Adaptation to climate change in Sweden: knowledge, policy and practice

Countries/Region:	Sweden
Project name:	Mistra-SWECIA Project 4: Processes for Adaptation to Climate Change; and Social Learning and Multi-level Governance
Partners:	Linköping University
Funding Agencies:	The Swedish Foundation for Strategic Environmental Research (Mistra), Swedish Research Council
Duration:	2008-2011 (with possible extension)

Research on the adaptation process in Sweden

Sweden has recently begun to address climate change adaptation in policy and implementation processes. The County Administrative Boards have responsibility for coordinating adaptation regionally; adaptation concerns are emerging in strategic planning in private and public entities; and there are signs of adaptation responses at municipal levels.

However, there are few mechanisms in place to advance the use of scientific and practical knowledge for adaptation, or to stimulate learning and collaboration across stakeholder groups, sectors and scales. Therefore it is critical to understand what knowledge and processes are required, and what barriers and opportunities exist, to integrate adaptation concerns into policy and among communities of practice.

Formal processes and political priorities critical to local adaptation decisions

To understand decision making on adaptation at the local level it is important to ask were local stakeholders get relevant knowledge. Though adaptation is often perceived as a local concern, knowledge and politics at the larger scale have a significant influence locally. Interviews with civil servants in the Stockholm region highlight how formal political and administrative processes can translate international scientific findings in ways that are scientifically and politically credible, and also relevant locally. For example, the report of the Commission on Climate and Vulnerability played such a role. However, civil servants suggest that a failure to prioritise adaptation at the local level is a block to action. Interview results also point to the importance of 'mainstreaming' adaptation into sectoral policies and professional practices, because of the great influence that regulations and technical norms have on day-to-day decision-making. Other knowledge providers seen as relevant include the Swedish Meteorological and Hydrological Institute (SMHI) as a central knowledge broker, and consultants, professional organizations and other municipalities.

Scientific knowledge and adaptation decision-making

Practitioners and policymakers face uncertainty over how climate change will affect different sectors, as well as in choosing the most effective and cost efficient adaptation measures. While it is widely recognised that scientific information is a key factor in decision-making, it is less understood what knowledge is needed and how it should be communicated.

© Nicolas Massé

Our research explores how science can help Swedish stakeholders to assess adaptation needs and options. In our research, meetings between scientists and stakeholders revealed a positive attitude to using scientific knowledge in adaptation decision-making. The study suggests that, to support decision-making, there is a need for scientific results (notably climate change and impact scenarios) to be presented in a more user-friendly fashion, as well as for greater informal interaction between scientists, practitioners and policymakers. In particular, there is a need for results to show shorter time horizons, provide clear graphics, and offer more locally relevant information.

Integrating climate adaptation into forestry policy

Sweden has one of the largest areas of forest in Europe. Safeguarding Swedish forestry through early adaptation to climate change is of both national and international interest. However, there is still no climate adaptation strategy for the forestry sector in Sweden, despite earlier attempts to set up such a plan.

The Mistra-SWECIA project explores how adaptation is being introduced into Swedish forestry policy. The policy process is examined through literature reviews and interviews and through a focus on institutional dimensions and learning processes. Although there is growing interest within the forestry sector in adaptation, barriers to further policy

integration remain. These barriers include a focus on short-term productivity and uncertainty over the effects of climate change. It appears from our research that the main reason why these barriers have not yet been overcome is that there has been too little collaboration between lobby groups that promote climate adaptation. Therefore the main challenge for policymakers is to stimulate collaboration and learning among stakeholders. Such collaborative processes are crucial for bringing about sustainable climate adaptation.

Adaptation and the spatial planning process

Spatial planning is one of many processes in society that will be affected by climate change. In Sweden, municipalities are solely responsible for land use planning, and this research focuses on how the municipal planning process is dealing with new demands brought about by climate change: are adaptation concerns integrated into the planning process and if so, how?

This research draws on a literature review and interviews with officials and politicians responsible for planning in three municipalities in the Stockholm region. Our assessment found that within the three municipalities, responses to adaptation concerns ranged from 'weak and passive' to 'strong and proactive'.

A key barrier to systematic integration of adaptation into spatial planning is the feeling among municipal planners that national government should provide greater support and improve guidelines on integrating adaptation into decision-making.

Another barrier is the conflict between the pursuit of known and immediate gains through property development, and unknown and long-term losses from increased vulnerability: the pursuit of short-term gain tends to weaken the integration of adaptation concerns into planning policy. For example, a residential development by a waterfront may be a very attractive short-term investment, while in the long-term it might prove very costly in the event of sea-level rise.

Adaptation investment in the water and waste water sector

In the water and waste water sector in the Stockholm Region, a range of adaptation options exist to reduce the risk of negative effects from climate change. These include new water purification techniques and increasing the scale of the sewage system. But there is a big difference between having the capacity to adapt and actually investing money to take adaptation action, and the extent and type of adaptation is mainly determined by to the ability to justify additional resources for adaptation.

Because there are no clear requirements or regulations for adaptation action in the sector, climate knowledge serves as the main driver of investment in adaptation. However, the potential of climate knowledge alone to drive investment can be severely weakened by a strong focus on 'climate facts', 'optimal solutions', and cost-benefit analyses in the decision-making process. At present, this limits the potential for costly adaptation measures in the water and waste-water sector.

Published by:
Stockholm Environment Institute
Kräftriket 2B
SE -106 91 Stockholm
Sweden
+46 8 674 7070

sei-international.org
2010

Åsa Gerger Swartling, asa.swartling@sei.se
Annika E Nilsson, annika.nilsson@sei.se
Further Information:
SEI Head of Communications
Emma Lindberg
+46 7346 07458