

Increasing resilience to climate change: *Experience of Sweden on climate change adaptation*



The National Food Agency work for

- safe food and drinking water
- fair practices in the food trade
- healthy food habits

The Water Matrix of Sweden



Lakes, rivers and ground water



Water works



Consumer level

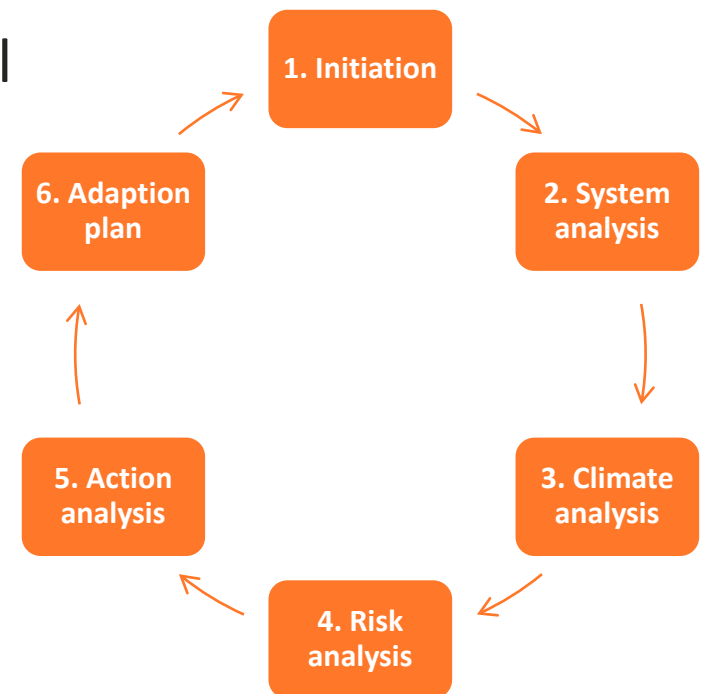


Responsibilities all along the chain – Local communities (290), County board (21), Water boards (5), National Board of Housing, Building and Planning, Swedish Civil Contingencies Agency, the Swedish Met office

A guide developed to adapt drinking water supplies to climate change

Scope:

- Main focus is municipal WW, a chapter for small wells
- May be used for other stakeholders as well
 - Regional authorities
 - Local authorities
- The main aim – What's in it for us/me?
- A work sheet in Excel



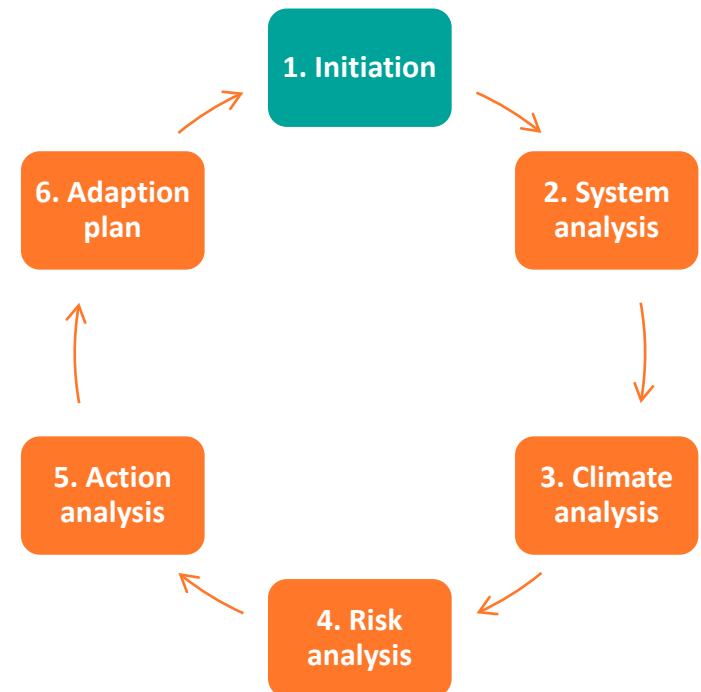
The guide has 4 main parts

- A motivation section
- The actual process of CC adaption planning
 - A step wise procedure
 - Based on a number of questions
 - Where to find data and statistics
- Two sections of facts

The Process of CC adaption

Initiation:

- Plan the CC adaption process
- Make an estimate of the human and financial resources required for the investigation
- Try to get a decision from the CEO level
- Communicate and raise awareness of problems (internally and externally)



System analysis:

A system analysis involves making a review of a water supply system to get a clear picture of the conditions. The analysis is done on an existing system under prevailing climatic conditions.

Water capacity and water demand

Markförhållanden

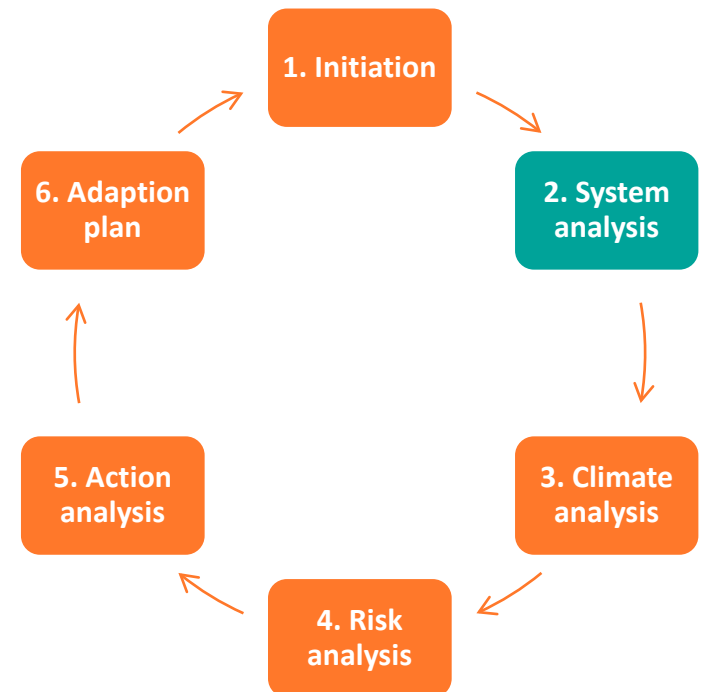
Water levels

Water quality

Sources of influence and water protection

Technical water supply system

Operating experiences

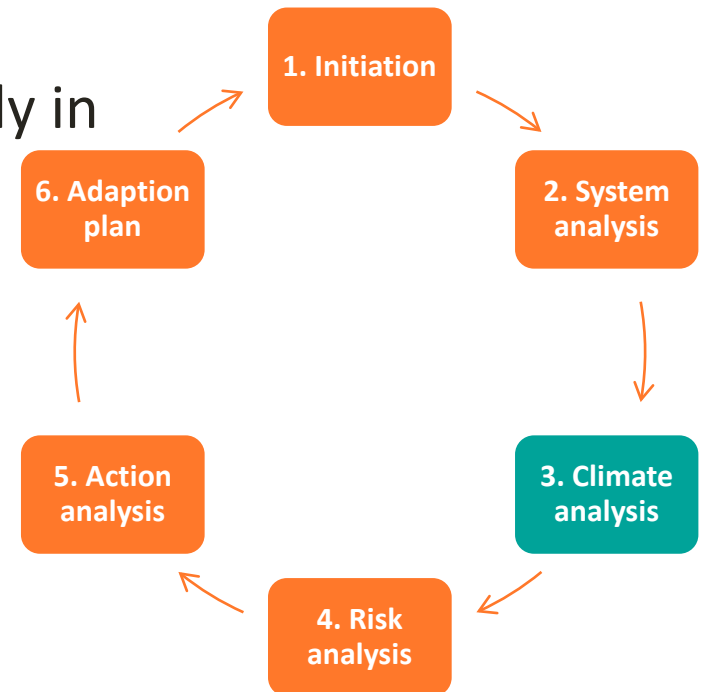


Climate analysis:

A climate analysis is being done to create a better understanding of how the conditions for their own drinking water supply look today and may change in a future climate. The climate analysis includes looking at how the results of system analysis are influenced by climate variations and scenarios for future climates.

Don't forget to analyze the experiences that are related to the climate and different weather events in your own organization or municipality.

An in-depth study of the drinking water supply in the prevailing climate gives a good knowledge of what is interesting to investigate for future climate change.

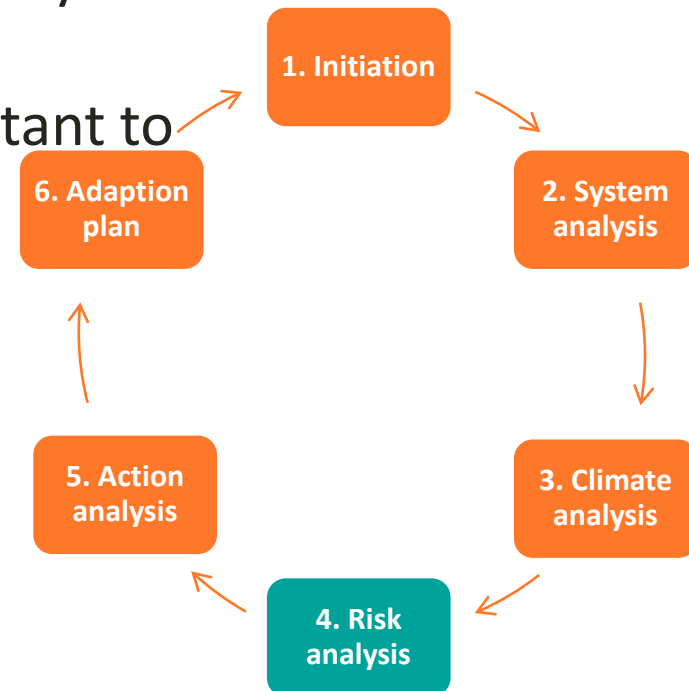


Risk analysis:

A risk analysis is made to be able to prioritize where climate adaptation measures are needed and must be implemented. From the system analysis and the climate analysis, identified unwanted events / hazards that form the basis of the risk analysis are obtained. The assessment of probability and consistency and the weighting of risk classes is done in a number of different steps, which are described in more detail in the following sections.

Make a probability assessment for unwanted events / hazards today. Only use the current conditions for the probability assessment
In the impact assessment, you assume that it is

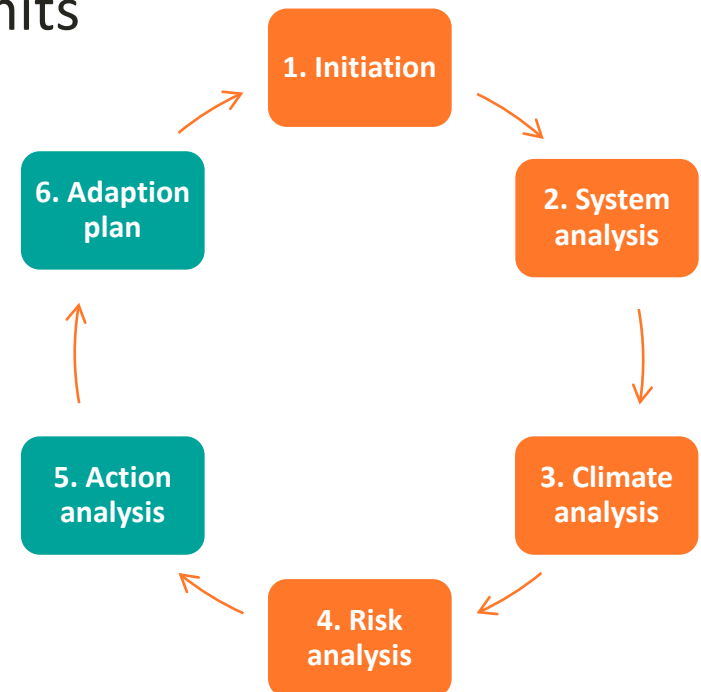
undesirable the event has occurred. It is important to the impact assessment is perceived as one unique process.



Action analysis:

In the action analysis possible measures are identified to be able to handle the greatest risks (black, red and yellow). The purpose of the action analysis is to be a basis for decision-making on the choice of measures. Adaption planning:

- Prioritization of decided actions
- Review of existing plans and need for permits
- Implementation in plans



3. Lessons learnt so far and future work

- Try to bring together different areas of the community to broaden competence level
- Acknowledge that CC adaption takes time (infrastructure)
- A common understanding of the power of CC and the effects on drinking water
- Involve decision makers

- For us: Out of 21 County Boards 5 remain to be educated (together with DW producer and the local government)

Main activities in Sweden on climate change adaptation

Focus on initiatives/actions with regards to climate change adaptation in the water and sanitation sector

- Drinking Water Council
- KASKAD, Guide book for climate adaption of drinking water
- Water balance project
- A new central warning service, drought risk
- Early outbreak detection by health advice line calls
- VAKA National Water Emergency Group

Communication

- The NFA website
www.livsmedelsverket.se/kaskad

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