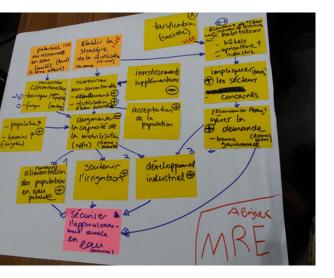# CO-MICC NEWS
1/2019

Interviews of water and climate-change experts in Algeria, Morocco and Tunisia

In May 2018, we interviewed 13 water and climate-change experts in Algeria, Morocco and Tunisia.

Two scientists, Dr. Laura Woltersdorf from Goethe-University in Frankfurt, Germany, and Prof. Yamna Djellouli from Le Mans Université in France, conducted the interviews. The experts were very interested in participating in CO-MICC during the next two and a half years. Interviewed experts came from national meteorological services, ministries concerned with water, national water supply agencies, basin agencies, university scientists and the civil society. The situation in and challenges facing the three countries are similar for the Mediterranean and Atlantic coast region: they already experience considerable water shortage. Especially Algeria and Tunisia counter this by supplying additional water. Dams are already exploited to the maximum and will be strongly affected by climate change. Water transfers from dams to regions with less water availability are common (e.g. from the north to the centre in Tunisia, Algeria). A strategy to counter water shortage now and under worsening climate conditions is the use of non-conventional water resources (desalination plants, treated water reuse for agriculture, particularly in Tunisia and Algeria) and improved water efficiency (e.g. drip irrigation, notably in Morocco).

The impacts of climate change, such as extreme precipitation events and more frequent droughts and floods, are perceived as having been noticeable since the year 2000.

At the same time, water demand is expected to increase in the future, due to population growth and a rising need for irrigation water. The situation looks different in southern Algeria and Tunisia: in the Sahara, water is used from the fossile aquifer SASS, which is not significantly impacted by climate change. Therefore, in CO-MICC we will focus on the Mediterranean and Atlantic coasts of the Maghreb, which are expected to be strongly affected by climate change. The current availability of data to experts (also from climate models) varies widely, depending on their domain of work. So far, the use of data from hydrological models is not widespread. Most interview partners have time frames for their work until 2020 or 2050, only meteorological services use data until 2100. Designing perception graphs helped to summarize and visualize the content of the interviews. Experts' perceptions and data needs will be further discussed in the workshop to be held in Le Mans in December.

CO-MICC Project Methodology Workshop, 4–5 July 2018

Within the scope of the activities of CO-MICC, the ESO-UMR 6590-CNRS laboratory organised a two-day methodology workshop in cooperation with the partners from the three Maghreb countries (MAT), held at the university of Le Mans, France, on 4–5 July 2018.

This workshop aimed at getting to know the researchers and the fields of research for the years to come as well as to work with a common methodology and to discuss:
- interviews of the stakeholders in charge of freshwater catchments in the selected wadis as well as to work using a survey method based on the specific nature of the basins studied.

Two lectures were given:
- Yamna DJELLOULI and Moise TSAYEM «Quels engagements des pays maghrébins face au changement climatique» (What are the commitments of Maghreb countries in view of the climate change?)
- Abdellatif Khattabi «L'analyse des parties prenantes et les jeux d'acteurs relatifs à la gestion de l'eau dans le bassin du Tensift (Maroc)». (Analysis of stakeholders and strategies of actors in the water management of the Tensift basin (Morocco))

Scientists from Tunisia, Algeria, and Morocco were able to present the catchments which are in the focus of their studies and scientific discussions were conducted.
- Ali BENNASR and Bilel SALHI: Catchment of the Wadi el Fekka, central Tunisia
- Rachid GHARZOULI, Khaled MISSAOUI, Amele LOUAIL Presentation of the Wadi Bousellam catchment (w. Sétif) – Algeria
- Abdelhakim HANNACHI – Problems concerning the reuse of sewage water in the Wadi el Gourzi (w. Batna) catchment in Algeria, unable to obtain visa.

- Sara BOUARAIS and A. Khattabi Presentation of the Wadi N'fis catchment (Morocco)
- Rachid ADDOU Presentation of the Wadi Melloulou catchment, tributary to the Moulouya (Morocco), unable to obtain visa.

Colleagues from the ESO laboratory, Erika FLAHAULT (senior lecturer, sociologist) and Sandrine BACCONNIER-BAYLET (senior lecturer and expert in social geography) were able to participate and contribute to the scientific discussions and bring in their expertise.

A synthesis of the work has been implemented for using a common methodology, considering special characteristics depending on the territory, based on activities in the workshop and by group.

François Messner, technician in the ESO laboratory, was able to work with the researchers, willing to learn more about their catchments and development of the latter, by means of remote sensing tools. Dalel HAMZA, researcher in Syfacte, Tunisia, was scheduled to work on the perception and mental images of actors within the catchments (unfortunately, she was unable to obtain a visa for coming to Le Mans).

We were able to discuss and adopt a method for performing tests in the selected sites in Tunisia, Algeria and Morocco.

The activities in the course of the two-day workshop resulted in fruitful discussions and scientific arguments.

Morocco, Algeria, Tunisia (MAT) Focus Region Workshop I

The first Workshop for the co-development of methods to utilize multi-model information on freshwater related hazards took place in the University of Le Mans in November 2018.

Several stakeholders from Morocco, Algeria and Tunisia (MAT) participated in this first workshop. One of the key aims was to gain an understanding of the possibilities of multi-model information. Together with the stakeholders, researchers from the CO-MICC team gathered information on the needs and perceptions of stakeholders in adaptation planning in MAT countries. First ideas for the design of the planned CO-MICC knowledge portal were presented and discussed.

Co-construction of Bayesian network structures was introduced to the stakeholders on the second day. In the CO-MICC project, this will be used as a basis to explore adaptation planning at the country scale.

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