LGiU
LOCAL GOVERNMENT INFORMATION UNIT

I&DeA
improvement and development agency

Flood risk management:
an introduction and checklist for local authorities

part of the **LGA group**

Foreword

This introduction to flood risk management provides a checklist for local authorities on working strategically with partners to manage local flood risks. The document sets out the different stages of local flood risk management that local authorities are likely to consider based on the following model:

- prevention
- protection
- preparedness
- emergency response
- recovery and lessons learned

It highlights the role of local authorities as *community leaders* and the *actions* that could be taken at these stages.

The checklist should be viewed as flexible and non-prescriptive guidance because the experiences of local authorities in responding to and managing floods differ according to the nature of the flood event, scale of the problem and resources available. Local authorities may need to adjust their responses and methods to deal with evolving challenges. Hyperlinks have been made to further information on the IDeA's flooding web resources www.idea.gov.uk/flooding

This guidance was informed by the work of the LGIU and members of the Local Government Flood Forum and has also received input from the LGA and its advisers.

The reality of flooding

The floods in summer 2007 caused significant damage to people's lives and the environment. They provided an indication of the ongoing effects that flooding can have on individuals and communities in the UK and our vulnerability to the scale and nature of future weather events and flood incidents.

This can be a risk for many more communities. There is a responsibility for local authorities to understand the risks to the areas they serve and make necessary preparations for mitigating the risks and impacts of flooding. However, the reality is that flood risk management is a challenging and complex process that requires a great deal of resources and capacity.

Leadership role of local authorities

"Local authorities are at the front line in planning for the impacts of climate change and picking up the pieces when the weather creates problems for local communities." – Adapting to Climate Change in England: Framework for Action, Defra, 2007.

As community leaders, local authorities have been identified as having a leadership role in adapting to climate change. The Pitt Review and the Flood and Water Management Bill recognise this community leadership role as central in local flood risk management. Local authorities play a crucial role in identifying and responding to the needs of the community and working in partnership with a range of public and private organisations and agencies to coordinate flood responses.

There is a distinction between the roles of counties and districts in flood risk management in a two tier area. For example, while counties are responsible for dealing with flooding on the highway, districts are the planning authorities and land drainage authorities responsible for dealing with flooding to properties. However, under the Civil Contingency Act both have responsibilities in emergency planning, such as assessing risks and developing plans to respond to these risks. Therefore, collaborative work is necessary to ensure effective local flood risk management.

Flood risk management

Managing Local Flood Risk involves:

- Understanding and communicating the different types of local flood risk to local communities and stakeholders
- Reducing flood risk and the impact of flooding by effective management and preventative actions
- Planning and preparing for flooding emergencies
- Responding to and recovering from flooding
- Avoiding inappropriate development in areas at risk of flooding, and directing development away from areas of highest risk

Types of flooding

The four common types of flooding found in the UK are fluvial (river overtopping), pluvial (surface water flooding from intense rainfall), tidal (coastal and estuarial flooding) and groundwater (saturated conditions reaching the ground surface). In practice they can occur in combination.

Environment Agency and local authorities

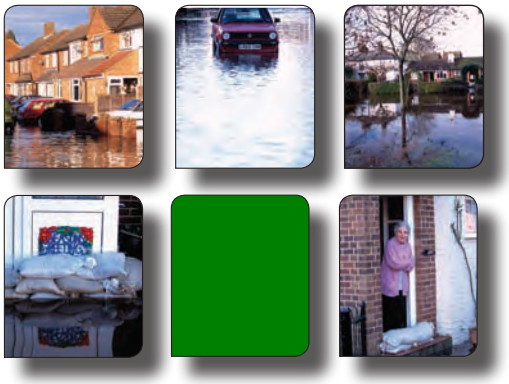
The Environment Agency (EA) is the non-departmental public body set up to protect the environment from threats such as flooding and pollution. While local authorities are responsible for setting local strategy for local flood risks, the Environment Agency plays a key role in setting national strategy for flood and coastal erosion risk management and provides support and guidance to local authorities.

Climate Change and flooding

The government has released the latest UK climate projections in June 2009. They show that warmer temperatures, wetter winters, drier summers and sea-level rise are very likely to happen across the UK. These events are likely to increase the risk of flooding and the need to adapt appropriately.

Adaptation refers to the programme of work that needs to be done to adjust the way we live in response to actual or expected climate change. It helps society cope by building the resilience of our economy, infrastructure, services and estates. Local flood risk management includes prevention and mitigation as well as response. This requires coordinated delivery, led by local authorities as community leaders.

As part of the national performance framework for local government there are currently two performance indicators, NI 188 and NI 189, to measure local authorities' progress in preparing for the risks and opportunities of climate change and delivering actions to implement long term flood and coastal erosion risk management plans for their communities.



Commissioning flood risk management

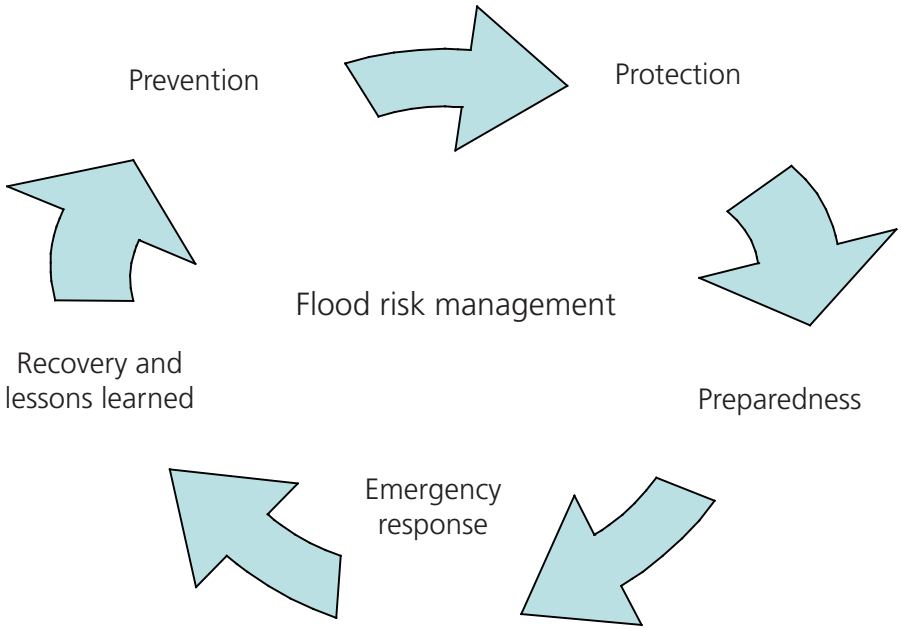
It is important to note that flood risk management is both a multi-disciplined and multi-agency task as well as a multi-staged process that requires substantial resources and capacity. A commissioning process may be necessary for some of the services that local authorities are required to deliver, such as flood risk assessment. When considering commissioning projects on flood risk management, local authorities, in dialogue with the community, should:

- Conduct a comprehensive assessment of community needs and aspirations
- Assess and understand the areas of greatest flood risk, utilising historical data, mapping and modelling techniques
- Agree on the priorities with communities, stakeholders and providers
- Understand the council's qualitative and quantitative capacity to respond
- Identify appropriate providers and resources
- Identify appropriate partners
- Procure appropriate services (from a range of providers, including the local authority itself)
- Agree an information sharing protocol with local partners
- Assign a lead elected-member to oversee flood risk management
- Monitor services and manage demand
- Review services to ensure that they have addressed the priorities identified in the needs assessment.

A Model Approach for Effective Flood Risk Management (FRM)

This guide has adopted the European Union (EU) model for flood risk management as it provides a clear outline of the key elements of FRM. The model is illustrated below. While these are presented in a cyclical format, it is important to note that local authorities may wish to conduct flood risk management in an order most suitable to their needs and challenges.

This checklist uses the key elements of the EU model to highlight the key roles and actions that councils should undertake for effective flood risk management.



Prevention

All forms of flooding threaten the quality of life that local authorities are striving to achieve for everybody. They cause damage to properties and impact on the natural and built environment. These effects are more severe where previous decisions on the location, design and nature of settlement and land use have not considered the impacts of flooding. Good spatial planning and development can reduce flood risks to new developments, buildings and infrastructure. In addition to planning issues, well-managed land use such as farming techniques, and drainage systems such as ditches, watercourses and sewers, are fundamental to preventing flood risks

As community leaders, councils should:	Council actions
Know the areas at risk of flooding.	Identify and map areas of different probabilities of risk.
Understand and record the potential risks, damages and impacts on communities of developing on land at risk of flooding.	Reduce flood risk or increase flood resilience where appropriate and possible. Assess and record the flood risks for new developments and identify sufficient land for development in areas of low risk. Embed Strategic Flood Risk Assessment (SFRA) into the Local Development Framework (LDF). Avoid development in functional flood plain.
Provide developers and land-managers with evidence of flood risks and leadership in managing the risks.	Work with planners in using Planning Policy Statement 25 (PPS25) to locate new development and regeneration according to the flood vulnerability category of the intended use. Avoid creating additional risk by not developing in areas served by critical infrastructure which is in a flood vulnerable location. Promote development in hazard free areas through embedding the PPS25 sequential approach into the LDF. Safeguard land for critical infrastructure and agricultural use. Develop action plans, where necessary, to support sustainable spatial planning. Ensure all plans are integrated and firmly linked to local strategies.
Engage the community and work with partners to find sustainable spatial planning options.	Promote the use of green infrastructure and make space for flood water. Promote community participation in developing an action plan. Work in partnership with water companies, the Environment Agency and Internal Drainage Boards.

Delivery mechanisms

Assess local impacts from UKCP09 climate projections

Consult the Environment Agency's long term investment strategy on flood and coastal risk management in England and National assessment of flood risk

Conduct a Strategic Flood Risk Assessment to manage flood risks

Ensure developers carry out an Environmental Impact Assessment where necessary

Identify priority areas for developing Surface Water Management Plans

Contribute to the development and delivery of actions contained within Catchment Flood Management Plan and Shoreline Management Plan

Contribute to partnerships promoting Integrated Catchment Management

Implement sustainable urban drainage systems (SUDS)

The power of overview and scrutiny

Local authorities have begun to examine appropriate and innovative ways of dealing with the problems created as a result of flooding and sought new ways to address prevention.

Since the introduction of the new local government arrangements, independent scrutiny reviews and investigations offer an effective way to question the prevention and consequences of flooding, as well as raising awareness and seeking action. The Centre for Public Scrutiny has a collection of council led scrutiny reviews on flooding and also climate change adaptation in their scrutiny exchange library.

Protection

Many existing developments and land use have been designed and built without consideration of the impacts of climate change. It is therefore important to protect the community and existing infrastructure, buildings and services to floods or other likely impacts of extreme weather events.

As community leaders, councils should:	Council actions
Understand and record the potential risks and damages of flooding to infrastructure, buildings and services and the impacts on communities.	Assess and record the flood risks to existing infrastructure, buildings and services using SFRA.
Know the community, infrastructure, buildings and services at risks of flooding.	Identify and map communities, infrastructure, buildings and services at greatest risks using SFRA. Identify resource gaps and needs.
Provide leadership for all partners to explore options of building-resilience.	Organise Local Strategic Partnerships and pool together expertise from local, regional and national levels to explore and prioritise options. Offer advice to and engage with infrastructure and service providers to implement flood protection and resilience. Seek opportunities to naturalise watercourses. Look for ways to provide up-stream flood storage to avoid the need for raised defences. Promote the use of business continuity management.
Work with and support community groups, especially vulnerable groups, to set priorities.	Engage with the community to identify vulnerable groups and work with them to identify their risks.
Raise awareness of the need to build long term resilience.	Use community leadership role to promote greater resilience among citizens. Use guidance in the Government's water strategy 2008 'Future Water' to work with the water company to regulate the demand for water. Organise campaigns to increase the community's understanding of water shortage. Develop solutions to flood storage that also promotes and protects biodiversity, for example the creation of wetland habitats.

Delivery mechanisms

Retrofit existing buildings, implement sustainable urban drainage systems, canalise watercourses, build or improve flood defences

Promote sustainable water management

Consult CABE's Sustainable Cities website on planning, management and designing a sustainable place

Preparedness

It is not possible to entirely eliminate the risk of flooding and it is important to build preparedness and minimise the consequences of floods. The more effort put into being prepared the easier it will be to cope with severe and unexpected situations and to help reduce personal impact and trauma.

As community leaders, councils should:	Council actions
Provide leadership on emergency planning as part of the Civil Contingency Act 2004.	Develop a Multi-Agency Flood Plan. Identify resource gaps and needs. Cooperate with Local Resilience Forum (LRF) Category 1 and 2 responders, such as water companies, the police, hospitals, fire and ambulance and humanitarian relief organisations as well as voluntary agencies. Develop community resilience in flood risk area. Build up emergency stockpiles where necessary. Train and develop local authority and voluntary agency personnel with the skills needed in emergencies. Coordinate cross-departmental responses. Promote the use of business continuity management to local businesses.
Inform and communicate to communities the probability and risks of flooding and the resources available to support them.	Develop a public information strategy, for flooding matters, working with the Environment Agency and other responders. Identify and map vulnerable groups. Organise training and exercises for communities, especially for vulnerable groups at key locations such as homes, schools, workplace, care and nursing homes and hospitals. Promote community champion to help identify vulnerable individuals and groups and to raise flood risk awareness.
Work in partnership with local, regional and national authorities and organisations to understand and prepare for emergencies.	Identify key partners to arrange mutual aid. Work with emergency and support services to organise training and exercises.
Fundraise for flood risk management.	Identify suitable funding models. Lobby and access national funding for flood risk management. Coordinate fundraising activities with local community groups and businesses.

Delivery mechanisms

Consult the government's Emergency Preparedness Guidance on Part 1 of the Civil Contingency Act 2004 (Cabinet Office)

Organise mutual aid arrangements with support from the Mutual aid – a short guide for local authorities 2008 (Cabinet Office)

Develop a Multi-Agency Flood Plan (MAFP)

Emergency response

When a flooding emergency occurs it can either be a spontaneous no-notice flash flood or a gradual pre-warned water level rise. Both situations require an immediate local response from the emergency services and other responders coordinated by the police. Local authorities will provide support to the emergency services and be responsible for the support and humanitarian assistance provided to affected communities and the public.

As community leaders, councils should:	Council actions
Support the emergency services and provide humanitarian assistance.	Participate in the multi-agency integrated incident management structure. Assist the police's command and control response. Set up and run rest centres and evacuation points. Arrange emergency care facilities such as feeding and accommodation. Provide emergency transport. Ensure aftercare facilities are available and inform those that need them how to access these facilities.
Reduce the impacts of flooding in your local area.	Manage the flood impacts on highways and properties such as clearing blocked culverts, signposting people to flood products such as sandbags and other defences, drying out facilities and managing road diversions.
Provide leadership and guidance to the public on the council's flood responses.	Support the delivery of the Environment Agency's flood warnings and alerts to the public and affected communities. Direct the public to information on the latest flood situation. Participate in the LRF public information and media response to disseminate information to the public. Ensure the efficient operation of local authority flood enquiry points.
Support people affected by floods, especially the vulnerable groups.	Prioritise the most vulnerable and those with special needs.

Delivery mechanism:

Consult the government's Emergency Response and Recovery Guidance (non-statutory) to complement Emergency Preparedness Guidance on Part 1 of the Civil Contingencies Act 2004 (Cabinet Office)

Develop a Multi-Agency Flood Plan (MAFP) and local authority response plans

Recovery and lessons learned

The aftermath of flooding is usually plagued by widespread disruption of livelihoods and infrastructure, often over a long period of time. Homes and businesses are flooded, people are evacuated from their homes, roads and water provision are not immediately restored. Local authorities therefore play a lead role in rehabilitation and restoration, both in the short and long term. It is also important for local authorities to review the process of flood risk management though identifying lessons from their experiences that could be learned, answering questions, making recommendations and suggesting improvements.

As community leaders, councils should:	Council actions
Provide leadership on rehabilitation, restoration, reconstruction and compensation.	Implement the local authority recovery plan. Liaise with housing associations, local businesses and other local authorities to organise the re-housing of evacuees. Arrange for the clean up and removal of material and physical damage. Promote the use of business continuity management. Work with the Association of British Insurers (ABI) to facilitate access to the site(s) for insurance company loss adjusters. Support utility companies and other partners in protecting and restoring key infrastructure.
Maintain and streamline communication to the public on the council's recovery efforts.	Follow the local authority public information strategy set out in the recovery plan to communicate with people affected by the floods.
Offer humanitarian relief, especially to vulnerable groups.	Work with charities and voluntary organisations to provide necessities and psychological and financial support.
Explore fund raising activities for flood recovery.	Lobby and access national funding for flood recovery. Coordinate fundraising activities with local community groups and businesses.
Identify lessons from past experiences that could be learned and make improvements for future flood risk management.	Organise independent groups to review the flood risk management process. Conduct internal and external scrutiny to evaluate the council's actions and make recommendations on improving future flood risk management. Engage the community in the decision-making process to make recommendations for future flood risk management.
Influence behavioural change.	Take the opportunity immediately after a flood to get buy-in from the community for long term adaptation solutions.

Delivery mechanisms

Develop local authority recovery plans

Consult National Recovery Guidance (Cabinet Office)

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L09-597
Produced by Liberata Design and Print Studio

Local Government *Association*

The Local Government Association is the national voice for more than 400 local authorities in England and Wales. The LGA group comprises the LGA and five partner organisations which work together to support, promote and improve local government.