



FLOOD & DROUGHT MANAGEMENT TOOLS

Expert Training: Chao Phraya Report

13-15 December 2016

Bangkok, Thailand



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1. Summary

There is a growing sense of urgency around the need to improve resilience within river basins, and for this to become a critical part of water management plans. The increased frequency and unpredictability of floods and droughts is a priority concern across scales from transboundary to local, along with the other multiple drivers that cause depletion and degradation of shared water resources.

The Flood and Drought Management Tools (FDMT) project (<http://fdmt.iwlearn.org/>) is funded by the Global Environment Facility (GEF) International Waters (IW) and implemented by UNEP, with the International Water Association (IWA) and DHI as the executing agencies. The project is developing online technical applications¹ which can be applied individually or together at the basin or local level to facilitate the inclusion of information about floods, droughts and future scenarios into Integrated Water Resources Management (IWRM) planning, Transboundary Diagnostic Analyses (TDA) and Strategic Action Plans (SAP), and Water Safety Planning (WSP). The project is being implemented from 2014 - 2018, and 3 pilot basins (Volta, Lake Victoria and Chao Phraya) are participating in development and testing.

Understanding how to use the technical applications is an important aspect of the future operational use and sustainability of the FDMT project, therefore, capacity on the use and interpretation of the tool and their outputs, as well as giving stakeholders an opportunity to provide feedback on the functionality of the tools will go a long way to achieving this.

The project held an expert training with selected staff from the water utilities in Thailand, namely the Metropolitan Waterworks Authority (MWA) and the Provincial Waterworks Authority (PWA). The training focused on the catchment and basin aspects of the water utility through:

- Data and information availability through satellite data to supplement the existing observation network,
- Support to the WSP process through the web-based WSP tool and
- Catchment and basin assessments using the basin planning tool (still under development) enabling utilities (primarily PWA) to evaluate the impact on the water availability from different types of investments in the Chao Phraya basin.

The objective of the expert trainings are to:

- Enhance the understanding of selected staff from key stakeholders on the methodology and applications developed under the FDMT project
- Provide the selected staff with an opportunity to give feedback on the technical content of the applications
- Refine the development of the methodology and tools based on feedback

With support from the water utilities, DHI and the International Water Association (IWA) organised a three day training with MWA and PWA from 13-15 December 2016 (see agenda in Annex 1).

¹ The term tools and technical applications are used interchangeably. Tools in this context are defined as the technical applications being developed by the project and are available at <http://www.flooddroughtmonitor.com/home>

2. Expert training

2.1 Overview of expert training

The expert training on the use of the tools was scheduled upon request from stakeholders in the Chao Phraya Basin. The training focus on the catchment and basin aspect of the water utility through i) data and information availability through satellite data to supplement the existing observation network, ii) support to the WSP process through the web-based WSP tool and iii) catchment and basin assessments using the basin planning tool (still under development) enabling PWA to evaluate the impact on the water availability from different types of investments in the Chao Phraya basin. The feedback will be included in the further development and refinement of technical content of the tools.

The expert training for the two water utilities in the Chao Phraya Basin; Metropolitan Waterworks Authority (MWA) and the Provincial Waterworks Authority (PWA), was conducted from December 13 to 15. The aim of the expert training is to demonstrate how the outcomes (in the form of technical applications or tools) from the Flood and Drought Management Tools (FDMT) project could be applied by the Thai water utilities, and at the same time receive feedback on the current development.

The Metropolitan Water Authority (MWA) serves water to Bangkok, Nonthaburi Province, and Samut Prakan Province with the main intakes at the Chao Phraya River and from the Mae Klong Dam in Tha Muang District. The Provincial Water Authority (PWA) is responsible for the production and distribution of potable water that meets WHO standards to 74 provinces throughout Thailand—all except Bangkok, Samut Prakan, and Nonthaburi—which are served by the Metropolitan Waterworks Authority.

The expert training demonstrated the use of the outcomes from the project targeting the water utilities. This included an application which provides data and information on climate, which can be used in data sparse areas of Thailand. The aim is to make different types of climate data available for the water utilities and is especially useful where there is a lack of station data. Another technical application provided a library of indicators to guide water utilities towards selecting indicators for catchment related issues such as climate change, flood or drought events; the web based tool provides valuable information regarding the indicators for the utilities. An initial version of a water safety planning support tool was demonstrated. The web based application will assist water utilities with the Water Safety Plan (WSP) process. It aims to provide a risk based overview of all the components in the water supply system and assist with the implementation of control measures and action plans. Finally, a technical application around basin planning was also explored for its applicability to the utility context. The tool enables an evaluation of investments and planning options within the water utility's catchment area, using an underlying water resource model to evaluate the impact of different types of investments within the catchment as new water supply intake, irrigation schemes, urban areas and climate change. The impact is reported in the form of indicators documenting the supply reliability for the different sectors.

Objective

The objective of the expert training is to:

- Enhance stakeholders understanding of the methodology and tools developed under the FDMT project
- Provide stakeholders with an opportunity to give feedback on the technical content of the tools
- Refine the development of the methodology and tools based on stakeholder feedback

Expected outcome of the workshop

The expected outcome of the training is that staff from key stakeholders will understand the functionality, how to use the applications, and how the output from the applications can be used in decision making around flood and drought management planning at the stakeholder's respective level.

For the project, this will be an opportunity to get valuable feedback on the functionality and how the developed applications could be used in decision making.

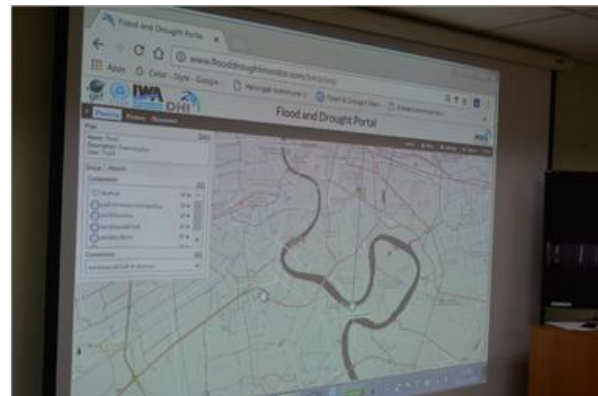
Target group

The target group of the expert training is the technical staff within the key project stakeholders.

2.2 Expert training

Day 1: 13 December 2016

The first day of the expert training was conducted at the Metropolitan Water Authority with participants from different departments within the water authority. The focus was on how the project could support the ongoing WSP process within MWA, with specific focus on the risk management part of the WSP process.



Day 2: 14 December 2016

The second day of the expert training was conducted at the Provincial Water Authority which have the challenges of having to plan for water distribution in a large part of Thailand with more than 200 regional water works in operation. The focus on the technical training was on the catchment and basin aspect of the water utility through i) data and information availability through satellite data to supplement the existing observation network, ii) support to the WSP process through the web-based WSP tool and iii) catchment and basin assessments using the basin tool (still under development) enabling PWA to evaluate the impact on the water availability from different types of investments in the Chao Phraya basin. Their training yielded a lot of constructive feedback to the project which will be used to further tailor the outcomes.



Day 3: 15 December 2016

The technical training was finalised with a half day workshop at MWA with participation from both MWA and PWA. MWA and PWA presented the status on their ongoing WSP work which was followed by a discussion and knowledge sharing session. The workshop was ended with a feedback session on the training and the presented tools which resulted in a number of constructive comments which will be evaluated and used by the project in the coming months.



Annex 1 – Agenda

Technical session 1 – 13, 14 December 2016	
full day at each of the water utilities	
Time	Item
09:00-09:10	Welcome and introduction to the workshop by the water utility
09:10-09:30	Presentation of agenda and topic of the technical session (DHI/IWA) <ul style="list-style-type: none"> • Agenda • Technical topics Expected outcome of the sessions
09:30-09:45	Introduction to data for water utilities (DHI) <ul style="list-style-type: none"> • Data requirements • Use of ground and satellite data Introduction to data portal
09:45-10:45	Technical exercise 1 (DHI/IWA) <ul style="list-style-type: none"> • Data and indices for water utility planning Discussion on relevance for applications within the water utility
10:45-11:15	<i>Break</i>
11:15-11:30	Water Safety Planning (IWA) <ul style="list-style-type: none"> • Introduction to WSP • Use in Thailand • WSP portal
11:30-11:45	Water Safety Planning tool (DHI) Introduction to web based WSP tool
11:45-13:00	Technical exercise 2 (DHI/IWA) WSP tool – introduction and use
13:00-14:00	<i>Lunch</i>
14:00-14:15	Planning at water utilities Introduction to planning tool
14:30-15:30	Technical exercise 3 (DHI/IWA) Application planning tool using Chao Phraya basin as a case
15:30-16:00	Discussion and wrap up (all)
Technical session 2 – 15 December 2016	
half day session with both water utilities	
Time	Item
09:00-09:15	Discussion and questions from day 1 (all)
09:15-09:45	WSP status and progress (MWA)
09:45-10:15	WSP status and progress (PWA)
10:15-10:45	Discussion (all)
10:45-11:15	<i>Break</i>
11:15-12:30	Group work (all) <ul style="list-style-type: none"> • Discussion on how the project outcomes could be used • Needs for refinement or changes • Recommendations to the project
12:30-13:00	Presentation of group work (all) Compile feedback and recommendations to the project
13:00-14:00	<i>Lunch</i>