WP2/Activity 2.2.2

REGIONAL TRAINING WORKSHOP ON THE IDENTIFICATION AND DEVELOPMENT OF CLIMATE CHANGE NO-REGRET ACTIONS IN THE WATER SECTOR (Amman, 3-5 October 2012)

Final report

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1. WORKSHOP BACKGROUND AND OBJECTIVES

4.1 Workshop Introduction

Within the scope of work package 2 (WP2) – "Capacity Building" Activity 2.2.2., the EU-funded "Sustainable Water Integrated Management – Support Mechanism SWIM-SM" project conducted**a 3-day** regional training for national and local water practitioners from the Project countries (PCs)with part of the training provided by representatives from the PCs experienced in adaptation planning and implementation of no/low regret actions.

The training course was organized in Bristol Hotel in Amman between 3 and 5 October 2012. Around Fourty (40) international, regional and local experts from six participating countries participated in the workshop, namely Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia. The targeted audience for the workshop was middle level professionals from the countries, including government officials, water resources practitioners, environmentalists, planners, stakeholders, involved in water planning and management activities.Furthermore, a number of journalists from the same countries took also part in the training. The detailed list ofparticipants is included in Section 7.

Thetraining course was designed and moderated by Stéphane SIMONET, Senior Water and Climate Change Expert and course leader, and co-facilitated with two other experts from France (Dr. Sara Fernandez, EHESS, Senior Water Expert) and Morocco (Prof. Jamal Alibou, Hassania School of Public Works, Senior Water Specialist).

4.2 Objectives and expected results

The **overarching objective** of the trainingwas to develop the capacity of PCs to undertake immediate precautionary measures towards the adaptation of the water sector to potential negative impacts of climate change.

In response to the most imminent challenges arising from the fact finding missions undertaken by SWIM-SM during the inception phase of the project, the training aimed at achieving the following **specific objectives**:

1) Raise the awareness of the participants on the potential impacts of climate changes on water resources in the region, its socio-economic and environmental consequences,
2) Increase their understanding on the degree of vulnerability particularly to increasing drought and flood events,
3) Make the case for adopting the no-regret actions approach as the appropriate and immediate means for the water sector to adapt to climate change,
4) Introduce appropriate approaches for planning, strategizing and developing no-regret actions measures, plans and policies, with a special focus on drought and flood management-
5) Review capacity, political commitments and measures needed for the creation of an enabling environment for the implementation of no-regret actions including institutional, legislative and financial needs
6) Identify and discussappropriate approach and practices for mainstreaming no-regret actions into IWRM policy frameworks
7) Identify the optimal communication and public participation strategies to enhance the role of communities in designing and implementing no-regret water management measures.

2. LEARNING METHODOLOGY

The training was conducted in a participatory and interactive manner, making use of professional learning tools such as:

- Presentations by trainers and by the participants
- Moderated debate and roundtable discussions
- Structured case study analysis and group works involving trainees
- Personal and/or National perspectives

The training took into account the heterogeneity in the climate change adaptation experience in the region and was flexible to accommodate pressing interests that were identified in the course of the sessions.

Electronic copies of lecture materials and a full set of documents had been prepared by the course trainers and provided to all participants.

In addition, at the end of each day, participants were asked to report on their ''key learnings'' as well as the things that they were going to change/apply based on what they had seen during the course. This process enabled a gradual consolidation and build up of learning outcomes, giving a chance to the participants to share views and ideas on how the course will help improve their thinking or practice.

3. Course Structure

The course was designed according to the generic climate risks management framework and wasstructured around four (4) main pillars divided into nine (9) sessions:

Part I: Risk identification

- Session 1: Identifying climate change impacts on water resources in the Southern Mediterranean Region

Part II: Risk Assessment

- Session 2: Assessing climate change risks on environment and development

Part III: Risk Management

- Session 3: Addressing climate change risks through no-regrets actions
- Session 4: Building climate resilience practices in water management
- Session 5: The role of economic instruments in no-regrets adaptation
- Session 6: Bridging the capacity gap
- Session 7: Strengthening the enabling environment
- Session 8: Mainstreaming no-regrets strategies into IWRM frameworks

Part IV: Risk Communication

- Session 9: Effective risk communication to enhance public awareness and support

The detailed workshop agenda is available in Section 6 of this report.

4. SUMMARY OF TRAINING ACTIVITIES AND OUTCOMES

4.1 Day 1

Session 1: Identifying climate change impacts on water resources in PCs

A presentation was given to provide a comprehensive picture of the nature and magnitude of projected climate change in the SWIM region as well as potential impacts on quantity, quality and timing of water resources and hydrological hazards in the PCs. The main climatic and non-climatic factors of vulnerability and risks were presented.

The Q&A that followedand moderated discussion with the participants offered the opportunity to share recent data and also local/national experiences and perspectives on the range of climate change hydrological impacts already observed in the SWIM countries. Egypt's representatives provided some feedback on the recent assessments of the Sea-Level Rise in the Nile Delta, highlighting the tremendous amount of risk on socio-economic and environmental assets. Discussions addressed the importance of non-climatic drivers of water scarcity such as population growth, urbanization and increased run-off due to impermeability of the soil. The role played by changes in life style in increasing demands for water was also underlined.

Session 2: Assessing climate change risks on environment and development

This session provided a refreshing perspective on the environmental and socio-economic consequences of climate change impacts on the water sector in the PCs as well as emerging policy implications and concepts to build water-

based climate change resilience, such as Green Economy and Water-Food-Energy Nexus. The presentation was followed by a number of interventions and statements from the floor that touched upon various issues.

Several countries like Jordan, Morocco and Lebanon presented their own situation with respect to climate change impacts on water, including resulting changes and problems already observed in the health, water and environmental sectors.A debate took place on whether adaptation to climate change should start now or should wait until the science provides more precise and accurate information on the future climate and hydrology. Some participants argued that CC is already there and that delayed action could prove too costly or too late if not started now. Others stressed that adaptation requires important investments in new or retrofitted infrastructures and this cannot happen without solid and accurate climate and hydrological information.

Interesting discussion also happened on the fact that the bulk of the adaptation challenges and efforts is likely to lie now within urban areas given the level of urbanization of the PCs and that, as opposed to rural areas, little has been done in terms of research and solutions for adapting urban water systems to CC. Certain participants emphasized however that ensuring climate resilience of rural areas should not be downplayed as progress towards adaptation is still slow in these spaces and a number of critical needs and challenges remain particularly high.

Session 3: Addressing climate change risks through no-regrets actions

A lecture was given on the issue of water security and its relationship to climate-resilient development. The challenges posed by climate change uncertainty for water managers and neededpolicy options forsupporting no-regret strategies and measures were also elaborated. Discussions then centered on the distinction between no, low or high regret measures and how to integrate uncertainty as a new parameter in water planning and decision making. Clarification and examples were provided on the principles ofrobust and adaptive management in the water sector. Emphasis was put on the need to define vulnerability threshold, to devise no-regret strategies that combine a portfolio of adaptation measures andto sequence/deploythese over time, as climate change unfolds and climate science improves.

Consolidation

Participants were asked at the end of the Day to report back on their main ‘’learnings’’ as well as how the sessions may influence or even change their thinking/practice.

Main learnings identified by the participants included:

- Uncertainty & models limitation should not prevent decisions and actions
- Past hydrology is not anymore reliable and a good guide for future planning (‘’Stationarity is dead”)
- Scenario-based approaches are key to deal with uncertainty
- There are tools and methods to manage uncertainty (robust-decision making, adaptive management, etc.)
- No-regret actions are necessary starting points for adaptation

Reported changes in thinking/practices were as follows:

- Importance of strengthening the communication, awareness raising and mobilization efforts towards decision-makers, civil society and most vulnerable groups
- Importance of accepting and integrating uncertainty into decision-making
- Urgency of promoting a change towards robustness and adaptive management
- Adaptation requires a combination of alternative strategies to withstand a range of plausible climate futures

4.2 Day 2

Session 4: Building climate resilience practices in water management

This session aimed at presenting examples of relevant no-regrets measures and good practices for managing climate-induced water scarcity, drought/flood risks, altered water quality, etc.Regional insights on measures preferably implemented by the PCs as well as criteria and tools for developing balanced portfolios of no-regrets actions were also given. Below is a summary of the main points raised by the participants:

- IWRM should be the main overarching framework for no-regret adaptation
- The role of ecosystem-based adaptation should be reinforced and advocated more strongly to policy-makers, including by securing adequate environmental flows in the PCs.
- Green water should be used more systematically through appropriate water harvesting measures
- Demand-management needs to be given more traction and priority in the PCs and to be supported by adequate economic analysis, such as Cost-benefit Analysis.
- Preserving water quality is also an important no-regret strategy that does not feature high enough on the political agenda. The water debate in the region is very much driven bythe water quantity and availability issue. Tools such as Water Safety Plans (WSPs) can be very powerful.
- In preserving water quality, non-point pollutions are a real challenge. Another challenge is political will to define and enforce proper quality regulations and norms for point and non-point pollutions, and to make relevant tools, such as WSPs, mandatory.
- Agriculture is at the center of water quantity and quality problems. There is a need to work in a more participatory way with farmers and to enroll them into new management schemes (e.g. ‘’Contrat de Nappe’’ in Morocco)
- Water transfers and dams are very costly solutions, with large impacts on the environment. Jordan shared its experience in developing evaluation criteria of adaptation measures that include technical, economic, social, environmental and uncertainty-related considerations.

Session 5: The role of economic instruments in no-regrets adaptation

In this session, the needs and benefits of economic and financial instruments (E&FIs) for adaptation were presented along with main conditions for success, and examples of good practice from the Mediterranean. Exchange amongst the participants revolved around particular EFIs, such as water tariffs and the need or not to develop new pricing systems to reflect increased water scarcity resulting from climate change. Importance of enforcing existing tariffs and working towards convincing farmers and irrigators to adhere to those was emphasized. Countries also shared their experience in assessing the cost of climate change impacts and adaptation as a first step towards setting-up proper E&FIs inthe PCs. Also, discussions took place on the various international funding mechanisms for adaptation that do not benefit the PCs as compared to the other regions. The need to streamline modalities for accessing these resources, including arrangements to develop and submit project requests, was emphasized.

Session 6: Bridging the capacity gap

This session provided an overview of the rationale behind capacity building as well as suitable approaches and tools for assessing and addressing capacity development needs for adaptation.

Group exercise 1

Participants were divided into four groups working on two different case studies: one related to water scarcity and another one dealing with extreme flooding event. Each group had to assess the most critical climate change risks on water and develop a balanced portfolio of no-regrets responses using different selection criteria such as

robustness, no/low regret nature of the measure, flexibility, effectiveness, efficiency, etc. Results were reported back and discussed in plenary.

Example: outcomes fromthe group on ''Water Scarcity''

Identification of adaptation measures

Assessment and prioritization of measures using selection criteria and scoring scale

Plenary discussions addressed methodological issues as well as some particular findings, including the fact that for most groups, infrastructural adaptation measures, such as large dams, desalination plants, inter basin transfers, etc. have not scored very high due notably to their low flexibility and robustness, high capital cost and environmental impacts as well as important sensitivity to climate change uncertainty (high-regret options). This does not mean however that such solutions should be discarded, but rather that careful examination of their relevance and feasibility, based on a multi-criteria analysis, including cost-benefit analysis, should be done. The Jordan representatives shared a very interesting tool for conducting such multi-criteria assessment and prioritization of measures that wassuccessfully tested and applied as part of a MDG-F/UNDP Adaptation project in the Zarka river.

Consolidation

Key learnings of the Day:

- Multi-criteria analysis (MCA) and adaptation decision-making
- The role of the ''3Ts'' (Tariffs, Taxes and Transfers) in no-regret adaptation

Changes in thinking/practice:

- Use and application of MCA methodology such as the one adopted by Jordan for the Zarka river
- Potential of EFIs as opposed to physical measures

4.3 Day 3

Session 7: Strengthening the enabling environment

Session 7 covered a wide range of institutional, political, legal and financial actions to support no-regret adaptation. Reactions and contributions from the floor highlighted a number of points such as:

- How to ensure flexibility in the law-making and implementation process?
- Who is representing the interest of the environment in the policy making? Whois making sure that there is also water allocated to ecosystems?
- The importance of working at the territorial, local level, especially in countries which have initiated a strong decentralization process (e.g. Morocco),

- The challenges posed by the low institutional weight of the Ministries of Environment in the PCs who are often in charge of CC but do not have the political leverage to ensure the mainstreaming of CC adaptation into existing water policies and planning frameworks which lie outside their mandate
- The need to set-up well regulated and conducive frameworks for the involvement of the private sector in adaptation actions through a new generation of ''Public-Private Partnership'' that draws upon the lessons learnt from past experiences, esp. on aspects related to the regulation and control of such partnerships.

Session 8:Mainstreaming no-regret strategies into IWRM frameworks

The linkages between IWRM and climate change adaptation were discussed in this session and suitable approaches and tools for mainstreaming no-regrets options into IWRM policies, plans and programmes presented, along with international and regional illustrations. In addition, the recent SWIM studies on the evaluation of water planning and IWRM in the SWIM countries and the guidelines to integrated CC into water plans and policies were presented and shared with the participants. Countries also shared their experience in mainstreaming CC adaptation into existing and new water plans (Morocco, Lebanon, Egypt, etc.) and exchanged over the main challenges and obstacles to mainstreaming.

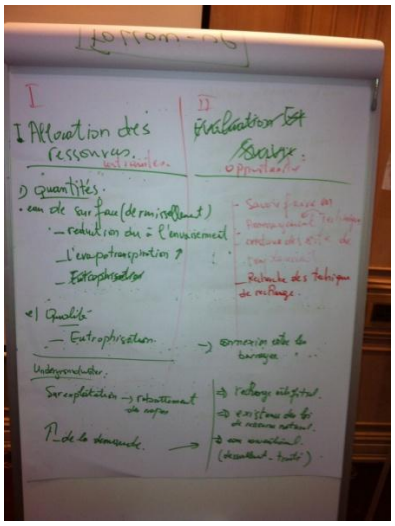
Session 9: Effective risk communication to enhance public awareness and support

A presentation was given on the rationale for public awareness and communication in climate change adaptation as well as on proven instruments and measures to communicate towards and mobilize communities for building adaptation schemes. Regional examples from the drought and agricultural sectors were provided. Theexchanges that followed, addressed national experiences, success factors and pre-conditions for effective community and public support, including the need for adaptation projects to properly insert themselves into the local contexts and local adaptation strategies pursued by the beneficiary groups.

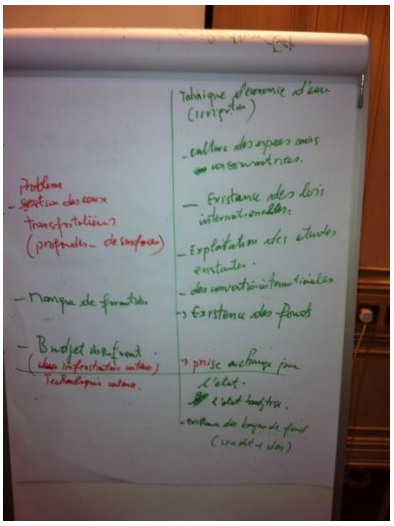
Group Exercise 2

Participants were organized in country groups and were asked to identify appropriate entry points and measures to integrate no-regrets strategies into their national IWRM and water planning processes.

Example: outcomes from the Tunisian group



Mainstreaming entry points and actions at the resource allocation level



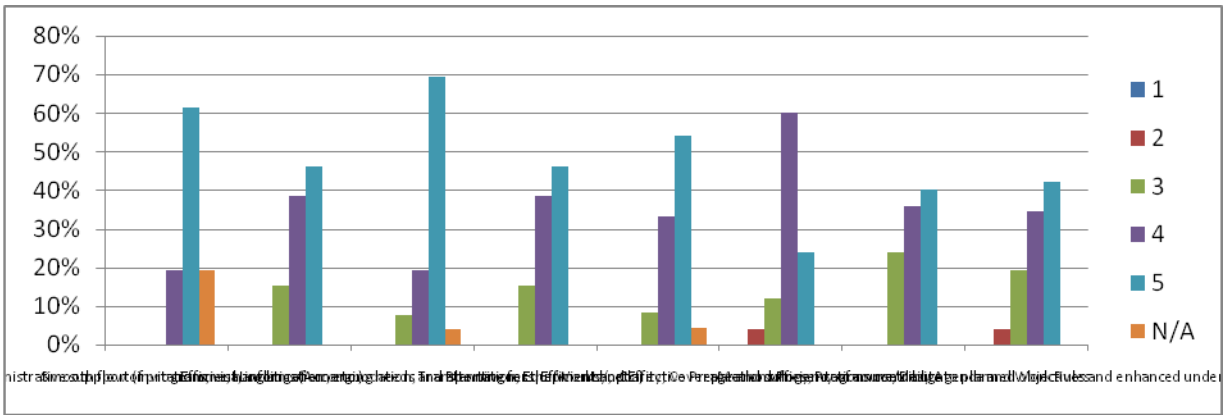
Mainstreaming entry points and actions at the implementation level

5. Workshop Evaluation findings and recommendations

At the end of the worksop, the participants filled an evaluation form to express their opinion and feelings about the efficiency, effectiveness and soundness of both the organization and delivery of the training. The forms were thereafter analyzed to extract lessons and recommendations for follow-up activities. Below is a summary of the evaluation findings and main feedback from the participants.

5.1 Organizational and administrative issues before and during the workshop

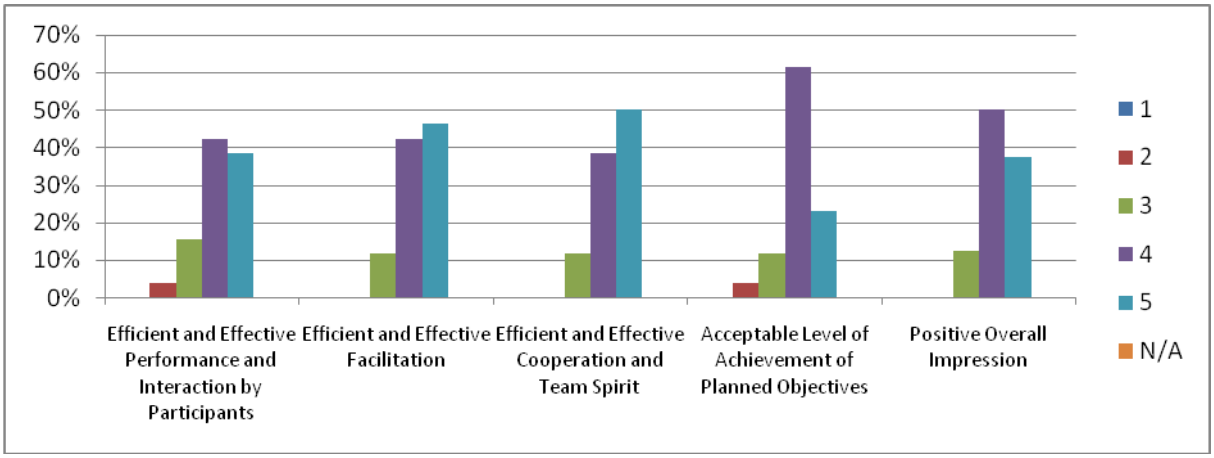
As depicted in the chart below, a set of 8 criteria were assessed by the participants, using a scoring scale from 1 to 5, with 1= ''Strongly disagree'' or the lowest, most negative impression and 5=''strongly agree'', or the highest, most positive impression.



Overall, impression of participants was positive to very positive (70 % to 90 % on average) on most aspects related to the course organization, administration as well as design and contents. Concerns about contents and design emanated from certain journalists who found the course a bit too technical as compared to their familarity with and understanding of the climate change issue.

5.2 Executing the workshop

The same scoring scale was used to assess another set of criteria related to the execution of the workshop per se.



Similarly, the participants' feedback was very encouraging with a large majority giving the highest scores to issues such as performance and interaction, quality of facilitation and team spirit. For more than 80% of the participants,

the course has satisfactorily achieved its objectives and around 90% of the answers reflect a positive or very positive overall impression.

5.3 Personnal impression and recommendations

Participants were invited to express themselves on the aspects that they have liked the most and their recommendations for improvement in the future. Below is a summary of the findings:

Most liked things	Suggestions for improvement
➢ **Course design, quality of presentations and information given** ➢ **Logistical arrangements and support** ➢ **Diversity of participants** ➢ **Availability and attentiveness of the facilitators** ➢ **Cooperation and team spirit within the group** ➢ **Knowledge of the facilitators** ➢ **Facilitation methodology and skills**	➢ Programme a bit too dense→spread the sessions over 4 days, not 3 ➢ Reduce the number of sessions or add one day to the programme ➢ Reduce the number of participants to provide more space for exchange and discussion ➢ More tools, methods and examples of technical applications, esp. on robust decision-making and uncertainty management ➢ Insist more on the water-energy nexus.Better integration/balance between official delegations and journalists ➢ Ensure participants have the same level of experience and familiarity with the issue (more homogeneous group) ➢ Invite Northern Mediterranean countries for North-South exchange of experience and best practices ➢ Organize field trips and visits ➢ More space for presentation of national experiences and perspectives ➢ Improve the quality of translation in French and Arabic ➢ Improve timing and itinerary of flights ➢ The course should not be organized on Friday or during Week End

In addition, participants were asked to identify the priority needs/topics for future training and capacity building actions under the SWIM climate change pillar. Areas identified by the participants include the following:

- Training on concrete and operational tools for vulnerability assessement and adaptation decision-making in the water sector, including decision support systems and computer-based analytical tools.
- Interpretation and use of climate information in water management and planning, including model outputs, weather forecasts, climate services and early warning systems
- International Funding Mechanisms for Adaptation, including formulation and submission of bankable adaptation projects,
- Ecosystem-based adaptation
- Technical tools for robust decision-making and adaptive management of water resources, with concrete applications in the SWIM countries

6. COURSE SCHEDULE/CURRICULUM

From	To	Day 1	Method/Speaker or Trainer
9:00	**9:30**	**Opening Remarks** • Welcoming Participants • Introduction • Overview of SWIM-SM • Briefing on course objectives, agenda and logistical issues • Presentation of the participants and expectations	SWIM Team Stéphane Simonet

From	To	Day 1	Method/Speaker or Trainer
9:30	11:00	**Session1: Identifying climate changeimpactson water resources in the Southern Mediterranean Region** • Presentationon: - Regional climate change trends, hazards and potential impacts on water resources in the SWIM countries - Expected effects on drought and flood patterns - Main underlying factors of vulnerability and risks • Q&A and moderated discussion: - How does climate change look like in your country? - What are the observed changes in hydrology?	Jamal Alibou
11:00	11:30	**Coffee Break**	
11:30	13:00	**Session 2: Assessing climate changerisks on environment and development** • Presentation on: - Linkages between Climate Change, Water security and Sustainable Development - Environmental and socio-economic consequences of climate change impacts on water sector in PCs - Policy implications and emerging concepts to build water-based resilience • Q&A and moderated discussion: - How does climate change make water management different in your context? - What are the policy implications?	Sara Fernandez Participants
13:00	14:00	**Lunch Break**	
14:00	15:30	**Session 3: Addressing climate change risks through no-regrets actions** • Presentation on: - Water security and climate resilient development in PCs - Water management under the challenge of uncertainty • Q&A	Stephane Simonet
15:30	16:00	**Coffee Break**	
16:00	17:00	**Session 3 (continued)** • Presentation on: - Making the case for no-regret actions - Developing appropriate policy options • Q&A and moderated discussion key constraints, challenges and opportunities for developing no-regrets actionsin SWIM countries	Stephane Simonet Participants

From	To	Day 2	Method/Speaker or Trainer
9:00	9:30	Review and conclusions of Day 1 Briefing on Day 2	Rapporteur
9:30	11:00	**Session 4: Building climate resilience practicesin water management** • Presentation on : - Review of relevantno-regrets measures for managing climate-induced water scarcity, drought/flood risks, altered water quality, etc., - Regional insights on measures preferably implemented by PCs - Criteria and tools for developing balanced portfoliosof no-regrets actions • Q&A and moderated discussion on key aspects of the measures presented	Sara Fernandez Participants
11:00	11:30	**Coffee Break**	
11:30	13:00	**Session 5: The role of economic instruments in no-regrets adaptation** • Presentation on:	

From	To	Day 2	Method/Speaker or Trainer
		- Needs and benefits of economic and financial instruments (E&FIs) for adaptation - Typology of instruments, main purposes and features - Conditions for success, and good practice examples from PCs • Q&A and moderated discussion on main constraints and factorsfor successful implementation of E&FIs	Sara Fernandez Participants
13:00	**14:00**	**Lunch Break**	
14:00	**15:30**	**Session 6: Bridging the capacity gap** • Presentation on: - The adaptive capacity framework - Approaches and tools for assessing and addressing capacity development needs - Good practice examples • Q&A and practical exercise on identifying priority capacity development needs by use of quick self-assessment matrix	Stéphane Simonet Participants
15:30	**16:00**	**Coffee Break**	
16:00	**17:00**	**Case study and group work** • Presentation of a case study • Participants will be organized in break out groups • Each group will have to assess the most critical climate change risks on water and develop a balanced portfolio of no-regretsresponses	**Working groups** **Participants**
17:00	**17:30**	• Presentation in plenary by Group representatives • Discussion of results • Consolidation, reflection and uptake	**Working groups** **Participants**

From	To	Day 3	Method/Speaker or Trainer
9:00	**9:30**	Review and conclusions of Day 2 Briefing on Day 3	Rapporteur
09:30	**10:30**	**Session 7: Strengthening the enabling environment** • Presentation on: - Conditions for political commitments and support - Suggested legal and institutional reforms - Development of adequate financing strategies • Q&A and moderated discussion on key institutional, policy and financial barriers impeding no-regrets precautionary actions in SWIM countries	Jamal Alibou Participants
10:30	**11:00**	**Coffee Break**	
11:00	**12:00**	**Session 8: Mainstreaming no-regret strategies into IWRM frameworks** • Presentation on - Linkages between IWRM and climate change adaptation - Approaches and tools for mainstreaming no-regrets options into IWRM policies, plans and programmes - Project Country examples and experiences • Q&A and Moderated discussion on success-factor for effective mainstreaming	Jamal Alibou Participants
12:00	**13:00**	**Session 9: Effective risk communication to enhance public awareness and support** • Presentation on : - Rationale for public awareness and communication in climate change adaptation - Overview of available communication instruments and measures - Regional examples from the drought and flood management sector • Q&A and moderated discussion on how to improve risk communication in the PCs	Stéphane Simonet Participants

From	To	Day 3	Method/Speaker or Trainer
13:00	**14:00**	**Lunch Break**	
14:00	**15:00**	**Case study and group work(with working tea/coffee)** • Presentation of a case study on IWRM planning • Participants will be organized in break out groups • Each group will have to identify appropriate entry points and measures to integrate no-regrets strategies into IWRM processes	**Working groups** **Participants**
15:00	**15:30**	• Presentation in plenary by Group representatives • Discussion of results • Consolidation, reflection and uptake	**Working groups** **Participants**
15:30	**16:00**	**Closing Session:** • Wrap up and way forward • Evaluation and certification	Stéphane Simonet SWIM team

7. LIST OF PARTICIPANTS

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