

Programme of research on preparedness, adaptation and risk (PREPARE)

Project summary

Highlights of the findings from the five PREPARE programme studies are provided below. For more information and to speak to an expert on the studies please call Joseph Burgoyne from Ricardo-AEA on 01235 753554.

PREPARE - Climate risk acceptability: Findings from a series of deliberative workshops and online survey

The online survey was conducted by Ipsos MORI among a nationally representative sample of 2,007 adults across the UK. The interviews were carried out between 30 January and 5 February 2013. Fourteen deliberative workshops were held during March 2013 in a range of locations that were chosen to reflect different types of communities and areas facing different climate challenges in the UK. In total, 147 local residents each attended a day-long deliberative workshop moderated by Ipsos MORI researchers.

Figure 1 draws together the findings of the online survey and deliberative workshops, summarising the key aspects of risk preparation that the UK public find acceptable and unacceptable. It should be noted that specific adaptation actions were not the focus of this research. Rather the aim was to understand how people perceive risk and public attitudes towards the principles on which any adaptation decisions should be made. This summary is based on Ipsos MORI's interpretation of the data collected. It should be noted that these do not necessarily represent the views of all research participants, but they do reflect the broad themes of opinion expressed.

Figure 1: Summary of public perceptions of acceptable and unacceptable risk preparation

Acceptable	Unacceptable
<p>To invest in adaptations now based on best evidence available, even if this means preparations are made for events which never happen</p> <p>To invest most in preparations for:</p> <ul style="list-style-type: none"> -flooding -water shortages -protecting urban areas -protecting productive agricultural land <p>To accept that not everywhere and not everyone can be, or should be, protected equally and to therefore focus less investment on preparations for*:</p> <ul style="list-style-type: none"> -sparsely populated coastal areas -areas of natural environmental importance -people who have chosen to live in at-risk areas -warmer temperatures and heat waves <p>*While not risking significant loss of life or business or agricultural productivity</p>	<p>To allow significant loss of:</p> <ul style="list-style-type: none"> -human life -productivity for small businesses -productive agricultural land <p>To invest substantially to prepare for:</p> <ul style="list-style-type: none"> -events that may not happen within next 20 years -consequences related to warmer climate <p>To allow the UK to face severe consequences from:</p> <ul style="list-style-type: none"> -flooding -water shortages -failed harvests leading to higher food prices <p>To not exploit the opportunities created by changes in the climate e.g. tourism or new crops</p>

PREPARE – The contribution and role of local and household level adaptation in overall UK adaptation

Adaptation in the UK to date has focused primarily on building capacity via organisations such as local councils, central Government and utility companies. Good progress has been made engaging government departments, regulating bodies, business sectors and private companies and the next step is to assess the role of individuals at the household level to increase the UK's resilience to climate change. Initial research suggests that there is a significant role for individuals although there are clearly barriers to taking action at the household level. The true extent to which households can contribute to climate resilience in the UK therefore remains unknown.

The aim of this project was to conduct a systematic evidence review to assess the potential contribution of individuals and households to UK climate change resilience.

The study has shown that there is a wide range of potential adaptation actions that can be taken by households in adapting to floods, extreme hot and cold weather, water stress and droughts. However, it is only at key points of decision-making (e.g. which house to buy, what insurance to get, what finance to seek for it) that households are likely to make any significant changes to their level of resilience by adapting to potential future risks. Ensuring that households understand these 'windows of opportunity' and identifying when they come along, is an important finding from this project.

The evidence collected supports the hypothesis that without government intervention, autonomous household adaptation is unlikely beyond initial coping responses taken at the start of an extreme weather event, or in its immediate aftermath. However, the overall importance of household actions in the context of UK resilience is moderate to high. The evidence also demonstrates the cost-effectiveness of government intervention at community and national level.

In summary, the overall importance of household actions to reduce climate risk associated with flooding and heatwaves is high and for cold weather snaps and water stress and droughts is moderate. Existing intervention actors (such as local authorities, the Environment Agency, the private sector and national government) and intervention mechanisms (for example the Green Deal and National Landlord incentives) can be built upon to increase UK resilience by targeting support at the household level.

PREPARE - Barriers and enablers to organisational and sectoral adaptive capacity - quantitative study

The survey, conducted by Ipsos MORI, interviewed selected types of organisations for which adaptation is likely to be more relevant. In total, it covered 1,700 businesses, 75 local authorities, 50 health authorities, 50 third sector organisations, and 101 educational establishments.

Key findings:

- Two in five (38%) organisations interviewed are taking action on climate change risks, an increase of twelve percentage points from 2009/10.
- More local authorities and health authorities are taking adaptation action than in 2009/2010.
- A greater number of businesses are also taking action than was the case in 2009/10. Most progress among the private sector has been among medium-sized businesses.
- Increases in action on climate impacts are taking place despite planning horizons being shorter than in 2009/10.
- Reflecting their shorter-term focus, organisations tend to plan for extreme weather events rather than longer-term trends.
- Personal knowledge about climate change has fallen a little among risk managers.
- Local authorities have a higher level of awareness of climate change than other sectors, although the number of real experts has dropped.
- Concern about climate change has fallen but concern about the kinds of extreme weather that climate change could bring remains high.
- The number of organisations saying they have enough information remains high.
- Many organisations - particularly smaller organisations - do not see climate change as relevant to them.
- Businesses are more likely to look to Government for leadership than to the market.
- Organisations predominantly view weather-related consequences of climate change as threats rather than opportunities.

PREPARE - Barriers and enablers to organisational and sectoral adaptive capacity - qualitative study

This report assesses what hinders – and what might help – the development of adaptive capacity of organisations in Britain - the extent to which they are able to make well-informed, long-term decisions that will make them more resilient to the impacts of climate change.

To improve our understanding, Alexander Ballard Ltd and Ipsos MORI interviewed 73 organisations in depth in late 2012 and early 2013 to investigate barriers to increasing capacity. These represented a deliberate mix of organisations that claimed they were and were not adapting, rather than a representative sample, to focus on understanding how barriers varied for organisations with different needs. We also benefited from the results of a larger quantitative survey (over 1900 organisations) which are reported separately. We found that organisations can be usefully thought of in four broad categories: Low capacity (further subdivided into LoLo capacity and HiLo capacity), medium capacity, and high capacity.

- Low. Organisations at this level have not begun to take action on climate change adaptation or are taking the very first steps. Some (referred to in this report as "LoLo" organisations, have no plans to act. These tend to be small private-sector organisations which make fewer long-term decisions. Other organisations ("HiLo") recognise that they might need to act in the future, but have not started doing so, or are at the very earliest stages.
- Medium. These organisations have started some adaptation work, often because they have recognised the increasing relevance of current extreme weather events to their operations. Adaptation takes place in response to existing weather risks, and rarely considers potential new climate impacts more than 10 years into the future.
- High. High capacity organisations are beginning to take strategic action on potential future climate impacts, alongside considering current weather risks, and – while not discounting the risks of climate change – are more likely to look at adaptation work in terms of profiting from opportunities, not just avoiding danger.

The current shortage of adaptive capacity is the result of a number of factors which relate to the intrinsic characteristics of organisations themselves and the way they interact with other organisations. Organisations participating in this research were asked to identify the barriers to adaptation they had encountered. A substantial number of barriers were identified, which differed at different levels of capacity.

As an example, in organisations with medium adaptive capacity, some people are working on climate change but typically lack the skills and resources - financial backing or the support of the wider organisation - to assess future risks in a systematic way. The organisation might not be accustomed to the kind of long-term planning which adaptation requires.

Medium-capacity organisations are most likely to progress when confronted with external prompts. However, since some adaptation work is already going on inside the organisation, making the most of the people involved now becomes a priority. These people are likely to benefit from having access to a network outside the organisation in which ideas about adaptation can be exchanged and strengthened.

This research shows that successful adaptation work necessarily involves collaboration between different organisations, often at different levels of capacity. It would not be a realistic aim for every organisation in the country to attain a high level of adaptive capacity. Fortunately, this is not necessary. Because of the interconnectedness of different organisations and different parts of the economy, one organisation's hard-won expertise has the potential to directly benefit its commercial partners, its customers, and other organisations working in the same industry.

While interviewees almost universally agreed that there is an important role for Government, it need not be the only actor. For example, 'framework organisations' need not only be governmental. Other sources may include the due diligence processes of commercial partners, insurance requirements, and supply chain pressure, alongside government regulation.

PREPARE - Understanding the equity and distributional impacts of climate risks and adaptation options

The project consisted of a series of research tasks, including a review of recent literature in the area of social equality, vulnerability and adaptation. The literature review highlighted that to date, the focus of research has tended towards exploring the impacts of climate hazards on socially vulnerable groups rather than understanding the impacts of adaptation policy measures. As a result, it was decided to undertake a more detailed analysis of impacts for four combinations of climate risk and socially vulnerable groups, examining evidence of whether adaptation measures were having a differential impact:

- Adaptation policy to flooding on low income households
- Heatwave policy interventions on ethnic minorities living in urban areas
- Water scarcity responses on vulnerable users
- Lessons from existing policies for rough sleeping and the homeless in cold weather.

Work was then undertaken to quantify these impacts for key risks and vulnerable groups and to begin quantifying some of the potential costs and benefits of adaptation measures. To date, relatively little work has been undertaken to quantify the differential costs and benefits of adaptation measures; this work therefore presents some interesting examples, rather than a comprehensive picture.

The key findings, as suggested by the project team, are:

- Adaptation strategies and responses have differential impacts and can reinforce social vulnerability
- The determinants of social vulnerability are complex and must be better understood in the context of adaptation policy responses
- Multi-faceted vulnerability is likely to require a multi-faceted response
- Vulnerability varies at different points in the response cycle
- Issues of social vulnerability and adaptation must be understood and addressed at multiple policy levels
- The role of social resilience and social networks in reinforcing effective adaptation policy measures needs to be examined in greater depth
- Much can be learned from existing policy responses
- More research is needed on differential adaptation costs
- Research is needed to enhance our understanding of the reasons for, and responses to, the differential impacts of adaptation policy

This research found that progress had been made in acknowledging the differential impacts of climate impacts and in identifying vulnerable groups. We suggest that the challenge is now to deepen this understanding and to ensure that adaptation policies and measures account for social vulnerability so that the benefits and costs of adaptation are shared appropriately.