



# 3

## Implementing mitigation strategies: practical lessons within the European Union

**In the first two MiSRaR brochures the lessons on respectively risk assessment and mitigation planning have been described. However, figuratively speaking the assessment of risks and the drafting of a mitigation plan are only the first half of the work. In the end it comes down to the actual implementation of mitigation measures, which is the topic of this third and final brochure. For an effective implementation the challenges are not only to ensure the proper resources and cooperation between partners, but also to organize monitoring and enforcement and involve the general public.**



*Successful implementation of structural mitigation measures like a water barrier requires public support*

This brochure will deal with such examples of practical success factors that help to bring theoretical mitigation plans in actual practice and thus make mitigation strategies work.

### Financing mitigation

Of course the first necessary condition for implementation is to organize the required resources. Once the objectives and concrete mitigation measures of a mitigation plan have been set, the involved partners need to know what contribution is expected from each of them. In the end this comes down to the actual allocation of bud-

gets, but also to the ensuring of the proper involvement of professionals and deployment of material resources which are already available.

A general lesson of MiSRaR is that insight in different kinds of mitigation budgets is not gained easily. The budgets labeled explicitly for mitigation measures are few, but at the same time miti-

gation measures might be financed from many different other general budgets, which do not specify the amount used for risk prevention. Overall the knowledge exchange between the MiSRaR partners has shown that the allocated budgets for mitigation vary greatly between each country, not only in actual amount but also

in relative size compared to other government expenses. In any case the total amount of budgets specifically labelled for actual mitigation proved to be relatively small in comparison with spatial and infrastructural development budgets. While development mostly is measured in billions, the mitigation budgets are limited to millions. On the one hand this is understandable from the point of view of overall societal impact, but on the other hand it shows that financing mitigation measures as part of a spatial or infrastructural development project could be 'peanuts' on the total pro-

ject expenses. From this perspective sometimes it could be surreal to negotiate with a town council or national ministry about for example a small budget for safety measures along a railroad, while at the same time the contracts with the companies that build it are hundred or thousand times larger.

This is all the more an issue for discussion because at the same time many risks are specifically caused or enlarged by spatial and infrastructural developments. This is not only the case when developments result in a new ‘risk source’ (like an industry or intensified transport of dangerous goods), but also when new vulnerabilities (like housing or schools) are built closer to existing man-made risks or in the potential effect area of natural hazards. Therefore a general conclusion should be that more thought has to be given to the rules that govern the extent to which safety measures are a part of spatial and infrastructural developments, also financially.



Through public-private partnership former quarries can be used for flood prevention

also of cost reduction by incorporating measures as a part of other building activities. For instance, during the reconstruction of a road, it could be heightened above the projected flood levels to function as an evacuation route. Or a wall to deflect noise from a highway could at the same time be used to constrain the effects of an explosion. The possibilities for combining safety measures with necessary building activities are endless, if at least the partners are willing to consider them. This requires close cooperation between public bodies and often also public-private partnerships. This brings us to the second lesson.

#### *Search for shared interests and win-win*

Another success factor for finding finances is to create strong alliances between public institutions and also public-private partnerships. To convince the competent public bodies and even private companies to re-allocate budget from other sectors or projects to risk mitigation measures, it is important to define “what’s in it for them”.

Try to find shared interests in the measures. For example, a foresting company should easily understand the necessity of fire prevention measures, because the forest itself is part of their commercial value. Likewise a national government should be able to understand the necessity of safety measures to prevent for example the total loss of infrastructure due to an incident with dangerous goods, not only from the point of view of prevented casualties, but also because the measures reduce the potential damage to the national economy as a whole. However, forming alliances goes beyond just finding shared interests. It is also about defining actual *win-win*

### **Tips and tricks**

#### **Lessons learnt on financing**

Discussing on financing the MiSRaR partners have concluded on the following lessons.

#### *Incorporate mitigation in other budgets and create public-private partnerships*

A major success factor for the financing of mitigation is to try to incorporate safety measures in projects financed from other budgets. This is not only a matter of ‘pay for the risk you cause’, but

## Good practice

### Province of Forlì-Cesena, Italy

#### ***Public-private partnership for financing***

During the last fifty years a great urbanization has taken place along the river Savio in the Province of Forlì-Cesena, deteriorating the natural conditions of the river. The frequency of flooding has increased and between autumn and winter floods are more and more likely to happen.

The Regional Basin Authority wrote a Draft Plan concerning Hydro-geological Risk. An effective mitigation measure considered in this plan is the stocking of water in temporary basins (detention basins) during heavy rains. However, installing detention basins can be difficult due to financial reasons, specifically the need to raise public money - which is less and less available - to logistic reasons, specifically because it is difficult to find areas wide enough in an urban context, and lastly because of administrative procedures in case the Public Administration needs to acquire a private area if the infrastructure is to be developed in non-public areas. To overcome these problems use was made of the so-called Extracting Activities Interregional Plan (P.I.A.E.). The P.I.A.E. governs the planning of extracting activities (i.e. quarries) within the province. According to the Regional Law 17/91 concerning the rules on extracting activities, which regulates the sector, the P.I.A.E. must include the criteria for the final destination of the quarries once the extraction is over, in an attempt to restore the environment and implement the social and the public use of the area. The private subject that makes a profit from the use of the area must carry out specific final works.

The province and river basin authority agreed to use the P.I.A.E. to identify areas that, after the extractions, will be used to decrease the hydraulic risk and increase the regulations of the river rate of flow. Because of the existing obligations making the extracting area suitable as a detention basin to restrain flooding water has to be carried out by the private owner at its own expenses. This obligation is dealt with and enforced by the agreement entered by the public body (Municipality) and the private subject while defining the terms of the authorization.

Thanks to this kind of public-private partnership, it has been possible to overcome the main economic difficulties for the construction of the detention basins (funding, expropriation of private areas, etc). The coexistence of extracting activities and safety-interventions on rivers helps to reach the goal of limiting the consumption of resources and land by rationalizing the use of both natural resources and public money.

The Province of Forlì-Cesena experience led to a change in the Regional legislation, specifically the introduction of an article on norms for a rational use of the resources. Visit [www.misrar.eu](http://www.misrar.eu) for the full description of this good practice.

shared, certain mitigation measures might contribute to different goals at the same time. For instance, reduction of existing risks might increase land value and opportunities for further development, or joint disaster preparation with environmental protectors might improve nature conservation.

#### *Organize early involvement*

Part of the RISCE approach (see brochure 2) is early involvement. Also finding shared interests should be considered as early as possible in the process. Ideally it should be part of the project assignment and discussed at the outset of the first project meeting, both in projects directed at spatial development and in processes primarily directed at risk mitigation. A second step is to cooperate on the risk assessments, in order to build a common understanding of the problem and increase risk awareness. It is advisable to involve relevant partners in the stage of objective setting at the latest (see brochure 2), so there is an opportunity to confront the political objectives from the point of view of safety with objectives directed from other interests.

#### *Make use of the insights from a CBA*

As described in the previous brochure, it is advisable to perform a cost-benefit analysis to find the right mitigations strategy. Such a CBA also helps to define the financing options for a mitigation plan. On one hand the CBA provides actual insight in the initial investment costs to implement the safety measures, the structural maintenance costs and the period over which the costs have to be discounted, helping to define which budgets have to be available at which time. On the other hand a CBA also shows which party will benefit in what way from the measures. To find a proper financing construction it might help to consider the balance between 'payers' and 'beneficiaries'. If a certain sector or interest group has a lot of



projected benefits it is only logical to demand for a contribution in the mitigation strategy. However, this might not always be necessary in advance: another option is to agree upon the reinvestment of benefits in future mitigation project. These kinds of solidarity from beneficiaries might also convince the 'payers' to play their part.

### *Organize cooperation across administrative borders*

A difficulty for applying a 'solidarity principle' as described is that in many cases the benefits are at another (territorial) level than the costs, just like risks themselves in most cases do not follow administrative borders. For example, in case of river floods mitigation measures upstream might reduce the risk downstream. Or a specific safety route for transport of dangerous goods might lead to a reduced risk in one part of a territory, but an increased one in other parts. This kind of 'distribution' problems require cross-border cooperation and financing constructions between local governments, but also between national governments of EU member states. This is not an easy task, because the natural tendency is to cling to formal responsibilities of public bodies for their own territory. This brings us to the second success factor for implementing mitigation strategies: networking.

## **Networking**

The number of scientific theories about networking is almost unlimited. However, the MiSRaR project focuses strictly on practical lessons and good practices of local (and regional/provincial) governments in the EU. Without pretending to 'overrule' scientific theories or even incorporate them, the first result of the discussions of the MiSRaR partners is a general practical approach for the startup of networking: perform a network assessment. The steps of such an assessment are comparable to those of the risk assessment (see

brochure 1) and capability assessment (see brochure 2).

The first step is *network identification*: making an all-round inventory of the key decision makers in the mitigation process at hand. The main fields in which stakeholders have to be identified are (inter)national legislation and local regulations, the (financial) resources allocation and the actual political goal setting. The second step is to perform a *network analysis*: defining both the formal and informal relationship of your own government agency with the identified stakeholders. For example, is there formal hierarchy in decision making, are there formal consultation meetings or formal procedures which have to be observed, does any partner hold veto powers? And which organizations are a natural alliance partner, which key players have a good informal relationship? The final step of the assessment is a *network evaluation*: deciding which stakeholders are most 'important' to be involved and in what way. For this it might be useful to set some specific decision criteria, or in smaller networks it might be done almost naturally and on past experiences.

### **Tips and tricks**

#### **Lessons learnt on networking**

#### *Consider your network as early as possible*

Networking is discussed in this brochure as a part of the implementation strategy for mitigation, but actually it should start from the earliest outset of a mitigation process. The best way to gain support for mitigation is to build joint understanding of the problems at hand. The required risk awareness of all relevant partners can be realized by involving them in the earliest stages of the risk assessment.



### *Maintain networks*

Networking is a structural activity. If you only contact your network partners when you need them, this might arouse resentment. The trick is to stay in contact also in times when you do not need each other and build a structural relationship in which you can depend on each other. Be there for each other under all circumstances: help out when the other is in need. And above all: do as you say, because trust is not easily regained.

### *Start with clear agreements on the process*

When starting a mitigation process it is important to be clear about the roles of all partners involved and what they can expect. At which moments during the process will they be consulted, how are decisions formally made, what expertise is needed from their organizations? A transparent agreement or joint 'declaration of principles' on these kinds of topics might smoothen the actual process and greatly improve the support for the end results.

### *Think of who pays and who benefits*

Ideally a part of the network analysis is to consider 'who pays and who benefits'. But do not wait with this until the phase of the actual CBA, because this is too late in the mitigation process. Therefore, consider payers and beneficiaries more in general at the start: what might the expected gains and drawbacks be in general? Knowing potential supporting and opposing partners helps to consider your strategy for involving them.

### *Shared interests and goals*

Convincing partners in your network requires

sincere interest in their needs and a shared understanding of the problem at hand. Again, like described in the chapter about financing, it is important to really consider all possibilities for finding shared interests and goals. To form an alliance it's not always necessary to agree on everything: one shared interest might be enough to cooperate on a specific policy for a certain period. Therefore, narrow issues down till the point you can reach agreement. A partner might in general be opposing costly prevention measures, but in a specific case nonetheless might be convinced that it is in their own interest.

### *Organize networking expertise*

The competences for networking and relation management can be quite different from the traditional competences of safety professionals. Professional risk expertise might in some cases result in an obstinate attitude towards partners that "do not understand" the necessity of risk management from the outset. It therefore is important to be aware of the different roles which have to be played during



*Mitigating risks of chemical industry is particularly challenging because of the economical interest*

a mitigation process and the different competences needed for that. This is all the more an issue when networking transforms into actual lobby and advocacy for specific mitigation strategies.

### **Lobby and advocacy**

*Advocacy* is the process of attempting to influence public policy and resource allocation decisions within political, economic, and social systems and institutions. *Lobby* is a specific form of advocacy which attempts to influence decisions on legisla-



tion and regulations. The MiSRaR partners have found that in some cases advocacy is not only directed to influence public policy, but may also be aimed at influencing policies of private organizations. From the perspective of local governments which bare responsibility for safety, the influencing of private partners to 'do their part' is in fact quite important.

In order to ensure that decisions are made on mitigation policies and to improve cooperation and implementation of a mitigation plan it might be necessary to devise a lobby and advocacy strategy as part of the mitigation process. A popular believe is that lobby and advocacy are more or less 'perverse' activities, because they are often motivated by commercial interests. Of course there are ample examples of private companies influencing public policy for their own benefit. On the other hand, lobby may be motivated from moral, ethical or faith principles which are not as down to earth as just personal gain. In the general perspective of a good functioning democracy lobby and advocacy practices are part of the 'balance of power', ensuring that conflicts of interest are addressed politically. In the case of mitigation often the underlying conflict of interest is that between the fundamental vital interest of society: safety versus economy or safety versus ecology.

Another reason why lobby and advocacy processes are important for mitigation is the fact that no single public body holds responsibility for all parts of mitigation. To be able to implement mitigation strategies cooperation of a whole range of stakeholders is necessary. This means that a great deal of persuasion is needed to get every stakeholder to conform to the shared objectives and contribute for their part in the implementation. As described above, in many cases even actual budgets of other stakeholders are needed, for which advocacy may be quite necessary.

#### *Some examples of lobby and advocacy*

- media offensive
- public speaking
- participation in (public hearing) committees
- publishing (scientific) research
- publishing memos, brochures etc.
- public polls/referendum
- field trips to explain the issue to decision makers
- consultations/meetings between decision makers of various entities
- incorporation of decision makers early in the policy process (i.e. in a steering committee)

### **Tips and tricks**

#### **Lessons learnt on lobby and advocacy**

#### *Be aware of lobby and advocacy processes*

Safety often is in conflict with other vital societal interests. Mostly different interest groups and entities are trying to influence public policy simultaneously. Especially for economical and commercial interests lobby and advocacy are traditionally quite common. For civil servants working on safety and spatial planning it is advisable to be aware of lobby and advocacy processes in their surroundings. Take into consideration that you may be subject of lobby by others, but also that you can play your own role in convincing the responsible politicians of the importance of risk mitigation.

#### *Be prepared and create 'windows of opportunity'*

Lobbying and advocacy is about creating 'windows of opportunity'. Seize the opportunity when public concerns arise or incidents occur and try to put mitigation on the political agenda. Be prepared for such occasions by preparing a dossier with objective information ('facts and figures') about the risks and a clear overview of profes-

sional opinions. Also think about a public spokesperson. For example, when advocating to national government for specific mitigation measures, a Mayor or Governor could function as public spokesperson on behalf of an alliance of safety partners.

#### *Advocate for risk awareness*

Support for mitigation begins with understanding the nature and extend of risks. Advocacy should therefore also include interventions to ensure risk awareness, both of the general public and of key stakeholders and political decision makers. This proves the importance of a conscious consideration of advocacy actions during the whole mitigation process, not in the least during the risk assessment phase. Involving stakeholders (including the general public) in the assessment of risks increases their understanding and support.

#### *Advocate for public-private cooperation*

For almost all mitigation plans a close public-private cooperation is needed. Advocacy processes should therefore take into account actions to improve understanding on the necessity and further willingness to cooperate.

#### *Aim to influence political paradigms*

Advocacy on mitigation should go further than just the objectives of a single mitigation plan. As discussed before, it is important to establish safety as an important factor in spatial and economic development altogether. This means altering the political paradigm in such a way that early involvement of safety in spatial processes is con-

sidered as a benefit rather than a cost. Also it might be necessary to advocate for more attention for mitigation rather than just disaster relief.

#### *Lobbying in national and EU legislation might prove to be effective*

In most countries risk mitigation is not yet an integral part of legislation on spatial development. If this could be achieved the effect would be far greater than just advocacy for the implementation of one local mitigation plan. Paradoxically, elaborate existing legislation sometimes thwarts common sense cooperation. Of course, formal safety rules are observed if proper monitoring and enforcement is organized (see further

on), but while safety rules are meant to set the minimum safety level, they might unintentionally make the minimum to the maximum. After all, why should additional mitigation measures be taken into account, if all formal requirements are met? The problem is that fundamental opportunities for risk mitigation in many cases arise outside of formal legal

obligations. For this reason the main aim of a lobby on national and EU legislation should be to ensure early involvement of safety issues in spatial development processes.

#### *Form alliances*

For any kind of lobby and advocacy strategy a strong coalition of different partners great improves the chances for success. Together you stand strong! Traditionally local and regional governments work together to influence national mitigation policies. However, the effectiveness could be increased if in these kinds of advocacy



*The earthquake in Emilia-Romagna May 2012: a wakeup call leading to more risk awareness*



processes also public-private partnerships are realized. This might be an alliance with development agencies or industries that concur with the public aim of risk reduction, but also with universities and scientists that provide the objective information about risks and prevention measures. Moreover, citizens that are worried about physical safety in their surroundings can be a strong alliance partner (see also the chapter about public participation).

### *Empower others*

As a safety professional often it isn't necessary to take part in the public debate yourself. Empowerment might be far more effective: help others to influence policy by providing the necessary objective information, bringing them in contact with the right stakeholders and help to translate your shared objectives in terminology understood by the decision makers.

### *Consider to make ecology a 'natural' partner of safety*

Like safety also for ecology the most important opposing interest is that of economical and commercial gains. However, ecology might become an opposing force in mitigation processes when contradictory interests with safety are not made transparent. This is mostly the case with natural hazards, like forest fires and floods, for which certain mitigation measures might be opposing to (traditional) methods for nature conservation. Furthermore in areas where safety risks meet with natural conservation areas the overall risk awareness of ecologists isn't optimal, sometimes resulting in arduous disasters preparation. This must be prevented, also because ecology is a strong lobby force with a lot of public support. To strengthen the relations between both fields it could be taken into consideration to form coalitions of organizations for safety and ecology. Locally this can be done for specific risks. Nationally

and internationally the global warming could be a joint basis for coalitions, because it can gravely increase both the probability and the impact of disasters.

## **Public participation**

A general lesson of the MiSRaR partners is that before planning mitigation measures, the capability assessment process (see brochure 2) must necessarily take into consideration not only the physical and environmental factors, but also the social aspects linked to the acceptability of the final solutions. In other words, public opinion should be taken into account and compared to the expert judgement of mitigation policies. For this public participation in the mitigation process is a necessary precondition.

Public participation is important for more than just this one reason. For a start public participation is an important instrument for increasing risk awareness. By participation in discussions on risk mitigation inhabitants learn about the objectively assessed physical safety risks. Furthermore participation during the design of a mitigation strategy is a necessary starting point for implementation of measures by people themselves. The combination of public participation and risk education helps to inform citizens about what they can do to prevent incidents, should do during an incident (resilience and self reliance) and may do to accelerate recovery afterwards. If properly organized the public participation should increase the acceptance of measures and willingness to take public action.

There are many different ways to organize public participation. In most countries public participation is partly regulated by national legislation, for instance requiring local governments to inform and/or involve inhabitants in certain stages of developments. However, it is advisable to go





## Good practice

### Province of Forlì-Cesena, Italy

#### *Public participation in flood mitigation*

On 6, 7 and 8 October 1996, some areas belonging to the Provinces of Bologna, Ravenna, Forlì-Cesena and Rimini faced extraordinary rainfall that brought about huge floods and extensive damage to people and buildings. After the event, the Government declared the emergency state and a plan for emergency infrastructures was adopted and then modified later. At first a new canal was being designed which would deviate four existing canals. When the project was presented to the local population, it did not raise very much appreciation. Local residents (as individuals and as categories) were not sure about the effects on the nearby town of Cervia.

Public involvement in the project led the decision-makers to take into account the interests of the different categories into consideration. At first the project was purely engineering aimed at guaranteeing the draining of extraordinary rains with a return time of 200 years, but in the end it was modified to encompass other local interests. It was decided to combine the reshaping of an existing canal with 'water detention basins'. The benefits of this alternative were lower costs and smaller environmental, social and economical impact. Moreover, the detention basins would allow the purification of polluted waters by means of the sun (phytoremediation), from which not only the nature would benefit, but also the beach tourism on which most of the local economy relies.

The public participation turned out to be positive both for the interest groups and the community as a whole. As a result a good level of safety in the territory was ensured and the areas occupied by business activities were maintained.

Visit [www.misrar.eu](http://www.misrar.eu) for the full description of this good practice.

beyond these formal requirements and consider ways of participation that are appropriate for the specifics of the risk at hand and the involved target groups.

## Tips and tricks

### Lessons learnt on public participation

#### *Distinguish target groups in your network assessment*

Take different kinds of public (interest) groups into account in the network assessment. Who lives directly in the neighbourhood of a risk? Who has commercial interest, like tourism, businesses and farmers? Which are local interest groups that proved to be important in the past?

#### *Organize participation during every stage of the mitigation process*

From the first outset it is important to involve people. Let them know the government will start to think about risks. Let them participate in the risk assessment and contribute local (historical) information from their experience and memory, let them help to set the criteria for the risk evaluation, have a transparent setting of political objectives and above all let them participate in the designing of a mitigation strategy and find win-win situations between mitigation and their own local interests.

#### *Consider the confidentiality of information*

During the risk mitigation process information might arise that is confidential, like the assessment of security risks and terrorism or specific risk information about industries. The formal requirements differ for each country, but always it is advisable to consciously consider in advance what kind of information you can and cannot reveal.

#### *Choose different instruments and be flexible*

The insights gained from the network assessment might result in for example installing one or more 'focus groups' that can supervise the whole mitigation process and provide continuous insight in



public opinions on the risks and mitigation measures. Other options for public participation are organizing public discussions, information campaigns and education. Different groups might require different approaches. Be flexible during the process and if proved necessary change your tactics.

#### *Make use of liaisons to target groups*

The 'government' in general is not always the best and most accepted sender of messages to the public. People decide for themselves who they think is the most authoritative. Consider who might be the most influential liaison to different target groups, like local opinion leaders, key players in civil society, priests or the boss at work. Try to approach target groups 'on their own turf' and in their own 'language'.

### **Monitoring and enforcement**

A mitigation plan can only be effective if the correct implementation of the measures is ensured. For this the continuous monitoring of implementation is needed. When the monitoring reveals shortcomings in the implementation, enforcement of legal obligations and formal agreements is often a necessary next step. According to the MiSRaR partners for proper monitoring and enforcement attention for the following issues is required.

#### **Tips and tricks**

##### **Lessons learnt on monitoring and enforcement**

#### *Changing political preferences*

Public representatives and political executives often hold office for only four to six years. However, mitigation policies in many cases are more long term. This means that during the implemen-

### **Good practice**

#### **Municipality of Tallinn, Estonia**

##### ***Monitoring and evaluation of snow and ice cleaning***

In Tallinn the fierce winters create a serious risk of accidents due to snow and ice. For this reason there are regulations for owners of the buildings and for the regional and municipal government to clean the pavements and roofs from snow and ice. To be sure of implementation of the necessary measures monitoring and enforcement are very important. For example, building owners are required to take the following mitigation measures:

1. Heat insulation of their roofs to avoid icicles. For this purpose thermographic pictures with thermocameras should be made, which show the flaws in heat insulation.
2. Constant cleaning of snow from the roofs. For this special safety equipment should be available.
3. Installing electricity cables to the rain water pipes to avoid them from freezing.

Also it is forbidden to use chemicals in melting the ice and snow because it can drip

to the water collectors and cause lot of damage to the bacteria in the waste water cleaning stations.

To enforce these measures the municipalities are required to actively inform the owners about the aforementioned responsibilities and about the sanctions and fines in case they do not take the necessary measures. The police is instructed to monitor the situation and take action when necessary. The police will start with reminding people of their obligations and will in the end give fines in case of prolonging negligence. Furthermore the municipalities have to create an overview of the buildings where the heat insulation of the roofs is insufficient and support the owners with the improvements. The yearly implementation of the mitigation strategy includes a lot of different safety regulations and requires close cooperation between the municipality, police, public transport and several other organizations. In the detailed practices description a complete overview of all measures can be found.

Visit [www.misrar.eu](http://www.misrar.eu) for the full description of this good practice.

tation process the political coalitions may change and political preferences concerning mitigation may shift. One of the tasks of civil servants and technical experts is to monitor the consequences of new policy programs for the existing mitigation plan(s). In some cases a mitigation strategy might even be stopped, but in most cases the changes to mitigation measures will be more concealed. Important is to signal cases where the failed implementation of one measures may result in the complete failure of the mitigation strategy. For example, in the case of Cesenatico case (see cadre) the by-pass canal will only be effective if the flooding areas are realized. There always is a risk that after the realization of the most visible measures (in this case the bypass canal and sliding doors), the more long term and less visible measures (in this case the flooding areas) will be disregarded in future.

#### *Monitoring and evaluation in a network*

Like discussed before, the mitigation process involves many institutions with different responsibilities. Also the implementation of mitigation measures requires good cooperation, often with several private bodies. In such a network it is important to reach agreement in advance on the process of monitoring and evaluation. Which public body makes use of which formal mandates? Do all partners accept the role of monitoring (and potential enforcement measures) by, for example, the municipality or province?

#### *Formal judicial instruments*

Government offices hold different legal mandates for monitoring and enforcement. In case of crimi-

nal negligence the penal code may be applied. In other cases public institutions may enforce the implementation of measures by means of formal directives or instructions and even giving fines to for example building companies. In case of inter-governmental cooperation this may sometimes be more difficult. For example, it often is 'not done' for a municipality to give formal directions to national public bodies.

#### *Ensuring implementation of mitigation measures by citizens*

Often a mitigation strategy will involve some kind of measures taken by citizens themselves. For example, the prevention of forest fires may include actions of inhabitants to



*Reducing the impact of snowfalls requires cooperation by citizens which has to be enforced*

keep their premises free of combustible materials, or increasing resilience in case of extreme weather may require emergency supplies of water and food in private homes. The implementation of these kinds of measures require specific attention of the government. In this case it is often more difficult for public agencies to use formal mandates. Investing in risk awareness and concrete instructions on how to act (preventive, preparations and during an actual incident) may be more effective.

#### *Monitoring of risks*

The goal of a mitigation plan is to reduce risks. Therefore, once the mitigation measures are implemented, a new risk assessment has to be made to research the implications of the policies. In an all hazard approach this may result in a new prioritization of different risks, meaning in future another kind of risk will get more attention. In a single hazard approach a new risk assessment



may lead to new mitigation measures on other locations. In any case it is important to present the actual effect of mitigation policies by means of a changed risk assessment and if possible a new risk diagram which reflects the reduced risk. In other words, a feedback loop back to the risk assessment is needed. After all, it is only logical that political decision makers are provided the insight in the actual implications of their chosen policies.

### **Evaluation of the mitigation process**

The final part of any policy process should be a 'feedback loop' to the beginning of a new process. Mitigation planning is an extensive process which involves a network of different partners and a lot of different expertise. Of course, during such a process many lessons will be learned, which may be useful for new mitigation plans in the future. A joint evaluation of the whole process provides a professional closure, which may improve the willingness for future cooperation with the risk management partners.

### **Note of the author**

*This is the third and final MiSRaR brochure. The main language of the MiSRaR project is English. Besides English, the brochures and the handbook have been translated into the languages of the participating partners: Bulgarian, Dutch, Estonian, Greek, Italian and Portuguese. The most important concepts are always indicated in English as well as in the partner language. Due to differences between the languages it is possible that certain words in the translations might be interpreted (partially) different than in English. To prevent this as much as possible, for several concepts a definition is provided.*

### **The MiSRaR project**

*Seven partners from six EU countries have joined forces to share knowledge and experiences on management of physical safety risks, specifically through spatial planning and design. The project Mitigating Risks in European Regions Relevant Spatial and Towns (MiSRaR) is cofinanced by the ERDF and made possible by the INTERREG IVC programme. Participants in the project are:*

- *Safety Region South-Holland South, The Netherlands (lead partner)*
- *Municipality of Tallinn, Estonia*
- *Epirus Region, Greece*
- *province of Forli-Cesena, Italy*
- *municipality of Aveiro, Portugal*
- *municipality of Mirandela, Portugal*
- *Euro Perspectives Foundation (EPF), Bulgaria.*

*The goal of the project is to enable professionals in the field of risk management to learn from experiences in other parts of Europe. The project leaders and experts from the participating partners meet to do so at sixteen international seminars. To be able to share lessons learned widely within the EU, the results of the project are presented in three brochures and a complete handbook. Herein, based on experience of the participating partners and taking into account relevant EU regulations, the process steps of risk management and mitigation are described, with practical tips. Also, the good practices of the participating partners are made available. This way other governments within the EU can find inspiration and practical contacts on existing implemented policies which can improve systematic risk management.*





Interested in more information?

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