Seminar report Urban Climate Change adaptation in the Baltic Region, Stockholm 2017-11-28

The seminar for Urban Climate Change adaptation in the Baltic Region started with an introduction from Maggie White, working with international policy at SIWI. Taking part in COP23 a few weeks earlier, she reported back that the role of non-state actors and cities in implementing the Paris agreement was emphasised during the conference. A lot of the work on climate change is happening on local level, why it becomes crucial to develop useful tools and methods for local implementation.

Åsa Sjöström, the National Knowledge Centre for Climate Change Adaptation, the Swedish Meteorological and Hydrological Institute (SMHI)

Åsa Sjöström presented the Swedish National Climate Change Adaptation Plans. There is no overall national adaptation plan, but rather several sectorial and regional ones from different county boards, authorities and organisations. There is a European adaptation strategy from 2013 which focus on promoting actions by member states, climate proofing and informed decision making and on which a Swedish national strategy will be based and presented in spring 2018. Åsa emphasised that even though certain adaptation work can be integrated with the work on the SDGs, it needs to be mainstreamed to a much larger extent and we need to think much further than to 2030.

John Matthews, Alliance for Global Water Adaptation (AGWA)

John Matthews introduced the concepts of bottom up approaches and resilience, on which the CRIDA (Collaborative Risk Informed Decision Analysis) tool for local climate adaptation is based. The methodology has been applied at a wide range of scales and levels, including in urban and local settings. Today many different climate models are trying to predict the future for water management decisions, but their uncertainties are so high and variation between them is also quite extreme, so they are not very useful for most decisions, which require high confidence, especially if they are for long-lived assets like infrastructure or ecosystems or if they exclude potentially other important decisions. According to John, adaptation is therefore about revaluating and making robust (i.e., comprehensive across a wide range of potential futures) and flexible decisions, which requires consideration of risks and vulnerability in a different way than we have traditionally approached water management. The majority of approaches to consider future climate conditions focus on optimizing a single future scenario, with decisions taken from a top down perspective, starting with decision makers defining a problem statement, a technical analysis to develop a single solution, and finally reaching out to different stakeholders. Bottom up approaches on the other hand, start with the users and stakeholders to create a shared vision and statement of the problem, moving on to stress tests and finally present a solution to decision makers. When multiple stakeholders are involved at an early stage of the process, more perspectives and scenarios will be included which leads to better informed and more informed and comprehensive solutions.

Ad Jeuken, Deltares

Ad Jeuken continued the introduction of the CRIDA-method, and focused on three elements: a level of concern analysis to set overall strategy (do we need a flexible solution? a robust solution? a robust and flexible solution? or is climate not relevant to our situation?), decision scaling and stress tests to

determine the level of risk and risk tolerance, and adaptation pathways, to sequence decisions for potential different situations and to identify points when you might need to shift strategy. When conducting a stress test, you need to identify what critical thresholds. Ad used an example from Guayaquil, Ecuador, where thresholds for flooding in the city have been mapped out based on dialogues with different stakeholders in the area. The evaluation showed that for example 20 cm higher water levels leads to business disruption and decrease of value of properties in the area, whilst 50 cm means business needs to close completely and disruption in infrastructure. Knowledge on the consequences of different future scenarios can be used as guidance for what the different thresholds are and at what point your strategy has to be revised.

The analysis of levels of concern is an analysis of confidence and worry (for example a high certainty/confidence in a predicted scenario in an area, that has low risk/worry of extreme weather events). Together with a stress test it constitutes the measurement for when to find new pathways and different solutions.

The next step is to map out and calculate different adaptation pathways, which are different sequences of decisions to achieve your objective. The assessment of pathways include mapping out benefits and cost efficiency for each path, to facilitate the process of making informed decisions. The CRIDA methodology has been applied in several cities and there is a target that by 2019 all cities should perform stress tests to evaluate their resilience.

Nika Kotoviča, Integrated Storm Water Management Project (IWater)

Nika Kotoviča from Riga presented how the IWater project, which consist of 9 partners from different countries in the Baltic Sea region, who work on transforming the perception of storm water from being a problem to a resource. Based on common challenges, such as increased precipitation and floods, responsibilities for storm water management being scattered among different city departments and weak implementation, the project aims to develop storm water planning tools and to identify roles and responsibilities under clear legislative frameworks. By using collaborative methods, the project works in storm water groups and has also conducted summer schools for youth engagement.

Gunilla Isgren, Botkyrka municipality

Gunilla Isgren presented the climate change adaptation work in Botkyrka municipality, a municipality located south of Stockholm. Gunilla stressed the need of clear political mandate to be able to implement and prioritise adaptation measures on local level. In Botkyrka, risk analyses have been conducted which made politicians more confident in their decision making and more prone to decline investments in risk areas. Gunilla also emphasised the need to simplify complex solutions and analyses, for practitioners to have resources and knowledge to implement them.

Linda Holmström, City of Stockholm

The second local case study was the City of Stockholm, where one of the main challenges for the city is the geographical location on several islands which makes the city vulnerable. Linda brought up Slussen (the lock between lake Mälaren and the Baltic Sea which is located in the city center), as an example of climate change adaptation that is crucial for the city. As Stockholm has not yet experienced serious storms or flooding, scenarios are rather based on calculations that give rise to

more questions than answers. Linda pointed out that eradicating the question marks regarding responsibility is central. She also highlighted that in many cases it is the insurance companies that are the driving force pushing for climate change adaptation plans. There is a need to integrate adaptation strategies in general city plans for other sectors such as economy, risks and security.

Discussion

The following key points were brought up during the group exercises and group discussions:

- Adaptation is a governance issue. In Sweden, there is a need to clarify who is responsible for climate change adaptation and different governance levels.
- Long-term implications of climate change must be recognized, long term adaptation plans established, in addition to short-term solutions and emergency management.
- Not all decisions are equally important and relevant to climate issues, but infrastructure, ecosystems, and many governance relationships should be stress tested.
- Collaboration is the key to be able to identify different risks. It can be very difficult to foresee risks and get a comprehensive understanding of possible consequences, especially as events can happen simultaneously and reinforce each other. It then becomes crucial to get different perspectives from different stakeholders to understand the challenges. Trends are usually better known, but not the frequency or the intensity of the event.
- Better awareness about adaptation and about the risks of not acting is needed to fuel political commitment and financial support.
- Authorities for crisis and emergency management need to be involved creating climate adaptation plans, as climate change is also a security risk.