WATER SOURCE ADAPTATION FOR FUTURE CLIMATE

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Sweden will have face a decline in the quality of water resources in the future. Extreme weather events such as floods may spread anthropogenic pollutants to surface waters.

Climate Change impact in terms of water resources:
- More precipitation
- Frequent heavy rain and floods
- Rising ground water level
- Landslides
- Drier summers
- Droughts in some areas
- Eutrophication
- Increasing amount of microorganisms
- Increasing amount of anthropogenic pollutants such as wastewater, chemicals from agriculture & industry

Strengths	Weaknesses
- Good water resources - High water quality - Existing research - National and municipal level recognition & support	- Simple purification technology - Rising transportation costs - Old urban water distribution system - Large investment needed
Opportunities	**Threats**
- Reduce flood risk - Utilize hydropower - Development of purification techniques - Optimization of distribution network	- Water quality decreases - Drought risk increase - Manure and chemical contamination

Table 1. SWOT for water source adaptation

Although fresh water resources will be more precious worldwide, Sweden will continue to have a good water supply even in the next centuries. However, the problem Swedish water treatment will face is how to cope with extreme weather events. There is a need to prevent the flooding caused damages of the fresh water reservoirs and fresh water distribution.

Increases in anthropogenic pollutants will diminish the water quality. Extreme weather events such as floods, continuous heavy rains and landslides will make water quality worse by spreading waste water, other pollutants and chemicals into the surface waters. Drought risks will increase in the case that summers are very dry.

One option is to relocate water sources to higher lands. However, this increases the transport and distribution costs. Another option is to invest in improving current water plants, purification technologies, distribution networks and waste water treatment plants.

BalticClimate

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