

Water2Adapt - Resilience enhancement and water demand management for Climate Change Adaptation

Executive summary

Water scarcity and drought in Europe

The Water2Adapt project started from the recognition that the far-reaching economic, social and environmental impacts of droughts and water scarcity are not known in sufficient detail. Moreover, the European Commission's Communication of Water Scarcity and Drought (EC, 2007) provided unclear boundaries between water scarcity and drought, mixing trends, risk and variability. As evidenced by the Commission's Review of the Policy on Water Scarcity and Droughts (COM(2012)672), small progress have been made in the implementation of the seven policy options of the 2007 Communication (i.e. right water price, efficient water and funding allocation, improved risk management, additional water supply infrastructures, efficient technologies, water-saving culture, improved knowledge and data collection). The recent Blueprint for Safeguard Europe's Water resources (COM(2012)673) has laid out new roadmap for an improved water and drought risk management in Europe.

Motivation of the project

The Water2Adapt project, as a small-scale European applied-research project, aimed at producing policy-relevant knowledge and recommendations for water demand management at River Basin District's (RBD) scale for the appropriate implementation of the EU Water Framework Directive (WFD).

Methodology

The Water2Adapt project has analysed drought events in three representative river basins in Spain (Ebro), Italy (Po) and Germany (Weser). All three river basins had been evidenced as being water stressed (EEA, 2005), despite the arguably abundant annual water resources available. The analysis focussed on the economic losses, social hardship and rural/urban resilience to water scarcity and drought.

In Spain, the case sites included the rural district Álava of the Basque Autonomous Country (BAC) and its capital city Vitoria (in Basque Gasteiz). In Italy, the rural case site was confined by the district Piacenza situated in the Region Emilia Romagna (RER), and the basin of the Trebbia river – a right tributary of Po river. Parma and Ferrara - capitals of the homonymous districts of the RER – were chosen as urban case sites for their specific exposure and vulnerability to droughts. In Germany, the Heidekreis and the Lower Saxony's capital town Hannover were chosen as rural and urban site respectively. The analysis on the Ebro RB case study focussed on the 1988-1990 drought, one of the three most significant drought spells in BAC since 1944. The Po RBD, normally water rich, experienced severe droughts throughout the 2000s, in particular in 2003 and 2006-2007. The Weser RBD analysed the 2003 event, one of the worst drought spells on record.



Key results

The Water2Adapt Project provided policy recommendations for each analysed RBD. From among the policy areas identified in the 2007 Communication, the results indicated that: putting the right price on water is a priority of Southern Europe case studies; the introduction of volumetric water prices in Italy and Spain for the agriculture sector could reduce potential water stress during scarce periods; the improvement in water supply infrastructure is a policy recommendation considered by both the German and Spanish case studies; improving the governance at RBD level is an essential requirement in the Italian case study; fostering water efficiency technologies and practices could be achieved through water saving in buildings (Italy), waste water reuse and rainwater retention (Germany), reduced water leakage in both civil supply and agriculture (Italy and Spain); innovative economic-policy instruments such as water transfer and water markets are considered as potential solutions against increased water competition between sectors such as energy and agriculture; and finally, all case studies have identified the necessity to include climate change scenarios in the development of water management plans for appropriate inter-sector water allocation. In addition, the Italian case study has contributed consistently to the National Climate Change Adaptation Strategy (Special Chapter on the Po RBD).

Concluding, this report is an additional effort towards the European debate about water scarcity and drought, which defines concrete actions at RBDs' scale. Amongst other issues the Project addressed the following gaps: it delved into nuances of drought drivers and impacts; it characterised drought events; it evaluated droughts impacts and losses both economic and social; it provided ex-ante assessment of measures in place, institutional responses and governance; and finally it provided RBDs' specific recommendations for water scarcity and drought risk mitigation and climate change adaptation enhancement.

Results available at <http://www.feem-project.net/water2adapt>

Starting/Ending date of your project: September 2010-August 2012

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