



*Living with Flood Risk
in a Changing Climate*

FLOWS report WP2A - 4

Combating flooding together

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*Diversity of opinion about a work of art shows
that the work is new, complex, and vital.*

Oscar Wilde

COMBATING FLOODING TOGETHER

The aim of the FLOWS WP2A project was formulated as: *to study the perception of risk and vulnerability by the citizens, decision-makers and experts focusing on similarities and differences in a search of a definition for commonly acceptable risk (if possible)*. Flood perception studies gain more and more acknowledgement as an important component of so-called non-structural measures of assessing flooding. Floods represent a threat only with respect to human society. Perception of this threat has a great influence on its assessment. Information about flood hazard perception by laymen and decision-makers and experts helps to identify the gaps in understanding and communication and indicates possibilities for improvements. This information is a necessary premise in the search for a definition for tolerable risk. Public perception investigations in connection to floods have been carried out in many countries during two recent decades. It has been investigated also in the frame of INTERREG, for example within the IRMA-project (Perrin & Gendreau, 2001). Most of the studies focused on the perception of flood risk by the population living in flood prone areas. Such studies brought forward important information about the perception of laymen but have not assessed the way to accommodate it within flood assessment. Within the FLOWS WP2A the ambition was to fill in this gap.

Public perception of the flood hazard

Public perception of the flood hazard has been given much attention within the project and almost 4000 people living in flood prone areas in five countries of the North Sea region have been interviewed in a poll study carried out by a professional poll institute. The study brought forward important information about the views of people living in potentially dangerous areas and a vast sample offered a possibility of statistical analysis.

To gain a deeper insight into the attitudes and perceptions among people interviewed during the telephone poll, qualitative studies by means of focus groups were undertaken in Norway and the UK. Two focus group meetings were organised respectively in each country. Each focus group, consisting of 15-25 people, had an open discussion around topics related to the flood hazard and flooding led by a professional facilitator. This study was a complement to the poll study that elucidated laymen's views on floods in more depth– what they think and why¹.

What have we learned about the perception of the flood hazard by laymen in the countries of the North Sea region? The most important and serious message is that most

¹ Detailed information on the focus groups study is found in Rosslyn Research (2004) and TNS Gallup (2004)

people are yet not aware of it. Both poll and focus group studies revealed an underestimation of flood risk and passive attitudes towards flood problems. Only less than half of respondents really knew that they lived in an area at risk of flooding, which can partly be attributed to inadequate information. False feeling of safety from ignorance about the flood hazard, or over belief in the protection provided by technical defence measures demonstrated by laymen, indicated that information on floods was misunderstood or neglected. Better information formulated in a way that is easily understood and of interest to the general public, as well as using information links favoured by the public are obviously required². Many studies conducted internationally have shown that people everywhere, regardless of their social and cultural background use very similar risk criteria in forming their opinions (Renn & Rohrman, 2000). It is the relative effectiveness of these criteria in opinion-forming and risk tolerance that differ. This was also evident from the results of the poll study. Public opinion in different countries had much more similarities than differences. The interviewed laymen in all the countries demonstrated:

- Limited interest in flood hazard
- Poor involvement in flood issues
- Sentimental rather than logical reasoning for living in areas at risk of flooding
- Passiveness with respect to raising flood safety of own homes
- Reluctant attitude towards moving
- Leaving responsibility to public authorities in spite of insufficient confidence in their ability to handle the problem
- Acceptance of major changes in environment to raise flood safety
- Newspapers and radio/TV are still the preferred information channels (except in UK), but information is insufficient or inadequate
- Misunderstanding of the nature of floods

The noted differences between the countries rather concerned the degree of awareness (or rather lack of it), responsibility taking, tolerance to flooding and concerns about it.³

Perception of the flood hazard by decision-makers

A distinctive feature of the FLOWS WP2A work package is that the perception study also included the perception of flood hazard by those in charge of assessing it, i.e. decision-makers and experts. It is usually assumed that in assessing flooding this latter group makes the decisions in the interests of the society but the knowledge about their (society's) perception of the flood hazard is rather poor. A group of experts and decision-makers in each partner country was asked questions similar to those posed to the general public during the poll study. The composition of each group reflected as far as possible the professionals commonly involved in flood assessment in each respective country. The

² Within the FLOWS WP2 project a number of different disseminating techniques have been demonstrated: school projects, awareness campaigns, information desks, leaflets to inhabitants, improved flood warning and new ways of visualising flood risk.

³ For more details see the report on the poll study (Krasovskaia, 2005a).

answers revealed similarities and differences in the opinions on flooding between the experts and also between the experts from different countries.

What have we learned about the perception of the flood hazard by the decision-makers and experts? Among the perceptions that were very similar are:

- Obvious awareness of flood hazard. Experts in all the countries are quite aware of a flooding problem including flooding of homes, which in some countries seems to have become common.
- Reasonable attitude towards flooding as an event that might also have some positive effects, such as stimulating investments in preventive measures, appreciated in all the countries. Flooding also might trigger more social responsibility and draw public attention to the communities otherwise merely known.
- In general the existing defence measures are not considered to provide an acceptable level of safety to the citizens.
- Traditional information links are given preference for disseminating information on flooding, electronic information being also appreciated. In some countries, and especially in the UK, there are obvious indications of the efforts undertaken to actively involve laymen in disseminating information on flooding.
- Information on flood management and defence measures is appraised as adequate and user friendly.
- Public participation in flood assessment has yet not found its true value in the perception of the experts and decision-makers with the exception of the UK.
- Importance of regular information to laymen on flooding is not yet perceived to have crucial importance in all the countries but the UK.
- An obvious need to enhance consideration of flood hazard in local planning in all the countries.
- The majority of the specialists attributed the increase in costs to the growth of expenses for precautionary measures but also several other costs were considered to have increased, such as costs for direct flood mitigation, information, insurance and forecasts.
- Flooding of homes has become something that the experts and decision-makers really anticipate.
- Flooding seems no longer to be an exceptional event in the area of study, especially flooding of agricultural and natural lands.

Many of the differences⁴ noted depend on the differences in practices of flood management and defence applied in the partner countries. This indicates that there are many approaches and calls for an active exchange of experiences between the decision-makers from different countries to really benefit from the positive examples of their colleagues and avoid repeating the same mistakes. Such an exchange will allow establishing and maintaining a network among them. This will offer a possibility to share and efficiently utilize a great competence accumulated in different countries in combating flooding.

⁴ For more details see the report on the Expert Panel study (Krasovskaia, 2005b).

Differences in perception of the flood hazard by decision-makers and public

How well do the opinions of laymen and experts concur? A comparison of the answers given by the decision-makers and public to similar questions concerning flooding allowed identification of the following main differences in their opinions:

- High awareness of the flood hazard among decision-makers and rather low among laymen.
- Laymen associate floods with mainly negative impacts while decision-makers see also certain positive impacts.
- Laymen have rather poor knowledge about flood management and protection and in general do not think that they are well enough informed while the decision-makers in general consider information on floods to be adequate. They appreciate websites for disseminating information much more than laymen do.
- Anticipation of flooding is much more pertinent among the decision-makers than laymen.
- In general there is willingness to invest in flood safety by the authorities but laymen are more lukewarm to do this.
- Even though in general the main responsibility for flood safety is attributed to public authorities there is an indication of a higher appreciation of the individual responsibility by the decision-makers but not laymen in some countries.
- Laymen in general rely on the ability of public authorities to provide flood safety but the decision-makers often do not consider that flood defence and protection measures are sufficient.

Some of the discrepancies in opinions obviously originate from different perspectives, i.e. individual versus societal. On the other hand the discrepancies found may indicate insufficient communication between public and authorities on the matters concerning flooding and insufficient/ inadequate information on flood issues that is obviously missed or neglected by the major part of the population. Whatever the reasons are, they can be efficiently assessed by a better communication between the decision-makers and public. The findings were used to identify the topics for discussions at the expert panels.

Expert panels as a first step in engaging a dialogue between decision-makers and public

Floods represent a threat only with respect to human society. In a democratic society a risk assessment policy should be based on the agreed criteria for tolerable (“acceptable”) risk between the individuals and the society (Krasovskaia et al., 2001). To reach a consensus about tolerable risk an open dialogue between laymen and decision-makers is indispensable. The ambition within WP2A, besides bringing valuable new data on perception of the flood hazard by laymen and decision-makers in the North Sea region of Europe, was to encourage such a dialogue. The organized expert panels are seen as a first step in engaging a dialogue between the decision-makers and laymen. We let two

different perceptions, i.e. decision-makers and laymen, meet in search for a consensus on what risk is tolerable and what protection it is possible to provide. This dialogue may then continue with a “trialogue” – government, private sector and civil society (Falkenmark, 2004).

The answers given by laymen and decision-makers were first discussed at the national expert panels held in a similar manner in the UK, Norway and Germany⁵. Also, representatives from citizens’ organizations working with flooding were present at some of the panels. The discussions were focused on the following topics:

- Awareness of flood hazard and how to raise it
- Building trust in land-use planning
- Communicating flood risk
- Individual versus public responsibility.

The decision-makers presented their views on what risk can be tolerable, identified ways to reach an agreement about this with laymen, suggested approaches to trigger active public participation in issues concerning flooding with a special focus on spatial planning, and also suitable communication links between decision-makers and laymen living in areas at risk. A structured discussion of the answers given to the questionnaires by the decision-makers and responses given by laymen in the poll study took place. When available the opinions expressed at the national panels that had been carried out were also presented. The participants thus could get acquainted with the views expressed by their colleagues in other countries to confirm or reconsider their own views.

An International Expert Panel was a finalising activity in the frame of the expert panel study and gathered 24 experts from five partner countries, among them two representatives from lay organisations. British, German and Norwegian delegations had specialists who previously had participated in their respective national panels. The complete results from the poll, focus groups and national panels were presented to the participants. Two invited speeches focused on raising public awareness from decision-makers’ and laymen’s perspectives, respectively. Building on the knowledge acquired from the previous studies within the project the following themes were suggested for group discussions at the panel:

- Promoting active citizenship
- Extending memories: transferring the existing knowledge and experiences
- Sharing responsibilities, society and individuals
- Trade-off policy, tolerable risk
- A risk among many, assessing vulnerability.

A multinational and multidisciplinary composition of the groups stimulated an active exchange of opinions bringing forward new ideas and solutions. During the discussions a clear shift towards high appreciation of public involvement in flood protection could be noted compared to the opinions expressed earlier in the answers to questionnaires. It seems that the strength of the participatory approach was perceived by the majority, stimulated by positive examples demonstrated by their colleagues. Strengthening public participation goes hand in hand with raising public awareness of the flood hazard and

⁵ In Sweden some of the topics were discussed as part of a workshop, which included also other issues.

clear definition of responsibilities. Adequate and regular information to citizens is a powerful instrument in raising their awareness but it needs to be complemented by legislative and financial incentives to be really efficient. The time of “one way” information is over, feedback from laymen’s organizations, bringing local knowledge and experiences, is highly welcomed. Flood protection should no longer be considered as a separate activity but needs to be integrated with other activities within planning; legislation; water management; education etc.

The most important conclusions from the International Expert Panel study can be summarized as follows:

- Strong promotion of active public participation in flood management and defences.
- High importance of raising public awareness of the flood hazard and stimulation of taking responsibility for flood safety.
- Promoting the holistic approach: integrated water management/flood action plans; legislative and financial incentives.
- Gradation of tolerable risk level according to vulnerability and funding up to that level by the authorities.

Conclusions: combating flooding together.

Renn (2004) noted that **public perception and common sense cannot replace science and policy but they can certainly provide impetus for the decision-making process.** Indeed a response to the flood hazard by individuals as well as by decision-makers depends on whether this hazard is correctly perceived. Thus perception studies with respect to floods deserve to become a regular activity. There are already examples in the North Sea region where public perception is investigated on a more or less regular basis (e.g. Environment Agency, UK) and a positive experience gained merits being followed in other partner countries. Much more effort is needed on regular sounding of the perception of professionals directly involved in flood assessment.

To come to a consensus about what level of risk is tolerable it is necessary to confront the views of laymen and professionals about the flood hazard. An open dialogue between these two parties is a way to reach such a consensus. Active public participation in flood assessment requires well-defined structures identifying responsibilities, roles and possibilities. Such structures are often missing or are at a very early stage of development. An important role in maintaining the dialogue belongs to citizens’ organisations. “The National Flood Forum” and “Oslo River Forum” are examples of organisations from the UK and Norway, respectively, that already take an active part in planning processes concerning water and provide citizens with advice and information. This dialogue needs to be held at the local as well as national levels and citizen organisations must be recognised as a welcome and equal partner in the discussions.

It is obvious that more effort is needed to raise and maintain public interest in flooding issues. Existing communication channels still remain mostly “one way communication” that do not offer a possibility of feed-back, thus neglecting essential individual perception and experience of flooding. It is hardly surprising that laymen are not aware of the flood hazard at all or show a passive attitude when information either does not reach them, is

difficult to understand or is simply formulated in a boring way. Besides, nobody cares for their opinion! Laymen's reasons for living in flood prone areas proved to be of a sentimental nature in many cases. Appealing not only to logic but also to feelings might be a better way to present information on flooding. New approaches for communication of flood hazard message are highly welcome.

A rather widely spread mistrust in the way public authorities handle flood issues suggests a necessity for an alternative information link *viz.* from people with "flood experiences" to those facing a flood hazard (e.g. newly moved to a flood prone area) or flooding for the first time. "The National Flood Forum", UK has already accumulated much experience of such information transfer (Dhonau, 2005). This communication link also promotes active citizenship.

Another aspect that counteracts the engagement of the public in flooding issues is insufficient transparency of the decisions taken to combat flooding. There is an obvious diversity of opinions about who is responsible for flood safety. People clearly preferred to delegate the responsibility for flood protection to authorities but at the same time they were not quite confident in the way public authorities handle flood issues. Professionals had a tendency to attribute people higher responsibility for investments in flood safety than people themselves were ready to take. The participants of the International Expert Panel stressed that public involvement was needed and promoted regular contacts and quick response to public inquires. An information system maintained by the authorities might serve as a regular link to the general public provided it is easily accessible and open for inquires. Local discussion groups with participation of professionals and politicians (focus groups may serve as a prototype) might serve as a perfect tool to bring forward the views of citizens and present and explain the actions for increased flood safety undertaken in their communities.

"Combating flooding together" does not only imply professionals and laymen. It refers as much to cooperation between the countries at all levels. Multi-dimensionality of the flooding problem calls for multi-dimensionality of approaches to assess it. Among the decision-makers an opportunity for direct contact with their colleagues nationally and internationally was much appreciated. Experts came with many suggestions for improving flood safety. Sharing great experience accumulated in different countries in combating flooding offers a valuable information source that is underestimated at present. The expert panels, like those organised in the frame of the FLOWS WP2A project, deserve to become a natural component in flood assessment. Also, contacts between laymen organisations engaged in water problems should be promoted. Such contacts not only bring forward valuable experiences but also raise their competence in active citizenship. International networks of professionals and laymen dealing with flooding are a welcome synergy effect of the WP2A activities.

Based on the knowledge and practical experience acquired during our work on the project we would like to suggest the following activities in the frame of national flood assessment:

1. Regular sounding of public perception of flood hazard in flood prone areas.
2. Regular sounding of flood hazard perception by professionals involved in flood assessment.

3. Building and maintaining of “two-way ” communication between citizens and decision-makers.
4. Revision and streamlining of the information links.
5. Promoting citizens’ organisations to participate in flood assessment.
6. Transparency in decision-making on flood assessment.
7. Regular expert panel meetings with participation of laymen’s organisations at local, national and international levels.
8. Promoting and facilitating creation of networks of professionals and citizens engaged in flooding issues.

“**Governance**” is the new buzzword to highlight the importance of the soft components of water resources management. A fundamental difference in all governance is between *perceived* and *assessed* problems: politicians and the general public act from perceived problems while experts work with diagnosis-based assessed problems (Falkenmark, 2004). Within the FLOWS project 2A we succeeded in engaging a dialogue between the general public and professionals in search of a consensus on what risk is tolerable and what level of protection it is possible to provide. However, **governance envisages one more highly important partner, namely politicians**. Considering enormous costs for society caused by more and more frequent flooding, this problem deserves to be given much more attention by politicians at all levels. The EU has already invested considerable resources in search of the ways to combat flooding and much knowledge has been accumulated. A natural step would then be investments facilitating implementation of the successful approaches. Public opinion as well as societal needs demand effective assessment of the flooding problem, a demand that has not yet been adequately met by politicians. Insufficient and even diminishing funding, noted by the participants at the expert panels, is a serious obstacle in combating flooding. Bringing forward flooding in the political agenda even during “flood free” years will be in better accordance with public demands for better flood protection and allow timely allocation of necessary funds.

Floods cannot be eliminated but their adverse effects can be reduced. No technical measures can provide total flood safety and neither professionals nor public, respectively, can define what protection level should be accepted, in other words – what risk is tolerable. **It is for the society as a whole to adopt a feasible protection level.** We tried to identify a consensus on this topic and found that the parties, due to many different reasons, are still too far apart in their opinions to reach one. It is our belief that a consensus is possible but it is still a long way off. We started a process and provided it is continued, the necessary definition which reconciles the interests of individuals and the society will be elaborated. Without this definition any technical flood protection measures risk being doomed as inadequate after each severe flooding event.



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