Climate adaptation and integrated water management in Hungary

Dr. Anna Páldy senior adviser
National Centre for Public Health and Pharmacy
Water in Hungary

- Long-standing myth of abundant (inexhaustible) water resources
- Per capita surface water resource
  - 11,000 m³/year (2.5 times EU average)
  - But internal resource is only 600 m³/year/per capita
- 96% of surface water comes from upstream countries
  - More leaves than comes
- 20% of the land is at risk from flooding
- Sporadic incidents of water scarcity
- Risk of drought, water inundation, flash floods
- Both water availability and water use are very diverse geographically
- Climate change is expected to increase extremes (longer draught periods, more severe rain events)

Decreasing groundwater table in relation to climate change (severity 1 → 6)
Strategies and plans

- Decarbonisation
- Climate partnerships
- Adaptation and preparedness
- Climate vulnerability assessment

2nd National Climate Change Strategy

National Water Strategy

1st Climate Change Action Plan

National Strategy for Rural Development

- Actions for mitigation
- Actions for adaptation
- Actions for attitude change

2nd Climate Change Action Plan (under adoption)

National Environmental Protection Programme

- Decarbonisation Programme
- National Adaptation Strategy
- Attitude Change Programme
Water actions within the 1st CCAP

- Water management actions
  - Flash flood prevention through water management in hill regions
  - Water saving practices in drinking water supply and agriculture (infrastructure reconstruction, rainwater harvesting)
  - Climate resilient, adaptive urban water management practices, urban storm water management
  - Groundwater recharge
  - Modelling and remote sensing to support early warning systems and risk mapping for extreme events (drought, flooding, water inundation)

- Disaster management actions
  - Integration of climate resilience in water safety plans

- Human health actions
  - Surveillance and control planning for disease vectors
  - Climate resilient healthcare facilities
Plans under 2nd CCAP

- Continuation of actions from the 1st CCAP
- Municipal actions
  - Action plan to prevent and reduce urban flash flood
  - Integrated urban water management pilots
- Water management actions
  - Development of water retention and storage in the plains
  - Development of adaptive and flexible surface and groundwater management measures
  - Development of nature-based water retention solutions
- Human health
  - Assessment of climate change related risks in recreational waters
Water related health hazards in public health focus

- Cyanobacterial blooms
- Other recreational water hazards (e.g. Vibrio)
- Vectorborne diseases (e.g. West Nile) in relation to water coverage
- Extreme events’ impact on drinking water supply
- Recreational use of non-intended water (e.g. decorative fountains, urban lakes and streams)
- Communication and awareness raising
Conclusion

• Climate change impacts water availability and water related disasters

• Main management action of adaptation
  • Integrated water management both on municipal and national level
  • Water retention and local reuse
  • Monitoring, modelling, early warning
  • Public health considerations for safe use of alternative water sources
  • Awareness to emerging water-related diseases

• Information and guidance to decision-makers, designers, operators of water systems and the general public is crucial in adaptation and mitigation
Thank you!

• paldy.anna@nnk.gov.hu