



Capacity building on Drought Risk Management Mainstreaming (DRMM)

SWIM-H2020 SM, Expert Facility Activity No. EFS-PS-1-DRMM

CONCEPT NOTE AND AGENDA TRAINING No. 1

Technical training on Drought Risk Management Mainstreaming (DRMM)

07-08 November 2018

Carmel Hotel, Ramallah – State of Palestine

Background

Within the scope of work of the EU funded SWIM-H2020 SM, the project is undertaking an activity titled: “*Capacity building on Drought Risk Management Mainstreaming (DRMM)*” (Activity no. (EFS-PS-1). The activity aims to support aspects of mainstreaming drought/water scarcity into the legal framework on Disaster Risk Management (currently under development) and provide capacity building to water service providers and stakeholders.

Introduction

This task will involve a two-days technical training (offered by the Consultant) for the relevant stakeholders of the State of Palestine and officers of PWA involved in drought monitoring and management, to improve the existing drought monitoring practices, their capacity to run the Drought Monitoring System (DMS) and to calculate the drought indicators in other basins/ areas.

The main idea is to work closely with the PWA staff and stakeholders towards the development of a drought regulatory framework as an essential element in drought risk management, and its mainstreaming into the legal framework on Disaster Risk Management. This will enhance the capacities to replicate the pilot case studies in other areas (i.e. capacity building on calculating the drought indicators and mapping drought risk).

Expected outcome:

After successful completion of the training, the participants will:

1. Have specific understanding and skills for the meteorological data processing.
2. Have a general understanding on drought monitoring indices.
3. Acquire specific skills for the computation of the most widely used drought indices.
4. Familiarize with specific freeware mathematical modelling regarding drought indices
5. Acquire specific skills for the drought hazard mapping.
6. Increased awareness on the socio-economic added-value of drought risk management
7. Enhance their technical and managerial capacity to cope with drought
8. Have better knowledge of current drought characteristics impacts and management
9. Be familiar with the guidelines for the elaboration and adoption of a drought risk management regulatory framework.

Objectives of Training:

Training will cover the issues raised in the Expert Facility classified into the following 5 categories.

1. Drought & Water Scarcity Hazard Monitoring and Assessment.
2. Drought Vulnerability Assessment.
3. Drought Risk Assessment & Development of Drought Risk Profile for the two pilot Governorates (*Jenin & Tulkarem*).
4. Guidelines to Drought Risk Management Mainstreaming (DRMM).
5. Definition of Groundwater Protection Zones.

Specifically, the various objectives per category are:



Drought & Water Scarcity Hazard Monitoring and Assessment.

1. Introduce the relevant PWA staff and other stakeholders to the general hydrological and meteorological context regarding droughts including drought and water scarcity definitions.
2. Introduce the relevant PWA staff and other stakeholders to the main drought indicators which can be used for drought identification and characterization, incorporating different hydrological elements, (rainfall, evapotranspiration, spring discharge and groundwater level).
3. Train the relevant PWA staff and other stakeholders on the statistical process of rainfall and the meteorological variables that lead to the calculation of the potential evapotranspiration.
4. Hands on FAO (ETo Calculator) model.
5. Train the relevant PWA staff and other stakeholders on the software (DrinC model and WMO model) for the computation of Standardized Precipitation Index (SPI), Reconnaissance Drought Index (RDI), and Streamflow Drought Index (SDI). Hands on the DrinC software.
6. Utilization of GIS procedures to assist Drought Hazard Assessment.

Drought Vulnerability Assessment.

7. Definition of Physical Exposure, Physical Sensitivity and Socioeconomic Characteristics as three types of vulnerability indicators.
8. Utilization of GIS procedures to assist Drought Vulnerability Assessment.

Drought Risk Assessment & Development of Drought Risk Profile for the two pilot Governorates (Jenin & Tulkarem).

9. Assessment of Drought Risk as the multiplication of Hazard and Vulnerability.
10. Water Scarcity Effects on Drought Risk Profile
11. Utilization of GIS procedures to assist Drought Risk Assessment.

Guidelines to Drought Risk Management Mainstreaming (DRMM).

12. Preparation of the Roadmap and Guidelines for the elaboration and adoption of a drought risk management regulatory framework and for its mainstreaming into the legal framework on Disaster Risk Management.
13. Drought risk management regulatory framework and its mainstreaming into the legal framework on Disaster Risk Management.

Definition of Groundwater Protection Zones.

14. Definition of groundwater protection zones in 2 pilot areas.
15. Development and calculation of a groundwater vulnerability.

Target Participants

The invitees should be directly involved, in drought management/ water resources management and planning, hydrological and water balance modeling).

The activity's target groups are the following:

1. Ministries
 - Ministry of Agriculture.
 - Ministry of Local Government.
2. Other services and authorities
 - Environment Quality Authority
 - Palestinian Water Authority
 - Palestinian Energy Authority
 - Meteorological Department
3. Other stakeholders
 - Local NGOs



Agenda

Day 1: Drought Hazard & Vulnerability		
Time	Session	
8:30	Registration	All participants
9:00	Opening Session Welcome Speech from PWA coordinator Opening Remarks Pre-training Assessment	Mrs. Majeda Alawneh , SWIM's FP, Director of Water Quality Department
9:15	<ol style="list-style-type: none">1. Introduction2. Principles of hydrology and droughts3. Rainfall (spatial & temporal distribution).4. Statistical process of rainfall data (definition of outliers, double mass curves, correction, gap filling).5. Computation of Potential Evapotranspiration (Penman-Monteith, Priestley-Taylor, Hargreaves, Thornthwaite, Blannay – Criddle methods) Hands on Potential Evapotranspiration Calculation<ul style="list-style-type: none">• FAO ETo Calculator• DrinC Model	Mr. Demetris Zarris , Drought Hazard NKE
10:00	<ol style="list-style-type: none">1. Definitions of Drought, Water Scarcity and Aridity.2. Setting the Concept of the Drought Indices.3. The Standard Precipitation Index (SPI). Theory and Calculation4. Hands on: Using WMO software for SPI calculation	Mr. Demetris Zarris , Drought Hazard NKE
11:00	Coffee Break	
11:15	<ol style="list-style-type: none">1. The Standard Precipitation – Evapotranspiration Index (SPEI). Theory and Calculation2. The Reconnaissance Drought Index (RDI). Theory and Calculation	Mr. Demetris Zarris , Drought Hazard NKE
12:30	<ol style="list-style-type: none">1. Concepts of water scarcity2. Concepts of drought vulnerability3. Concept of a Drought Risk profile4. Drought Risk Management Mainstreaming	Mr. Floris Verhagen , Drought Vulnerability NKE
13:30	Wrap up of Day 1	
14:00	Lunch	



DAY 2: Drought Risk Management Mainstreaming: Case Studies in Palestine

08:30	<ol style="list-style-type: none">1. Introduction to the case studies: Jenin and Tulkarem Governorates.2. Development of the Drought Risk Profile for Palestine.3. Drought hazard in Jenin and Tulkarem Governorates.	Mr. Demetris Zarris , Drought Hazard NKE
10:00	Coffee Break	
10:15	<ol style="list-style-type: none">1. Water Scarcity Hazard in Jenin and Tulkarem Governorates.2. Drought Vulnerability in Jenin and Tulkarem Governorates.3. Drought Risk Profile in Jenin and Tulkarem Governorates.4. Drought Risk Management Mainstreaming (DRMM) and Road Map for a Drought Risk Management Regulatory Framework.	Mr. Floris Verhagen , Drought Vulnerability NKE
11:45	Coffee Break	
12:00	<ol style="list-style-type: none">1. Groundwater Vulnerability Assessment	Mr. Gert Soer , Groundwater Protection NKE
13:30	Wrap up of Day 2 - Discussion	
14:00	lunch	

Software Models:

1. SPI model by the World Meteorological Organization (WMO).
2. ETo Calculator by the Food & Agricultural Organization (FAO)
3. DrinC – Drought Indices Calculator by the Lab. Of Reclamation Works and Water Resources Management, & Centre for the Assessment of Natural Hazards and Proactive Planning.

The model setup files will be sent to PWA the soonest possible.