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Summary of the Swedish National Post HFA Consultation



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Foreword

Sweden's Post HFA 2015 national consultation was held on the 14th of November 2012 in Stockholm. About 40 people from different sectors in society attended including representatives from the Swedish Government, authorities in the Swedish National Platform for Disaster Risk Reduction, municipalities, the private sector, NGO's and researchers. The meeting was chaired by Helena Molin Valdes,, Deputy Director General of the UNISDR and Nils Svartz, Deputy Director of the MSB.

The dialogue meeting was highly appreciated by the participants because of the high level speakers, the way the information was presented and for the method used that allowed everyone to give his/her opinions. For the first time since the building of the Swedish National Platform, the entire spectrum of the actors involved in Sweden's efforts to prevent and mitigate adverse impacts of natural events were assembled to identify future challenges.

This report, whose purpose is to summarize the result of the Post HFA consultation, is part of Sweden's contribution to the UNISDR's process for gathering viewpoints for a new or improved declaration and framework. It will complement and build on the current Hyogo Declaration and the Hyogo Framework for Action which expires in 2015. We aim to continue to contribute to the process and I thank everyone who attended the meeting for their valuable contributions.

We wish to especially thank Helena Molin Valdés who dedicated time and commitment to lead us during this important meeting. Also our appreciation is extended to Paola Abrito and Stefanie Dannermann, UNISDR-Europe who supported Sweden with background materials that served as a structure for preparing the meeting. We value the close cooperation between the MSB and UNISDR for our national and international DRR work. We hope that it will continue to develop as Sweden, together with other countries, proposes a useful framework that can be well anchored in our daily work and with a view towards the future.



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Introduction

In 2012 UNISDR (International Strategy for Disaster Reduction) asked nations to reflect on how useful the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disaster has been. What has functioned well? What has NOT functioned well? How can we work more efficiently? What resources do we use for DRR and what more do we need? Finally the UNISDR would like concrete suggestions for what is needed in the future to meet the challenges of disaster risk reduction?

In order to find the answers to these questions and some of our own, the Swedish Civil Contingency Agency (MSB) in collaboration with the UNISDR, invited stakeholders to a day of dialogue to capture the Swedish views and needs for a new framework to follow the Hyogo Declaration and the Hyogo Framework for Action.

Sweden's meeting Post HFA was held on 14 November 2012 in Stockholm. Some 40 representatives from five ministries in the Swedish Government, authorities in the national platform, municipalities, industry organization Swedish Insurance, Swedish Red Cross, research, and a few students attended the meeting. The meeting was chaired by Helena Molin Valdes, Deputy Director General at the UN ISDR and Nils Svartz, Deputy Director of the MSB.

Speakers were selected to introduce the morning and afternoon topics. Bengt Rydell from the Swedish Geotechnical Institute, a representative from the Swedish National Platform, shared information about the investigation and assessment of landslide risk along the Göta River. Lena Malm, Lord Mayor of Gothenburg City, the fourth Making Cities Resilient city in Sweden, spoke of the ongoing work with DRR. She also discussed how the results can significantly improve safety and security in society. In addition Lena Malm touched on how individuals who are caught in the midst of a disaster can gain lifetime experience on how to take correct precautions and react to avoid danger. The majority of the meeting revolved around the table discussions.

This report summarizes the results of the dialogue meeting and provides an attachment with the complete list of comments for the 11 questions that were posed to the participants. The Secretariat for the Swedish National Platform for Disaster Risk Reduction, decided on the issues that were most important to address regarding the HFA at the national level and the local level.

The input was obtained through a particular method described below whereby the participants themselves decided what would be recorded and presented in the summary. The 11 questions and the associated answers that were written on the dialogue canvases are presented in Appendix 1.

Structure of the Meeting

Purpose

The purpose of the Swedish Post HFA consultation meeting was to hear and record how the Swedish actors address particular questions related to the current and future international framework for disaster risk reduction. The meeting was also intended to provide information about the work of various Swedish stakeholders and inspire all to continue to reduce the risk of natural disasters.

Method

The morning block focused on national efforts. The afternoon session focused on local work and financing of DRR. Both blocks were followed by a discussion began with a couple of inspiring presentations. During the day the participants discussed a number of issues related to the current HFA and how it is implemented in Sweden.

The secretariat for the Swedish National Platform for DRR discussed and decided upon six questions that would be asked in the morning session (HFA at the national level) and which six for the afternoon session (HFA at the local level). Large canvas sheets with six questions on each canvas were printed prior to the meeting. One of these sheets was placed on each of the tables in the room. Six participants were seated at each dialogue table with pre-determined place setting in order to create a mix of the sectors represented.

The canvas worksheets were printed in such a way that each of the six participants at a table could see only one of the questions, the one right in front of him/her. This person read his or her question and assured that all people at the table commented on it. He /she wrote on the canvas underneath the question, all of the major points that were mentioned. Then the speaker next to him/her in a clockwise direction did the same thing with question number 2. For the afternoon session the next canvas that showed questions addressing the local level issues and research, was placed on each of the tables. There were 6 groups or tables in the morning session and 5 groups in the afternoon session.

Underlying conditions in Sweden

Before the HFA was adopted, Sweden already had a strong tradition of collaboration and trust between different actors and levels of society for disaster management. In Sweden there is a well-established bottom-up approach and legal mandates that give the primary responsibility for disaster risk reduction, to the local authorities in the geographic area that is affected.

Sweden also has in place well-developed legislation that covers the fields of urban planning, risk and vulnerability analyses, risk mitigation, preparedness, response to emergencies and lessons learned from past events.

Also the fact that Sweden is a developed country with a well-functioning democracy and economy, relatively good economic and social equality, high-

technological industries, and prominent universities combined with a relatively low number and severity of disasters, are factors that account for the good capabilities in disaster risk reduction.

Result

Here are the major points that were brought up during the speeches and discussions. The thoughts about DRR reflect the work at the national level and the local level.

What has functioned well?

A key success factor for Sweden's success with disaster risk reduction has been that the government has taken responsibility for the Hyogo Declaration and Framework HFA and identified MSB (The Swedish Civil Contingencies Agency) as the national focal point and responsible for the national platform. The clear mandate to MSB has enabled a strong and well-functioning national platform which has developed cooperation between authorities and organisations at the national level. MSB has the primary responsibility for DRR nationally and internationally and can, therefore, act as a strong national hub for these issues.

Another important factor has been that the HFA provided a common language for collaboration and exchange on issues of disaster risk reduction. This has led to increased international exchanges from the national level down to the local level through such campaign Making Cities Resilient.

The HFA is a tool for mobilizing all sectors of society. HFA elevated the status of DRR work and has put some pressure on the authorities to act.

The coordination of the work between the HFA and the European Union directives and programs continues to be stronger, making it easier for the countries to see parallels. It allows the work done for one purpose to be relevant for the other. Continuing and building on these synergies is important.

How can we work more effectively?

The new framework could be made more effective by adding clear indicators that show or measure advancement in various aspects of DRR. Cost-benefit analyzes for DRR measures could be useful.

Best practices on how to work with HFA locally should be available and publicized. A bank of experiences should be developed that can be shared. There should be better adaptation of the framework from the national to the local level. Some progress has been made with the introduction of the UNISDR worldwide Making Cities Resilient Campaign. In Sweden this campaign is driven and supported by the national platform. It is an important tool that can be used to increase interest in prevention. It is applicable for any size city and the participants can determine what part of their DRR work they will focus on during the campaign. The campaign is an important window not only for the participating cities, but for all Swedish stakeholders working with DRR. We all have much to learn from other cities and other countries.

On all levels the new framework should continue to stimulate not only national cooperation but also international engagement and partnerships.

The HFA calls for the participation of all sectors. In Sweden, there is a need to broaden participation in DRR work, to include non-governmental organizations such as the Red Cross and others, private companies and various academic institutions and research centers. Although they are working with DRR in many ways, there is no assessment of what and how work in these sectors is being conducted. More synergies should be created between the different sectors.

What resources do we use for DRR and what more do we need?

Sweden has come quite far in integration of DRR at the local level, primarily through legislation, regulations, plans, and through the process of writing and updating risk and vulnerability analyzes. These risk and vulnerability analyses can be the bases for seeking national financing of risk mitigation actions. Two examples are the following. Karlstad Municipality has a plan to deal with flooding and Kristianstad Municipality has worked successfully for a long time with embankments and other structures to protect the city.

Many at the dialogue meeting brought up the trade-offs between public and private investments and action, and between national and local responsibilities. Investments are made in various DRR related activities. From the local level, however, there is a great need for national financial support for the efforts needed to tackle climate change adaptation.

Several funding sources were cited including but not limited to the following: contributions/subsidies from the national government (MSB and other agencies), legislative appropriations, MSB's allocation for prevention of natural disasters, municipal funds, city taxes and water and sewage charges, EU funded research and development projects, private research foundations, individual property owners, industry, tariffs, and co-financing schemes.

What is needed in the future to meet the challenges of disaster risk reduction?

The Swedish Post HFA consultation ascertained that national platforms must be an ingredient required in the new framework for DRR. The national platform has been a valuable instrument for Sweden's work with HFA. It has led to better cooperation and coordination, and created favorable conditions for Sweden to live up to the Declaration and Framework. Sweden's platform will continue to evolve and is now taking a clear step forward with a new plan and participation by two new agencies.

In Sweden, the debate on DRR and the link to climate adaptation has been brisk in recent years. The result calls for a better and clearer integration of climate change adaptation and DRR in the new framework.

There is a need for more good examples of activities and processes about how to work with the framework at different levels. Many also see it as important that the new instrument continues to be a framework and does not develop into too much detail and governing.

Another area highlighted is the importance of being able to show that DRR efforts are worthwhile, such as indicators and cost-benefit analyzes. Several stakeholders call for a broader approach to DRR. The challenge of better integrating national and international DRR work has been identified.

Other challenges for Sweden relate to the private sector's commitment and efforts to build resilience of the critical infrastructure to disruption from natural disasters. Much of the vital societal functions are now being operated by private companies. As it is now the private sector's work with DRR is not discussed or recognized as part of the work of the Swedish National Platform. How the platform will interface with the research community and the various voluntary organizations are also key challenges. In several cases, the participants called for a clearer national leadership, political will and better national co-ordination.

What to bring to the next framework for disaster risk reduction

There was consensus among the stakeholders that the existing national platforms must continue in the new framework.

Many also see it as important that the framework continues to be a framework and does not develop into too much detail and governance. Good governance for DRR is a responsibility of each nation and it is the individual countries that need to decide on and implement the appropriate legislation that will build resilience to disasters.

The stakeholders also identified the need to include clear indicators in the new framework. These are useful to determine how effective the DRR work is and also allows for comparisons between countries.

Sweden has participated in and favours the method called Peer Review which is another means to assess progress made in the implementation of the HFA.

There should be better adaptation of the framework from the national to the local level. There is also a need for more good examples about how to work with the framework.

Procedures for facilitation of exchanges of experiences should be developed that would enable states/platforms to easier find partners with similar problems to discuss solutions.

In Sweden, the debate on DRR and the link to climate adaptation has been lively in recent years. The dialogue meeting called for a better and clearer integration of climate change adaptation and DRR in the new framework.

One issue that also was addressed related to how research and technology contributed to the local DRR work. The stakeholders agreed unanimous that this had a significant impact on the local work. There is still work to do in terms of applying research results at the local level.

The national dialogue session ended with a question about the skills needed for the future. There is a need for more precise decision making, more interdisciplinary studies and more social science research that focus on DRR issues.

Appendix 1 Summary of all the comments

Part 1 DRR at the national level

The first question that the participants were asked was to present their business card to one another with name, title or task, organization, and describe their experience working as HFA and / or disaster risk reduction work.

1.1 What are the three most important success factors of Sweden's efforts to deal with natural disasters, with the support of HFA?

- Clear legislative mandates facilitate good interaction within the national platform.
- Increased information and dialogue has resulted in increased awareness, knowledge and interest in the area on all levels, nationally, regionally and locally.
- Increased international knowledge sharing and learning from each other, such as Making Resilient Cities UNISDR campaign.
- Good that the HFA exists. With so many stakeholders it takes time before they know about it and use it.
- We work with many actors.
- Subsidy for flood mitigation measures in cities like Kristianstad have been sought and used.
- At the local level, they do not think about the action plan HFA. Nevertheless, Sweden has been active with DRR before the HFA existed.
- Hyogo Framework for Action has affected government offices since it puts pressure on the national authorities and local governments to act. The contributions from the national government to the local level began after

the landslide in Tuve. MSB support to municipalities that wish to take mitigation actions was 25 million, then rose to 60 million but then in 2013 and is back to the basic level. The fluctuating sum is a problem in itself because important mitigation work can be undertaken without adequate financing.

- We do not see the connection with HFA. Strong national emergencies have been triggered and handled without a HFA. HFA does not have the same clear mandate as the Kyoto Protocol.
- We have not yet seen any impact of the HFA locally.
- National Platform's seminars about Swedish laws were good and helped to increase knowledge about the legal mandates.
- Sweden is in the forefront of HFA because of existing DRR activities.
- Focus on a few cities with different problems.
- Politicians are involved in and support DRR.
- Broad cooperation between authorities and municipalities including SKL, the Swedish Association of Local Authorities and Regions.
- National commitment at government level.
- Networking between agencies.
- Common "language".
- Coupling nationally – internationally.
- Sweden's Responsibility Principle which states that whatever authority is ordinarily responsible for a sector or geographical area, is also responsible during a crisis. (Ex, 5 §, Emergency Management and Heightened Alert Ordinance (KBF), government authorities shall be able to handle a crisis within its area of responsibility, and to coordinate and help others.)
- Strong instrument in a bottom-up perspective.
- Sweden's NNH - new elevation data.
- Multi-stakeholder - participation / process.
- National Platform for Disaster Risk Reduction.
- National laws such as the Planning and Building Act.
- Data from Swedish Meteorological and Hydrological Institute.
- Geographic data that can be used for disaster management (all phases in the cycle).
- The legally required risk and vulnerability analysis is a success factor.

- Well developed technology.
- Good use of resources, human, material, financial, research.
- Good portal of the National Platform.
- MSB cooperates well with local.
- The interaction between hierarchical levels.
- Collaboration between departments could be better.
- The platform promotes collaboration between agencies.
- There is a Swedish tradition of collaboration and trust.
- The establishment of the crisis management office in the Cabinet Office.

1.2 Why are the above considered success factors?

- Clear guidance for actors to prioritize collaboration and knowledge sharing.
- There is information at the operational level, that is, the local governments.
- There are DRR policy makers at the national government level.
- Natural disasters do not happen very often in Sweden; therefore, it is important to learn from not only our disasters, but those that occur in other countries. Moreover, disasters in other countries have affected larger populations. We can understand the consequences and be better prepared for natural hazards with negative consequences.
- National platforms are a success factor because DRR information is disseminated and discussed.
- Sweden is far ahead with DRR regardless of HFA.
- Nevertheless, Sweden is not at the forefront of everything in DRR, but we can benchmark the successes of other countries.
- Good legislation strengthens HFA.
- We need to show more clearly the benefits of HFA and include more actors by marketing HFA.
- HFA promotes both national and local commitment.
- There is a universal steering mechanism in the country that is based on cooperation between national agencies.
- The individual's acceptance of social responsibility contributes to the success of HFA.

- Relative societal vulnerability increases the opportunity to address the issues.
- Time and resources within the country benefit implementation of the HFA.
- A democratic society where we allow different views to be heard.
- There is trust for information that comes from the government.
- Data provides a basis for knowing what is happening.
- Legislation provides opportunities to act (such as the requirement to complete a risk analysis).
- Coordination of the intent of laws when they appear to be in conflict.
- The Swedish National Platform provides good materials, innovation, a good portal and is a great way to promote cooperation.
- The Making Cities Resilient campaign is good for communities and a good way to reach out to the local level.
- HFA elevated the status of DRR, work and put some pressure on the authorities to act.

1.3 How should we encourage more long-term investments disaster risk reduction measures in the public and private sector?

- Show clearly the consequences including the cost of disasters (cost / benefit analysis).
- Clear and generally accepted long-term scenarios for the particular natural events with negative consequences.
- Cost models that compare the costs based on how beneficial they are.
- Show the cost-benefit ratios of actions.
- The Government should review the grant process for municipalities that want to do mitigation measures. More support for municipalities is needed.
- It is a balancing act. The municipality must take responsibility and the national level must assist them.
- Find common interests so that both the national government and the municipality will increase their funding.
- Synergies between needs and resources are needed. Increase collaboration between stakeholders around specific DRR measures. All actors do their part.

- Safe and secure city - private sector can get involved and it can mean a profit.
- Contracts can be directed to the private sector and make specific demands.
- We have built without taking into account the risks and now we have to work together on improvements.
- Improved policies on DRR.
- Coordinate DRR work. Spread the information on what is already being done in order to stimulate new ideas.
- Profile how much a catastrophic can cost and compare this sum to what prevention costs.
- Event-related. Decision makers feel the need to act. Produce reliable information for a decision-maker when he/she needs to justify his choice of action.
- Working together for common solutions / plans / investment.
- The power of good examples that provides solutions to many problems simultaneously, especially if they are cost beneficial.
- Involve private sector, for example, insurance companies and banks.
- Work for committed lines of authorities, private sector engagement and policy development.
- Requirements for local plans: Many municipalities lack preparedness plans.
- Enhancement of cooperation with civil society, including business, increased awareness of risks.
- Identify critical societal functions and prioritize the most important ones, such as drinking water.
- Clarify the "profits" of investing in risk reduction (DRR) in relation to the effort.
- Action plans under the Marine Environment Regulation.
- Skills development, training, networking.
- Encourage participation in the Making Cities Resilient campaign.
- In everyday operations where the long-term needs can be identified.
- Outline requirements in detail.
- Mandates that required accountability.

- Specify the requirements when procurements are sought.
- Information on the cost of not investing for long-term needs in the light of risks and threats.
- Improve access to experts for the local authorities and companies.
- Increased awareness of the responsibilities that actors have.
- Guidelines for construction, etc. are used in some municipalities, but national guidance is needed.

1.4 What is missing in the present HFA?

- Broaden the actors, such as NGOs, private sector, and academia.
- Integrate international involvement, especially in the prevention phase.
- Explanation and good example to each point. Development of HFA 4
- Reducing the underlying risk factors.
- Priorities!
- Assuring application of HFA at the local level.
- Indicators and targets.
- Continuity planning.
- Better focus on key areas for society to function, such as electricity, drinking water, sewage.
- Wider view of risks in all activities that can be affected by one event such as a flood.
- Methods to find funding within the community.
- More information on recovery and learning from disasters.
- Create a bank with examples and descriptions of experiences.
- Put words into action.
- Clarification of the benefits of DRR.
- Follow-up after DRR interventions.
- Deepening and broadening of DRR work.
- Use the national frameworks for international cooperation (to include non-represented groups in society – perspectives from different people / social groups are needed).

- Better local ties.
- Start an information campaign / develop a communications plan.
- Biodiversity and ecosystem services an important ingredient in DRR.
- Generalization of the new framework to include any "crisis" even if it is not caused by natural disasters.
- Larger and clearer accountability for implementation at the government level.

1.5 Name three things that absolutely must be included in the Post HFA framework.

- Integrate climate change adaptation and mitigation efforts.
- Adaptation to climate change, natural disasters, but also link to its durability / sustainability.
- Develop and implement cost-benefit analysis.
- Synergies between different sectors and social groups.
- Private critical infrastructure must be included.
- Indicators that measure success.
- Prevention and mitigation.
- Alignment with national and local levels.
- Must continue to be an umbrella framework. It should not give detailed instructions.
- Several stakeholders from civil society, private individuals, government agencies, etc. need to be involved.
- Encourage municipal / local levels to work with the framework, they have a role and a responsibility. Provide recognition for the work that is done at the municipal level.
- Clarify the responsibility at different levels.
- Gain interest from all of society's resources including the private sector and NGOs.
- Not just a matter of technical solutions but also measures taken at the individual level. We need to change the way we live.
- Take advantage of the new social media.
- From local to global.

- A national platform is an important element.
- A system to measure success / benchmarks, indicators is needed.
- "Best practices". Highlighting good practice to make it more concrete how to work with the framework.
- Increase involvement! Communicate the benefits.
- Interdisciplinary research and global collaboration in knowledge enhancement and sharing.
- Financial aid forms, efficient use of resources, re-prioritization of existing resources.

Part 2 DRR at the local level

2.1 How do we integrate DRR today at work at the local level

- By the legal mandate for risk and vulnerability analyzes.
- Municipal action required by Swedish laws.
- Climate Adaptation Plans.
- Building regulations and good spatial planning.
- Urban planning does not always integrate DRR.
- Support, supervision by the County Administrative Boards.
- Making Cities Resilient UNISDR campaign.
- Sometimes we go too fast on the structural changes aimed at mitigation.
- Need for political support.
- Many work with risk analysis but not always cohesive (workplace risks, climate risks, building, safety, finance)
- There can be a poor output of risk and vulnerability analyzes.
- How do we create synergies?
- Process to develop the comprehensive plan and zoning.
- Climate adaptation work and information from government agencies how to proceed.
- Coordinated work throughout the entire organization.
- Information for the public.
- Integrated risk / disaster management, this is the ambition of the Swedish Transport Administration and other agencies.

- Integrate risk reduction work into various activities.
- Be sure to work from the local level.
- Collaboration across municipal boundaries.
- Law to protect against accidents (LSO), Law of extraordinary events (LXO).
- Campaigns like the Making Cities Resilient.
- Exercises with evaluations for the purpose of increasing capacity. Identify deficiencies and work to increase capacity.
- Identify gaps and increase capacity.

2.2 What success we have had with disaster risk reduction at the local level?

- Kristianstad containment and other natural remedies.
- Reduced water in Lake Vänern.
- New strategy comes with climate adaptation plans.
- Measurement, planning process and best practice.
- Height awareness of politicians that DRR is long-term. "A disaster does not happen during my term of office."
- Research money including the one billion Swedish kronor in the climate and energy proposition.
- Prevention of disasters. They do not occur often but we need to be ready for them when they come.
- Good examples, best practices from local levels such as "Social learning towards a more adaptive paradigm?"
- Reducing flood risk in Kristianstad.
- Deciding which critical societal functions will be prioritized for electricity during and after an emergency (STYR-EL).
- Continuity planning for the delivery of drinking water.
- Collaboration with researchers (Chalmers, Linköping, SMHI).
- Approved funding for further research.
- Elected officials are committed and have DRR as a priority.
- TV messages and know the best sending time to reach most people.
- One hour forecast – awareness. Many DRR experts should be talking private organisations.

- Public awareness, advocacy and support for policy decisions on prevention.
- Negative aspect: sometimes there are no mitigation measures or investments made.
- Risk and vulnerability were eye openers.
- Karlstad Municipality has employed a full-time flood coordinator.
- Karlstad Municipality prepares contingency plan for floods.
- Success in coordination.
- Stockholm's achievements include integration of DRR, learn from previous disasters and the development of good methods is underway.
- Increased awareness among others, a result of the faster flow of media, social media.
- Greater advancement in community planning for such impacts from climate change, including new PBL Planning and Building Act.
- Making Cities Resilient-UNISDR campaign

2.3 How do you finance investments in disaster risk reduction measures in Sweden / in your municipality etc. today?

- Developers for new construction are governed by building regulations.
- National subsidies for local level including MSB financial contributions to DRR.
- Taxes and water and sewage charges.
- EU funding for research and development projects.
- EU support.
- Research projects.
- Private research foundations.
- The individual private person or industry on their own land.
- Via the Swedish Kraftnät agreement between SKL and Government.
- Local / municipal electric utilities, housing companies, etc.
- Funding under the Principle of Responsibility.
- Available since legislative paragraph 2:4 provides money for coordinating crisis preparedness actions and is "icing on the cake".

- Additional one billion Swedish kronor associated with the Climate and Energy Bill. There are pros and cons to this. Example Mölndalsån (river) where money was allocated for the construction of a system to drain water.
- Challenge to visualize the benefits. We see when something goes wrong. Not all risks can be avoided.
- Municipalities pay for concrete action.
- Those who exploit the land for development purposes.
- The national government, public authorities (planning, research, etc).
- Can be improved by better coordination.
- Co-financing from different sources.
- MSB allocation for prevention of natural disasters.
- Those people who want to live on and use the land must bear some of the costs to keep it safe. This results in higher housing costs.
- Parts of the government's regular budget are used for DRR activity.

2.4 What have been the three main challenges for Sweden in implementing the five current HFA principles?

- Awareness-raising.
- Political will.
- Coordination.
- Gender, diversity perspective.
- How to complement the engineering perspective with a risk perspective.
- Social sustainability (not just economic / ecological).
- How to meet the needs of the vulnerable groups.
- Build on the sense of community - integrating all work and working together with the local communities, residents, schools, etc.
- Information to the public and involvement at the local level.
- Broadening the dialogue with business and academia.
- The principal actor responsible for a critical societal function can be the private sector instead of the national or local authority.

2.5 How has research and technical development contributed to the urban planning process at the local level?

- Practical solutions / examples spread.
- Seminars and conferences.
- More knowledge can trigger actions.
- Both preventive and operational planning.
- Opportunity to showcase good examples, new technologies and thereby increase knowledge.
- Data collection for early warning.
- Sweden's new National Digital Elevation Model for precise measurements of landscapes.
- Torrential rain warning.
- SMHI introduced the calculation of the 10,000-year flow, which places new demands for safety.
- Statistics on climate change - a consensus.
- The results of the Climatools project were not so relevant for municipalities as hoped.
- New technologies that made possible the development of new national elevation model.
- Knowledge of society's critical dependencies.
- Tools such as MSB's RIB decision support system, SMHI weather alerts enhance local decision-making and increase capabilities.
- Holistic approach to water-related risks.
- Research is the basis for future planning.
- Experience of events should be the basis for future research requirement.
- Technology development can create opportunities to build where they previously could not build before, such as in the Netherlands and Dubai.
- Is there good research but how useful is this for the local level? It is sometimes hard to make adaptations based on research findings.
- Need funding for graduate students who can contribute new research.
- Incredibly important! The municipal work is dependent on research. However, we need to develop it.

- How do we achieve coordination? How do scientists know what is in demand in municipalities and other government agencies?

2.6 What knowledge do we need to acquire for the future?

- Increased knowledge of excessive rainfall.
- Interdisciplinary studies.
- Show the benefits of risk reduction measures.
- Use calculation models to show benefit, should be adaptable to different sectors.
- Costs of actions vs. what do alternative measures cost?
- Economics of disaster management: What is the cost of not having facts not to take action?
- More information that can be used for decision making.
- CO2 emissions and climate adaptation.
- Several good examples that municipalities can use.
- Increased knowledge of conditions in other countries if we are to have international cooperation.
- More applied research.
- Training in the school so that the next generation will be more knowledgeable.
- More social sciences and non-technical issues.
- Define the actions that are most effective.
- Use a systematic method to identify stakeholders.
- Improved weather forecasts - both acute and long term, including water flows.
- Water management.
- GIS analysis tools for protection of critical infrastructure.
- Technology for agriculture and forestry to use in a warmer climate with more precipitation European climate.
- Clear and relevant scenarios.
- Increase the knowledge about risk for individuals.
- Vulnerable groups / special needs.
- Impact of privatization.

- More knowledge about how collaboration with different partners and sectors, can be developed and evaluated.
- Public / private cooperation - partnerships and how they can be developed.
- Research that is useful at the local level.
- Methods to evaluate and learn from what has happened.

