatives and emergency service providers, including the French Red Cross and the National Federation of Civil Protection. At *département* level, each *Préfet* has an Interministerial Civil Defence and Protection Department (SIDPC), which liaises with all decentralised government departments involved in risk management.

4. Spread a risk culture and build awareness in relevant sectors.[58]
5. Promote local co-operation, exchange of experience and good practice at both national level[59] and international level.
6. Provide local authorities with a risk analysis methodology.[60]
7. Facilitate local-authority access to technical and scientific resources[61] in order to improve risk analysis, threat assessment, monitoring, warning, and response times.
8. Satisfy local-authority requests for expert appraisal.
9. Identify, analyse and consider risk exposure in town planning and inform future buyers of the existence of risks and the measures taken to prevent them or limit their consequences if they occur.[62]
10. Make earthquake-resistant building standards mandatory in areas subject to seismic risk.[63]
11. Encourage analysis of the vulnerability of particularly important structures in these areas.[64]
12. Encourage public-access buildings to prepare emergency plans[65] in consultation with local authorities.
13. Make it mandatory to clear land round homes in order to reduce their vulnerability to forest fires.[66] Make local authorities responsible for supervising this requirement.
14. Include in deeds relating to the sale or letting of real estate a clause informing buyers or tenants of the risks to which the property is exposed.[67] Make this information available to other stakeholders, including local authorities.[68]
15. Require industrial concerns to take appropriate steps to prevent any major accident.
16. Involve local authorities in carrying out inspections in hazardous plants and punishing breaches.
17. Require industrial plants to take appropriate steps to limit on-site and off-site effects whilst taking account of both internal and external risks.

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[58] Examples of successful co-operation with industry:
- In France, Local Information and Consultation Committees (CLICs) for discussion between operators, employees, residents and elected representatives have been set up near industrial risk areas.
- In Belgium, regulations require neighbouring plants to communicate with each other in order to reduce the risk of a domino effect.
Examples of successful co-operation with the research community:
- In Algeria, research centres (such as the CRSTRA – the Centre for Scientific and Technical Research on Arid Areas) are involved in risk analysis.
- For chemical hazard management in France, an emergency support unit (CASU) has been set up within the National Institute for Research into Industrial Environments and Risks (INERIS) to mobilise technical experts round the clock in the event of an incident or accident.

[59] In Belgium, the Crisis Centre of the Ministry of the Interior has made a film for local authorities with contributions from mayors who have already had to face emergencies.

[60] Belgium, Croatia and Greece have provided guides for their local authorities.

[61] In Cyprus, a public warning system (PWS) in the form of a network of sirens across the island is used to warn the public and communicate with them in an emergency – if an area is cut off after an earthquake, for example.

[62] In Algeria, a partially or totally destroyed building cannot be rebuilt unless the causes of its destruction have been duly resolved.

[63] Algeria, Croatia, Cyprus, France and Greece have divided their territory into zones of varying seismicity and require structures in these zones to meet earthquake-resistant building standards.

[64] In Cyprus, all schools (state and private) were inspected between 1999 and 2005 to check their earthquake resistance. In some cases, strengthening was ordered. All schools and public buildings also have evacuation plans, and drills are carried out regularly.

[65] In Belgium, all schools in the French Community are required to prepare emergency plans. There are also plans for hospitals (hospital department warning plans (MASHs) in Belgium, 'plans blancs' in France, etc.).

[66] In France, risk prevention plans (PPRs) may require individuals to take preventive action. Mayors can also require individuals to clear a 50m radius around their properties to reduce the risk of forest fires spreading.

[67] In France, any seller or landlord of a property must attach to the sale contract or letting agreement a statement of risks and, where appropriate, a list of insurance claims paid to the seller/landlord.

[68] Such information is incorporated in the *Cartorisque* system.

18. Require them to take part in local emergency planning[69] and prepare internal plans for containing incidents.
19. Specify a structure for these plans so that they are consistent with the local authorities' external plans.
20. Involve local authorities in approval of factories' emergency plans.
21. Establish interfaces between prevention and preparation.[70]
22. Give preference to local channels in order to disseminate information better tailored to local circumstances and cultures.[71] Give the public information on what to do before, during and after an emergency. Also inform them of their duties.[72]
23. Encourage households to do first-aid training, identify risks of concern (at home and work, on holiday, etc.) and draw up their own emergency plans.[73]
24. Set up a permanent round-the-clock monitoring body to co-ordinate distribution of relevant information to all the authorities concerned, including local authorities.[74]
25. Encourage standardisation of local emergency planning whilst respecting specific circumstances and different cultures – for example, by providing local authorities with a methodology for preparation of emergency plans, with a standard structure and with a minimum content.
26. Keep a record of risk by encouraging local authorities to add to a database covering events that have already occurred and the lessons learnt from them.
27. Make an inventory of available local resources and assess needs.
28. Standardise methods of recognising response and rescue teams on the ground.
29. Specify preparation and training arrangements for all emergency players, including local authorities.[75]
30. Assess risks run by rescue teams and plan appropriate safety measures.
31. Organise consultation with the response and rescue services to ensure that their procedures are consistent with the management structure laid down by the local emergency plans.[76]
32. Provide local authorities with a methodology for exercises.
33. Calculate risk-exposure zones and inform the localities concerned.
34. Standardise warning procedures.

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[69] In Belgium, operators are members of the contingency planning units that prepare the emergency plans.
[70] In France, risk prevention plans provide key information for everybody involved in emergency planning:
- They define risk areas and then prohibit further development or make it subject to conditions.
- They lay down the preventive, protective and safeguard measures to be taken by public authorities and private individuals.

[71] In France, the mayor produces a Municipal Information Record of Major Risks. He or she may require posters to be displayed in premises frequented by more than 50 people. If the municipality is covered by a risk prevention plan, it must provide the public with information at least every two years. In Croatia, emergency plans are made available for public consultation 30 days before being officially adopted.
[72] In France, the Environment Charter requires the public to prevent any damage that they might cause to the environment.
[73] See http://www.autoprotectionducitoyen.eu.
[74] Belgium and France each have a permanent crisis monitoring body: the Government Crisis and Co-ordination Centre in Belgium and the Interministerial Crisis Management Operations Centre (COGIC) in France. They are permanently on duty to collect, analyse and disseminate the information needed by the political and executive authorities, including local authorities.
[75] In Greece, the General Secretariat for Civil Protection has been co-operating with the National School of Local Administration since 2007 on establishing a specialist programme on civil protection. In France, training for local elected representatives is mandatory. Moreover, the ORSEC emergency response plan includes arrangements for training and preparing all public bodies and private individuals for their civil protection missions. In Belgium, the Higher Institute of Emergency Planning (ISPU) holds briefing sessions on current regulations as well as training (in crisis communication, for example) for local authorities.
[76] In Belgium, each local authority must set up its own contingency planning unit, which brings together rescue, medical assistance, psychosocial support, logistical support and public information.

35. Plan procedures for keeping in constant contact with the local authority in an emergency.[77]
36. Provide local authorities with a logbook.[78]
37. Plan in advance for the longer-term consequences of risks in order to improve the post-crisis stage.
38. Determine in advance the bodies to be set up as interfaces between government and the area affected in order to expedite administrative procedures for recovery.
39. Determine in advance the bodies to be set up as interfaces between victims and the various victim support services and associations.[79]
40. Consider a systematic and standardised method of feedback.

[77] In Cyprus, the public warning system can also be used to communicate with areas which are cut off.
[78] In France, the Ministry of the Interior makes standard use of Synergi software (Synergi = *système numérique d'échange, de remontée et de gestion des informations* – digital information exchange, feedback and management system) through a secure extranet that can be accessed via the Internet, enabling the various players to exchange logbook information.
[79] Immediately after the Ghislenghien disaster, Belgium set up a Co-ordination Unit for Victim Support and Information. In France, the Ministry of Justice and local authorities funded the setting-up of a national network of victim support associations (INAVEM).