
INTERNATIONAL SEMINAR ON DROUGHT AND AGRICULTURE
PREDICT, PLAN, PREPARE: STOP DROUGHT BECOMING A FAMINE
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SESSION 4: MAINSTREAMING DROUGHT MANAGEMENT IN THE
CONTEXT OF THE 2030 AGENDA

DTMIAT - DROUGHT MONITORING AND IMPACT ASSESSMENT TOOLBOX (DMIAT)

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The Mekong River Commission started to discuss on drought management and policies in 2006. The severe drought from 2009-2010 triggered policy-makers to place drought high on the agenda. It was decided to develop a Drought Management Initiative (DMI). One of the components of this initiative was to evaluate drought monitoring tools that can be used for a full drought monitoring and impact assessment program. The Drought Monitoring and Impact Assessment Toolbox (DMIAT) developed by FutureWater was a demonstration for the Mekong River Commission, using a mixture of observations, most of these based on readily available satellite information.

A follow-up of this work in 2014 was an application of the DMIAT tool in the Red River Basin in Vietnam, together with an operational high-resolution rainfall downscaling tool. Within this project, the first steps in integrating these drought-monitoring products in transboundary water management policies in the Red River Basin were taken. This follow-up project had a clear end user: the National Remote Sensing Department (NRSD, part of Ministry of Natural Resources and Environment) who were interested in applying DMIAT to support government decision-making on drought alleviation and water allocation.

This project led to a fruitful collaboration and a two-year programme. This shifted somewhat in focus from long-term drought monitoring using satellite information, to operational hydrological modelling for prediction of water availability (while still using similar satellite data as inputs). This change in scope was desired by NRSD, who identified the provision of data and advice for short-term water allocation from reservoirs to irrigation schemes and hydropower development as their main objective. The current status is that the system infrastructure has recently been moved from NRSD to [NAWAPI](#), who were ultimately regarded by the Vietnamese ministry as a more appropriate department for implementing this.

Recently, work has been carried out on that assesses the impact of land use changes in the Red River Basin, threatening water resources and water scarcity. A project focused on the Day River Catchment, a Red River tributary important for Hanoi, where most of these problems are manifest. The project developed equitable and economically viable pathways for the land and water resources of the Red River Basin that maximize social and environmental benefits over the next decades. Within this project, FutureWater worked on remote sensing analysis and hydrological modelling of tradeoffs in different scenarios regarding the future development of the Day Basin.