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& North Africa

Land & Water Days

Amman- Jordan 15-18 December 2013





**Near East and North Africa Land and Water Days
Amman, Jordan, 15-18 December, 2013**

**Food and Agriculture Organization of the United Nations,
Regional Office for the Near East and North Africa**

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Foreword

The Near East and North Africa Land and Water Days is a Region-wide event with the aims of documenting relevant experiences with land and water management, providing a broad exchange of knowledge between professionals and technical managers, promoting policy dialogue on major land and water challenges in the Region and identifying critical actions that may contribute to significant improvement in Agriculture water management for food security in the Near East and North Africa (NENA). The event also provided a forum for discussing a feasible Regional Collaborative Strategy to address emerging issues on 'agriculture water management and food security' along with a related and effective 'partnership'.

Held in Amman, Jordan, between the 15 and 18 December 2013, the event was convened in partnership with fifteen regional and international institutions, including ¹ACSAD, AOAD, AWC, CEDARE, DRC, ESCWA, GIZ, ICARDA, ICBA, IWMI, LAS, NWRC-Egypt, UNESCO, WB and WFP, covering twelve thematic technical sessions, three policy dialogue sessions in plenary, and one 'market' place (Agenda in ANNEX I).

The meeting was organized under the patronage of the Prime Minister of Jordan, HE Abdullah Ensour, and was opened by H.E Akef Elzubi Minister of agriculture of Jordan

The meeting was attended by more than 200 participants including delegates from 15 countries from the Region, experts from within and abroad the Region, NGOs and several other representatives from donor countries, local agencies, farmers association and water.

The Near East and North Africa Land and Water Days is part of the FAO Regional Initiative on Water Scarcity for the NENA Region, representing a delivery mechanisms of the FAO's new 'Strategic Framework' aiming at achieving more effective results, higher impact on the ground, and overall more value-for-money.

The main drive for the organization of this event was the recognition that the future of the people living in the NENA Region is under serious risks of unsustainable development and food insecurity due to the severe intensification of water scarcity, land degradation, the rapid demographic growth, and the anticipated negative impact of climate change.

The outcomes of the various discussions during the event are here reported, with particular highlights and recommendations on the policies, governance, incentives, practices and collaboration modalities that need to be put in place to achieve solutions that would reduce considerably the risk of an unsustainable future.

The outcomes of the meeting will feed into the collaborative regional strategy on sustainable agriculture water management and an action plan that the regional office and partners will be implementing to help countries in the Near East and North Africa Region cope with Water Scarcity.

FAO Regional Office for the Near East and North Africa conveys its deep appreciation to the Government of Jordan for its hospitality.



Abdessalam Ould Ahmed
Assistant-Director General &
Regional Representative for the Near East and North Africa
Food and Agriculture Organization of the United Nations

¹ Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD), the Arab Organization for Agricultural Development (AOAD), the Arab Water Council (AWC), the Centre for Environment & Development for the Arab Region and. Europe (CEDARE), the Desert research Center (DRC), United Nations Economic and Social Commission for Western Asia (ESCWA), the German International Cooperation (GIZ), the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Water Management Institute (IWMI), League of Arab States (LAS). National Water Research Center (NWRC-Egypt), United Nations Education, Science and Cultural Organization (UNESCO), World Bank (WB), World Food program (WFP).

Executive Summary

For many centuries, the people of the Near East and North Africa (NENA) Region were able to cope, and even flourish, under conditions of water scarcity. However, with decades of relentless high rate of population growth, rapid urbanization, and uncharacteristically excessive consumption patterns, the region is now facing unprecedented levels of pressure on its natural resources. Adding the looming threat of climate change to these pressures, the achievement of effective management of land and water that ensures efficient utilization of the resources and leads to sustainable food security, has become a necessity. Though the region has accumulated a wealth of knowledge on management systems that can support its pursue of sound and sustainable land and water productivity, unfortunately, many of the successful experiences are limited in scope and space, or not well documented or disseminated. This situation has resulted in a significant knowledge gap.

The Near East and North Africa Land and Water Days (NENA-LWD), which are in line with the 2013 UN-International year for water cooperation and are closely linked to FAO Initiative on Water Scarcity in the Near East (2013), had the aim of filling, the above mentioned, land and water management knowledge gap. These days, which took place from 15-18 December 2013 at Amman, Jordan, built on the FAO global *Land and Water Days* held in May 2012 in Rome in cooperation with IFAD and WFP.

To achieve its objectives, the NENA-LWD adopted a highly interactive approach that promotes discussions at various levels. More specifically, the event was structured around three main pillars namely; **Policy Dialogues** that gathered policy makers, practitioners and researchers to address major policy issues; **Interactive Technical Sessions** that produced thoughtful discussions based on analysis of case studies and experience-sharing of decades of land and water interventions; and a **Marketplace** for interactive knowledge exchange and learning that put within reach tools, methods, products from regional interventions and providing opportunities for networking.

Three policy dialogues took place during the NENA LWD. These sessions addressed the challenges, perspectives and response options in coping with water scarcity within the NENA Region. The dialogues also generated debates on **innovative approaches, possible ground-breaking course-of-actions, pioneering changes in policy and institutional settings to cope with water scarcity**. Ways to improve agricultural water productivity was discussed with distinguished representatives of stakeholders. Moreover, significant time and effort were dedicated to address the possible way forward towards a **regional collaborative strategy and partnership** to achieve high-impact in coping with water scarcity, as well as, critically address the rationale of the proposed FAO-WB partnership. Throughout these sessions, references have been made repeatedly to the following: **The food-water-energy-climate change nexus as an approach and an opportunity and the fact that ‘technological fix’ to the water scarcity problem is not enough and a behavioral change is required engaging stakeholders outside the water domain and people at large to provide a fundamental shift in the way we use water.**

Twelve **technical sessions** that addressed critical issues related to Land and Water management were conducted during the NENA LWD. The sessions, which had around fifty keynote speakers and high caliber Experts, were designed to allow for long and detailed discussions around carefully selected case studies from around the Region. The main aim is to identify the success and failure of the applied approaches, tools, or methods and discuss the potential of up-scaling the success stories. The output of these sessions will feed into the **Regional Collaborative Strategy**. Numerous recommendations came out of these sessions; the following are some of the most frequent: **pilot applications; full and comprehensive involvement of stakeholders; harmonizing policies and creating synergies among various initiatives; need for Regional Strategy for the utilization of shared aquifers; importance of conflict resolution mechanism among stakeholders, establishment of incentive systems for adoption of research findings.**

The activities of the market place were organized as knowledge fair over the various halls of the events. The marketplace provided the participants with valuable opportunities to meet and discuss together, and with experts from around the NENA region, various issues related to land and

water. The fair included three main activities as follows: **Thematic coffees** which are facilitated brainstorming sessions; **Information/training sessions** that aims to present, in significant details, one of the tools/methods/issues discussed in the thematic coffees; and **Thematic areas** that displayed tools, methods, documents and projects (posters).

The NENA-LWD was concluded with a partnership pledge¹ by the following agencies, organizations and institutions²: ACSAD, AOAD, AWC, CEDARE, DRC, ESCWA, FAO, GIZ, ICARDA, ICBA, IFAD, IWMI, LAS, NWRC-Egypt, UNESCO, WB and WFP.

¹ See page viii

² See page iv for full explanation of acronyms

Acknowledgements

Deep appreciation is extended to the:

Jordanian Prime Minister for his patronage

Minister of agriculture of Jordan

Deputy Minister of Agriculture of Jordan

United Nations Resident Coordinator in Jordan and her team

FAO Representation in Jordan

FAO Representation in Iraq

FAO Representatives in the Region

The NENA Land and Water days is an unprecedented collective undertaking of the following Regional and International Organization ACSAD, AOAD, AWC, CEDARE, DRC, ESCWA, FAO, GIZ, ICARDA, ICBA, IFAD, IWMI, LAS, NWRC, UNESCO, WB and WFP³. A deep appreciation to each one of these organizations.

³ See page iv for full explanation of acronyms

Partnership Pledge

We, Agencies, Organizations and Institutions working in the Near East and North Africa Region (NENA), ACSAD, AOAD, AWC, CEDARE, DRC, ESCWA, FAO, GIZ, ICARDA, ICBA, IFAD, IWMI, LAS, NWRC-Egypt, UNESCO, WB and WFP⁴.

Recognizing that water is the most limiting factor to the sustainable social and economic development of the NENA Region;

Acknowledging that the NENA Region will likely be facing a severe intensification of water scarcity and land degradation driven by growing demand and climate change;

Concerned that agriculture, by far the sector using the largest share of natural resources, may be faced with increasing water use restrictions and further threat of land degradation, while expected to contribute to national food security objectives, livelihood of the rural population, economic growth and employment;

Underscoring that the search for a sustainable agricultural intensification in the NENA Region will be laying its foundation on the principles of 'growing more with less' and strengthening the resilience of agro-ecosystems;

Reaffirm the urgent needs for Countries of the Region to plan strategically and implement sound policies and programmes to cope with water scarcity;

Re-emphasize our commitment to work collectively to support the Countries of the Region in their pathway towards sustainable development, in view of our respective mandate;

and

Declare our strong interest and willingness to work together, drawing on our collective knowledge and resources, in an effective, action-oriented and result-based Regional Partnership, to support the implementation of relevant collaborative strategies, in the context of the Arab Water Security Strategy and the Arab Strategy for Sustainable Agricultural Development (2005 – 2025), assisting the Countries of the Region to cope with water scarcity, manage sustainably their land and water resources and meet their sustainable development goals.

⁴ See page iv for full explanation of acronyms

1. Introduction

WHY? The inherent scarcity of land and water resources in the Near East and the North Africa (NENA) region is accentuated by the looming threat of climate change and unprecedented levels of pressure on natural resources stemming from persistent high population growth, excessive consumption patterns and a rapid urbanization. The achievement of effective and sustainable management of land and water is thus critical for food security in the region. Though the region has accumulated a wealth of knowledge on management systems supporting sound land and water productivity, many successful experiences are limited in scope and in space, or not well documented or disseminated.

WHAT? The Near East & North Africa Land and Water Days (NENA-LWD) had the aim of filling this knowledge gap, by providing countries of the regions and their development partners with a platform to learn from each other, share experiences, discuss lessons learnt – what works, and do not work- and promote best practices on water and land management. These Days, which are in line with the 2013 UN-International year for water cooperation and are closely linked to FAO Initiative on Water Scarcity in the Near East (2013), built on the FAO global *Land and Water Days* held in May 2012 in Rome in cooperation with IFAD and WFP.

WHO? The NENA-LWD have been convened by FAO, with the Government of the Hashemite Kingdom of Jordan, the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD), the Arab Organization for Agricultural Development (AOAD), the Arab Water Council (AWC), the Centre for Environment & Development for the Arab Region and Europe (CEDARE), the Desert research Center (DRC), the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Center for Biosaline Agriculture (ICBA), the German International Cooperation (GIZ), the International Water Management Institute (IWMI), the League of Arab States (LAS), the National Water Research Center (NWRC-Egypt), the United Nations Economic and Social Commission for Western Asia (ESCWA), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank (WB), and the World Food program (WFP).

WHEN? NENA LWD took place from 15-18 December 2013 at Le Méridien Amman Hotel, Jordan.

HOW? The NENA LWD was structured around:

- **Policy dialogues** that gathered policy makers, practitioners and researchers to address major policy issues.
- **Interactive Technical Sessions** that produced thoughtful discussions based on analysis of case studies and experience-sharing of decades of land and water interventions.
- **A Marketplace for interactive knowledge exchange and learning** that put within reach tools, methods, products from regional interventions and providing opportunities for networking.

Overall, the above forums have addressed the following major issues:

- The scarcity of natural resources, exacerbated by climate change, and the need for appropriate response in terms of soil and water management practices;
- The performance of projects implemented across the NENA region in terms of their sustainability, effectiveness, benefits and replicable characteristics;
- The availability of technical knowledge and its effective application in the field;
- The need to develop new models of sustainable agriculture intensification based on resilience building and adaptability;
- The policies and strategies to support those models.

OUTCOME: The NENA LWD produced knowledge management tools to serve and facilitate **formulation of evidence-based policies, development of land and water related strategies, scaling-up of best practices of field interventions and improvement of national practices.**

NEXT: The NENA LWD outputs of materials and recommendations will help shaping concrete actions to be implemented within the framework of FAO Strategic Objective 2 for the water scarcity initiative, which is meant to assist member states of the region in tackling the arising challenges threatening water and land resources thus jeopardizing food security and the right to food of the NENA population.

2. The Policy Dialogue

Three plenary sessions have been dedicated to a policy dialogue addressing 'innovation', 'agricultural water productivity' and 'the way forward' as dimensions for coping with water scarcity. These sessions included first a key-note presentation and then a panel discussion with experts and stakeholders representatives as well as interaction with the audience.

2.1. Plenary Session 1 – Coping with Water Scarcity in the NENA Region: Shifting gears

2.1.1. Introduction

Despite the Region's significant accumulated knowledge and experience in coping with water scarcity, as well as the substantial progress in policies and strategies, the demographic growth, food crises, climate change and future development at large are putting unprecedented pressure on water resources. As problems have assumed magnitude and significance going beyond national boundaries, the way to tackle the challenges the Region is facing, and will be facing in the near future, cannot remain the same as in the past. Innovative solutions need to be found, which are not limited to the technological ones but include **new governance mechanisms and modalities, more effective institutions and revised policies as well as stronger engagement of stakeholders at all levels.**



2.1.2. Objectives

This plenary session had a twofold objective: (i) review the challenges, perspectives and response options in coping with water scarcity within the NENA Region; (ii) debating innovative approaches, possible ground-breaking course-of-actions, pioneering changes in policy and institutional settings and advanced tools and methods to cope with water scarcity in the Region.

2.1.3. Discussion

It was clear from the synthesis of the challenges that the Region has 6% of the world population but only 1% of the global renewable resources and 70% of the land is desert and arid. Climate change combined with relentlessly increasing demographic growth rates are predicted to reduce today's yearly per capita share of renewable water resources (690 m³), which is already one of the lowest worldwide (global average is 6400 m³), by 50% within the next 35 years (2050). However, the degree of **water scarcity is also amplified by poor water management**, especially in the agricultural sector (by far the largest water user among all sectors of the society), water quality degradation and inefficiency in governance. Furthermore, as more than 60% of the water in the Region is of transboundary nature, the limited vision and agreements on how to share and manage rivers and groundwaters water resources is further exacerbating the condition of scarcity.

The situation of water scarcity in perspective is illustrated in Fig. 1, where per capita water resources are projected up to year 2060, along with population growth. With this limited water availability, the food security is also jeopardized, as the Region is a net importer of food with an estimate amount of 50% of its demand. However, the Region has long history of successful adaptations of its agriculture to various changing conditions. Similarly, the unconventional water resources (brackish, urban return flow, desalinated waters, etc.) need to be considered not as waste but rather as renewable water resources. Rainfed water harvesting remains an important opportunity to enhance the productivity of rainfed agriculture.

Reference to a more effective engagement of the private sector (as major owner of technology and food value chains) and with the farmers (as ultimate managers of natural resources, soil and

water) was evident and recurrent. The need of Agriculture to move toward sustainable production intensification came also very clear from the discussion with proper link to markets and to effective policies for soil and water conservation. Valuation of water was also raised during the discussion as a mean to optimize water resources allocation strategies. **The food-water-energy-climate change nexus was highlighted as an approach and an opportunity** towards water and energy security while reducing tension between sectoral objectives. Therefore, the **multi-stakeholder approach was a natural consequence of the nexus.** (3629)

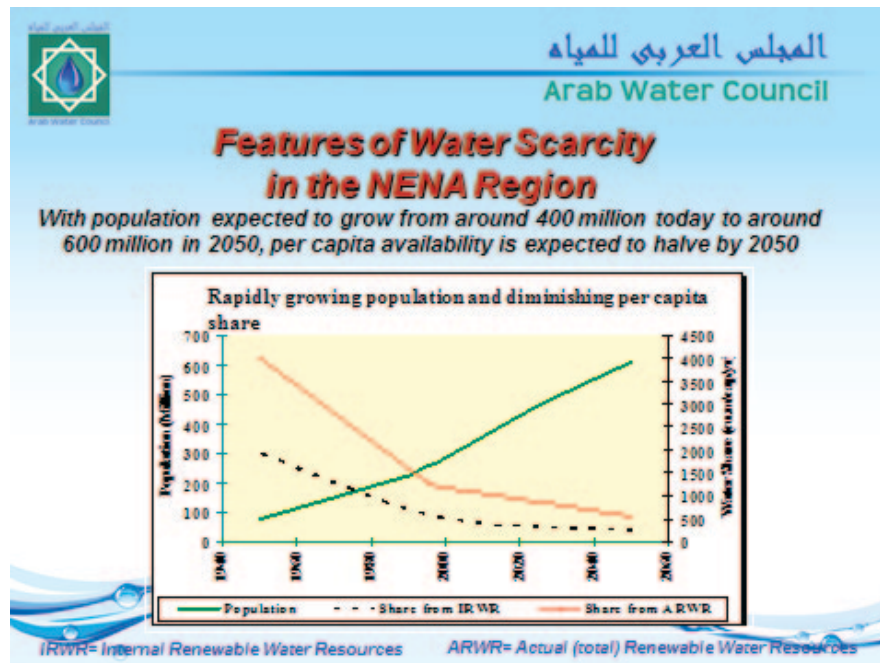


Fig. 1 – Projection in population and water resources per year and per capita from 1950 to 2050.

It was clearly indicated that the ‘technological fix’ to the water scarcity problem is not enough. **A behavioral change is required engaging stakeholders outside the water domain and people at large to provide a fundamental shift in the way we use water.** It is time to look more profoundly in the demand management with an as broad as possible collaborative approach with stakeholders. **The Water Users Associations (WUA) as institutions managing water have been often seen as inefficient** but at the same time as key player in improving the water resources management.

2.1.4. Conclusion and Recommendations

- A strong political will should address the conservation of water and soil, mobilizing and investing sufficient financial resources.
- A comprehensive stakeholder participatory approach to address changes, reforms and new policies development. Farmers and private sector should be put in the forefront.
- Integrated water resources management and the Water-Food-Energy-Climate Change Nexus are fundamental in addressing policies related to food, water and energy securities.
- Unconventional water resources (brackish, urban return flow, etc.) can provide opportunities for the supply side. However, much larger options exist through more efficient allocation of the water within and between sectors and reducing unnecessary water consumption.
- There is room for overall efficiency increase in irrigated agriculture as well as for water harvesting.
- It is important to continue to work to approach transboundary water and ensure collaboration.
- Multistakeholder approach is key to accompanying innovative and sustainable changes

2.2. Plenary Session 2 – Increasing Agricultural Water Productivity: A FAO-WB Proposal

2.2.1. Introduction

The pathways for increasing agricultural water productivity tend to be non-linear, complex and multi-dimensional, implying that **interventions to achieve progress often need to be implemented at different levels**. They may range from agricultural and water policy reforms, to the appropriate design of the governance and institutional frameworks, incentive and regulatory measures for agricultural water users, targeted agricultural investments, irrigation modernization and improved farm-management practices. Costs and benefits associated with each of these interventions or combinations of interventions will vary, and trade-offs need to be taken into consideration.

2.2.2. Objectives

The session had the objectives of addressing: (i) a straightforward framework of action when trying to increase agricultural water productivity; (ii) the clear formulation and proper design of the interventions to increase agricultural water productivity; and (iii) the mechanisms for measuring, benchmarking, monitoring and reporting agricultural water productivity. This session intended also to **critically address the rationale of the proposed FAO-WB partnership** and to identify the next steps to be undertaken in collaboration with the countries and other partners in the NENA Region.

2.2.3. Discussion

The discussion highlighted that the increase in agricultural water productivity comes from both water and non-water related dimensions. An important aspect that was highlighted is the modernization of irrigation systems that would properly match the crop water requirements.

One basic aspect that came out during the discussion is the need for **sound mechanism for benchmarking, monitoring and reporting** on Agricultural water productivity. Without this tool to provide evidence on the progress in agricultural water productivity there will not be clear understanding of the direction where certain decision will lead to.

There was also a warning on the meaning of water saving as what can be an apparent ‘loss’ for one farmer can be a ‘gain’ for some other farmers downstream. Therefore, **we need to look not only to the farm scale but at much larger scale, up to the entire basin**, to have a full appreciation of the ‘efficiency’ and ‘productivity’ within the system. It has been in fact demonstrated that changing irrigation systems from furrow to drip does not necessary mean saving in terms of consumption.

In any case, **an important aspect for increasing the agricultural water productivity lies in the incentive framework** that would promote changes in the right direction. Pricing and tariffication were touched upon highlighting the requirement for further assessments.

2.2.4. Conclusions and recommendations

- Big challenges requires big solutions (going beyond the water domain) and with revision of intersectoral policies
- Modernization of irrigation, at farm and scheme level, will provide an important measure towards the increase of agricultural water productivity. Know-how and **improved market access have a fundamental role to play**
- Diagnostic and intervention measures to improve agricultural water productivity in rainfed agriculture are relevant to gain untapped potential (water harvesting, soil-plant relations, etc.)
- Adopt sound mechanism for benchmarking, monitoring and reporting on water productivity.
- Barriers to agricultural water productivity are within and outside the water domain. A comprehensive approach is required, including incentives mechanisms
- Processes of transformation toward a more efficient and productive water use requires a long-term approach. Also in this case, farmers should be in pole-position from the very beginning in the process of transformation.

2.3. Plenary Session 3 – Coping with Water Scarcity in the NENA Region: the way forward

2.3.1. Introduction

FAO has launched in June 2013 a Regional Initiative on Water Scarcity to support its Member Countries in identifying priority areas of action in agriculture water management that can significantly contribute to boosting agriculture productivity, improving food security and using water resources in a more sustainable way. The initiative is expected to deliver two initial major products (i) a *Regional Collaborative Strategy* on sustainable agriculture water management to increase food security, and (ii) a *Regional Partnership* to support countries in the implementation of the collaborative strategy.

2.3.2. Objectives

This last session had the objective to address a possible way forward towards a regional collaborative strategy and partnership to achieve high-impact in coping with water scarcity in the NENA Region.

2.3.3. Discussion

The session started first through a key-note speech from FAO, summarizing the fundamental findings developed until the time of the meeting, and then followed by a high-level panel discussion compounded by representatives from the Arab League of States, governments, and development agencies.

The main peculiarities of the *Regional Collaborative Strategy* draft are the following: being a mechanism for setting up a continuous process of study, experience and knowledge sharing; bringing all sector professionals across the Region into a regular exchange and updates on experiences; and highlighting, adapt and scale-up the Region best practices.

It was clearly recognized that the countries of the Region have achieved good progress in developing and managing their scarce water resources, with irrigated agriculture mostly marked oriented and commercialized,. However, groundwater resources have been depleted beyond any limit of sustainability; climate change will aggravate in the future the availability of rainfall; rainfed agriculture is still underdeveloped; and the overall water scarcity is intensifying.

It was highlighted that the **distinctive feature of the collaborative strategy, is mostly the modalities on how to implement the measures**, i.e., the evidence-based criteria, the farmers as full partners and effective synergies in innovation and learning from each other.

The discussion also highlighted that **there are other water strategies in the Region** (e.g., the Arab water Security Strategy) and that we need to find synergies and ways to link/integrate them to the Collaborative one. Moreover, socio-economics and environmental factors should be accounted during the implementation phase. More synergies with higher-level processes like UNCCD and Biodiversity should be explored and pursued. The intersectoral dialogue (e.g., water-food-energy nexus) is relevant.

It was clear that Countries have their own pathway, trajectory and rate of development in On moving from research to policy and to actions. The *Regional Collaborative Strategy* would help make progress in Countries by working and learning together, and using evidence-based approach.

2.3.4. Conclusion and recommendations

- The Regional Collaborative Strategy is still open to further development. There is **room for improvement and for ownership by the Countries** of the Region.
- There is a clear convergence toward five major areas of work: Irrigation modernization at all levels; Rainfed upgrading; Groundwater governance; intersectoral policies for optimal allocation; and evidence-based policy- and decision-making processes.
- The engagement of farmers as full partner from the very beginning of any initiative is imperative for success. Farmers should be on the driving seats along with the Private sector.
- Innovative capacity development, using south-south cooperation and learning-from-each-other modalities are highly recommended.

3. The Technical Sessions/The knowledge share

Twelve technical sessions addressing critical issues related to Land and Water management were conducted during the NENA LWD. The sessions, which had around fifty keynote speakers and high caliber Experts, were designed to allow for long and detailed discussions around carefully selected case studies from around the Region. The main aim is to identify the success and failure of the applied approaches, tools, or methods and discuss the potential of up-scaling the success stories. The output of these sessions will feed into the *Regional Collaborative Strategy*.

3.1. Technical session 1: Transboundary water resources management-informing land and water cooperation

Conveners: UNESCO, ESCWA, FAO

3.1.1. Introduction

As transboundary water resources represent 66% of the available water resources of the NENA region, sustainable development necessitates a high level of collaboration among the riparian countries, which is often undermined by the conflicting interests of the riparian countries. The mounting water scarcity is attributed not only to natural processes but also to inadequate and inefficient water management. By promoting collaborative efforts, efficiency in transboundary water management can be improved. This session briefly introduces the issue and illustrates case studies and initiatives around transboundary water systems in the region from a number of countries.



3.1.2. Objectives

- Share knowledge and experiences on institutional mechanisms and capacity building networks for transboundary water resources management;
- Present case studies on operational management and knowledge sharing for improved transboundary water resources management.

3.1.3. Discussion Issues

How transboundary water resources management in the Arab region can be a key to poverty reduction, social equity, preserve water resources and protect the environment?

How cooperation in transboundary water resources management in the Arab region can build peace?

3.1.4. Conclusions and recommendations

- Three stages should be considered in building a transboundary water resources management in the NENA region: **joint water resources assessments, technical cooperation, and joint management**. Joint data assessments and other activities, such as preparation of projects, networking and capacity development will be helpful in building trust between countries. This should pave the way to the promotion of strategic action and cooperation at governmental level, which, in turn, leads to increasing mutual understanding, recognizing each-other rights, and the acceptance of universal principles.
- The session highlighted the importance of **consultative processes** in support of dialogues between countries and pointed out the need for capacity development through networks and assistance in developing cooperation frameworks to mitigate potential conflicts. The partnerships among stakeholders, national governments, regional and international organizations were stressed by participants and some good practices as formation of joint technical cooperation teams, technical cooperation framework agreements, and strategic action plans at ministerial levels are to be reinforced.

3.2. Technical Session 2: Exploring alternative water sources-lessons learned from experiences and way forward

Conveners: AWC, GIZ, FAO

3.2.1. Introduction

In the NENA region, the relentless pressures of growing demands on water will eventually exceed the capacity of the available water resources. As such, it is becoming inevitable to explore other water sources. Non-conventional water reuse management is one of the challenges that all member countries will have to deal with in the coming decades. Therefore, the countries of NENA need water resource use strategies that take into account alternative measures to cope with this situation. Treated Wastewater, brackish water reuse, water harvesting and desalinated water are some of the essential options for the development of national water policies and strategies.

3.2.2. Objectives

- Exchanging experiences related to the use of treated wastewater and brackish water for agriculture production;
- Identifying good agricultural practices for using these alternative water resources;
- Develop a conceptual framework for sustainable management of non-conventional water use for agricultural production to be adopted at national level

3.2.3. Discussion Issues

- Negative public perception of reusing wastewater regardless of its quality.
- The low quality of wastewater is the main concern and constraint for increasing the rate of treated wastewater reuse despite various incentives.
- The problem of multi-level approach of intervention and capacity building for farmers and local communities.
- Regional collaboration and exchange of experiences on water reuse.

3.2.4. Conclusions and recommendations

- At the policy level, alternative water resources should be included in the water policy plans (short and long term) with clear identification of stakeholders, method of implementation and source of funding.
- Institutionally, issues such as regulatory framework, impacts on health, gaps between institutions and water users, economical feasibility, and markets should be clearly defined with stakeholders involvement and building on regional and international experiences. Long term commitment of the government to supplying specific wastewater quality is necessary for farmers buy-in.
- Research institutes should focus on issues such as breeding of salt-tolerant crops, improvement of irrigation/drainage systems and on-farm water management practices.
- From the extension perspective, pilot implementations should clearly demonstrate technical and economical feasibility of using alternative waters and be replicated at various locations, while assessing also their degree of sustainability.

3.3. Technical session 3: Regional cooperation mechanism for integrated water and land management

Conveners: FAO, GIZ, LAS

3.3.1. Introduction

In the NENA region, where around 80% of water management and water allocation is directly impacted and dictated by agriculture, coordination of, and integration between, land and water management is an absolute prerogative. The achievement of effective and sustainable integrated management of land and water is critical for food security in the region. Regional cooperation/partnership, then, is fundamental to implement integrated water and land management and addressing critical challenges of food security, provision of ecosystem services, climate change alleviation and poverty reduction. This session discusses the mechanisms to establish a regional dialogue to strengthen new and existing regional networks/partnerships towards the integrated management of land and water resources for a food-secure NENA region.

3.3.2. Objectives

This session explores ongoing cooperation mechanisms and initiatives for improved land and water management, and analyzes ways to increase their effectiveness and stimulate synergies. The session will document the ongoing regional cooperation mechanism and investigates areas for synergies. That collective brainstorming will be followed by a panel presenting regional initiatives on water, soils and climate change.

3.3.3. Discussion Issues

- The long standing low priority of land sector in the region.
- The need for capacity building for the NENA region.
- The lack of regional vision for collaboration at national institutions.
- Duplication of efforts and the inefficiently utilized resources of international organizations.
- The **regional water scarcity initiative** and its **collaborative strategy on agricultural water management**.
- Importance of cooperation with civil societies.
- Utilization of non-renewable aquifers and the need for regional cooperation.
- Alignment between current initiatives and governments plans

3.3.4. Conclusions and recommendations

- The achievement of efficient collaboration mechanism, partnerships and synergies between all regional initiatives and multilateral environmental conventions related to biodiversity and combating desertification should be mainstreamed into national Policies and action plans in the region.
- There is a need for a platform that ensures continues dialogue among existing initiatives to harmonize policies, create synergies, and update existing methods.
- Positive experiences of RICCAR and ACCWaM in involving multiple stakeholders and governmental organizations have potential for regional up scaling.

- It was highly recommended that proposed regional initiatives should account for the ongoing ones to ensure synergies and avoid duplication.
- It is critical to ensure government buy-in at onset of initiatives rather than at a later stage.
- The financial and human resources remain fundamental for successful and sustainable long-term partnerships.

3.4. Technical session 4: Groundwater protection, management and governance

Conveners: AWC, CEDARE, FAO

3.4.1. Introduction

Groundwater constitutes one of the most reliable sources of water for most countries of the NENA region. It plays various important roles in most country's water resources plans. Despite such importance, groundwater is suffering from lack of proper management, protection and governance. In most of the region, groundwater is being over pumped and subjected to various pollution sources. Adding to the urgency of rectifying this situation is the fragility of the groundwater systems and its limited natural rehabilitation capacity. In fact, given the current utilization patterns, future generations will be deprived of this invaluable resource. This session discusses ways to improve groundwater protection, management and governance in the NENA region.

3.4.2. Objectives

The session aims at raising awareness of the risks of uncontrolled development of groundwater for multiple uses, and in particular for agriculture production, and the need for groundwater governance to address these risks. It will illustrate consequences of unregulated pumping and presents solutions that have been implemented to slow or reverse trends in aquifer depletion and water quality decline. It will also discuss solutions for the sustainable management of groundwater resources in agriculture, including governance guidelines.

3.4.3. Discussion Issues

- The Importance of integrating groundwater protection measures in all water management activities.
- The need for proper governance of groundwater.
- How to utilize non-renewable groundwater

3.4.4. Conclusions and recommendations

- A Regional Strategy for the utilization of shared aquifers is highly recommended as a win-win situation between countries. Such strategy should include a regional monitoring network.
- Leveraging on data-sharing, research-sharing and joint project to build trust between countries sharing aquifers.
- It is necessary to take stock of past experiences in groundwater governance on the global, regional and local scales and review laws, regulations, community-based actions, and institutional structures.
- Enforcement of legislations, especially groundwater protection regulations, should be given high attention (preceded by awareness building)
- Participation of groundwater users in decision making and management is of major importance.
- Integrate local groundwater users in management (including monitoring) mechanisms will ensure support of the local communities, which is extremely important in the case of remote locations.
- Raising awareness of groundwater importance and vulnerabilities at both the community and political levels.

3.5. Technical Session 5: Rainfed agriculture – financing climate smart agriculture project

Conveners: ICARDA, DRC, WFP

3.5.1. Introduction

Rainfed agriculture produces most of the food for poor communities in developing countries of the World. In NENA region, about 75% of agriculture is rainfed. Climate smart agriculture and climate resilience solutions are essential to attract investments opportunities for rainfed farming systems and pastoral communities in areas of high rainfall variability. This may be achieved through strengthening institutional and technical capacity for climate observation, forecasting and early warning systems.

3.5.2. Objectives

- To discuss approaches and strategies for the management of watershed resources.
- To capture views from different perspectives, namely hydrology, forest management, agriculture, land use planning and livelihoods to clarify the suitability range of different types of interventions.

3.5.3. Discussion Issues

- Supplemental irrigation
- Improving supplementary irrigation effectiveness
- The need to prepare for the impacts of climate change

3.5.4. Conclusion and Recommendations

- There is no one size fits all solution for climate smart agriculture. A systemic approach is necessary in order to implement sustainable and adapted measures. This needs more coordination and communication between research, decision makers, and farming communities.
- Rainfed agriculture can satisfy the majority of NENA's food demands through Smart climate agriculture taken into consideration the following steps; (i) increase productivity, (ii) enabling policy environment to encourage a sustainable improvements to rainfed production systems including crop-livestock integration and agricultural trade; (iii) reduce harvest and postharvest losses, as well as industrial and household waste; (iv) outreach educational campaign for sustainable and nutritious food consumptions.

3.6. Technical Session 6: Making research and science to reach farmers and end users

Conveners: LAS, CEDARE, AOAD

3.6.1. Introduction

The agriculture sector in dry regions, while expected to provide sustainable livelihood for the majority of the inhabitants, is facing compounded difficulties. Renewable water resources are limited, rainfall is unpredictable and highly variable, and the latter will even be more critical in future given foreseen changes in climate. Thus, innovative production systems proof to climate change-proof and models to increase the resilience and better livelihoods of the rural poor in these areas are critically needed. Development and dissemination of proven best options agriculture production systems are strategic to addressing these constraints. It is clear that there is a need to enhance resilience through technologies that are climate change-proof. This could be achieved through innovative approaches combining appropriate technologies and best practices throughout the food value-chain.

3.6.2. Objectives

Elaborate on modalities to effectively engage stakeholders in projects development and implementation, in designing demonstration fields and in testing the use of a range of knowledge-sharing methods, including: after action review, storytelling, peer assist, fishbowl with examples from projects of participants.

3.6.3. Discussion Issues

- Weak linkages between research institutions and agricultural extension
- Inadequate resources (financial and capacity) available to agricultural extension
- Low educational level, poverty, and small scale ownership of a large number of farmers
- Enhancement of the resilience of small farmers to climate change impact by deploying science advancement
- Establishment of information platforms for agricultural institutions to improve exchange of research information among agriculture research entities

3.6.4. Conclusions and recommendations

It is obvious that behaviour changes at all levels of agriculture systems are necessary. This change can be incrementally done in different ways, including:

- Engagement of farmers together with other stakeholders in all projects' phases including design, planning, and implementation
- Bottom up approaches
- Selection of lead farmers in the rural communities (based on certain criteria including social, economic, etc.) for the introduction and implementation of pilot and demonstration projects
- Work through farmer organizations, WUAs, cooperatives, etc.
- Establishment of incentive systems for adoption of research findings and technologies

3.7. Technical Session 7: Sustainable land and water management

Conveners: CEDARE, WFP

3.7.1. Introduction

The population of the NENA region has been on a steep rising curve for the last two decades, which has exerted significant pressures on the natural resources of the region. Being a water scarce region to begin with, impacts on the ecosystems of watersheds have been and predicted to be significant, especially in the context of the looming threats of climate change. Therefore, utmost efficient management of watersheds is no longer a luxury for this region.

3.7.2. Objectives

- To discuss approaches and strategies for the management of watershed resources.
- To capture views from different perspectives, namely hydrology, forest management, agriculture, land use planning and livelihoods to clarify the suitability range of different types of interventions.

3.7.3. Discussion Issues

- Private sector and value chain – the role of market related interventions.
- The barriers and solutions to implement and adopt watershed methodologies on programme/ implementation and policy/institutional level
- The options and the needs for networking between watershed institutions within and outside the region

3.7.4. Conclusions and Recommendations

- Major constraints are in policy and institutional level domains, as well as on both program and implementation level. Key solutions include better management of upstream and downstream dynamics, including, for example, targeting of public investments, compensation (labour and cash) and payment for ecosystem services (PES).
- Partnership and integration presents key areas for identifying common solutions and shared objectives.
- Governance and accountability, including conflict resolution between stakeholders, are important aspects that cannot be ignored and are important for longer term sustainability and ownership.
- Assessments tools need to be able to capture all aspects, i.e. environmental, social and economic. Different logics need to be understood with regards to top down or bottom up approaches, incentives should be created for connecting the two in order to provide sufficient local and central level ownership and leadership for replications and scale up.
- A renewed focus on monitoring and evaluation is needed, this relates to justifying and making the case for much needed investments in land and water management. Return on investments, value for money, and high cost benefit ratio are critical in a time of financial resource scarcity.

3.8. Technical Session 8: Water and land tenure governance-designing for implementation

Conveners: FAO

3.8.1. Introduction

In recent years FAO has augmented its focus on the governance on land and water resources because of an increasing recognition that it is the interplay between the different elements of governance – such as power, politics and institutions – that largely determine the success or failure of any project, investment, reform or strategy.

3.8.2. Objectives

- Inform participants on the on-going work on land and water governance and land and water tenure.
- Share experiences from the field with regard to the regional, sub-regional and country awareness workshops and mainstreaming action plan for the Voluntary Guidelines on the Responsible Governance of Tenure and extract lessons for the water tenure process.
- Using the expertise and experience in the NENA region, pinpoint the most effective ways to test and improve current FAO approaches to tenure and governance.
- Build support for new land and water governance and tenure work in the region.

3.8.3. Discussion Issues

Time was allocated for group discussions and to fill in a form to collect information about the water tenure situation in the countries of the participants and to fill in the “Water tenure health check”, where different water tenure arrangements were assessed using equity, security and sustainability as indicators. Following the groups’ work, the discussion addressed the following issues:

- Willingness of people to come together and find compromises to share water in NENA region;
- Need to improve the understanding of the ‘water tenure’ concepts;
- Implementation of the right to water. Water tenure may act as a vehicle to overcome difficulties in dealing with this sensitive issue.

3.8.4. Conclusions and Recommendations

- The limits of the water rights approach were recognized and the promising aspects of the water tenure concept were highlighted. More work is needed to make this concept more operational.
- The approach is indeed promising as shown by the case studies and the positive reaction from all participants. Further studies are needed before being able to prepare guidelines for the application of the concept of water tenure.
- The concept of water tenure could be considered as one of the aspects to test/assess in the countries where the Water Scarcity Initiative will be active.
- The case studies offer good learning experience upon which context specific best practices can be identified. Participants agreed however that there are no perfect setups and that each one of them have tradeoffs depending on set priorities and objectives.

3.9. Technical session 9: Building resilience in agricultural systems-soil conservation and fertility management

Conveners: FAO, ICARDA, ACSAD

3.9.1. Introduction

The agro-ecosystems in NENA comprise a diverse and complex mix of pastoral, agro-pastoral, mixed rainfed and irrigated production systems. These production systems, which have been developed over centuries, are based on integration of crops, livestock, rangelands, trees and fish that are adapted to the climatic conditions in the areas. However, over the years, pressure on natural resources has led to degradation of land, soils, water bodies and vegetation. The sustainable management of soils should include a combination of protection, conservation/sustainable use, and rehabilitation of degraded soils. In turn, decisions affecting land use should respect the characteristics, qualities, and resilience of soils, as a key component of land suitability.

3.9.2. Objective

- Establish a regional dialogue on the needs and priorities for promoting and implementing sustainable soil management in the region under a regional framework.

3.9.3. Discussion Issues

- Developing appropriate technology, policy, and institutional innovations to minimize land degradation and improve farmers return using an integrated systems approach.
- How to manage risk effectively and enhance productivity through the diversification and sustainable intensification.
- Targeting the poor and vulnerable populations of the NENA.

3.9.4. Conclusions

- On-farm soil conservation, water harvesting, use of non-conventional water sources, improved water productivity, soil moisture and irrigation, as well as rangeland rehabilitation are important management options too.
- Improvements and suitability of agriculture productivity requires a gender responsive and cohesive action by all stakeholders. This involves changes in policy, governance, institutions, and resources' users.
- Water harvesting, supplemental irrigation, use of marginal-quality waters, better fertility, soil management, conservation agriculture, and land use management, all contribute to the improvement and suitability of rainfed agriculture.
- On the other hand, irrigated agriculture could be improved through timely delivery of collective irrigation methods/systems and improved irrigation scheduling in addition to other water management aspects.
- Financial incentive programs, benchmarking, monitoring and reporting the current and improved water use and productivities, changes in soil quality and water delivery, drainage quantity and quality, can be part of a strategy to tackle priorities for promoting the sustainable management of soils, crops, and water in the NENA region.

3.10. Technical Session 10: Irrigated agriculture-modernizing irrigation systems and adaptive strategies management

Conveners: ICARDA, IWMI, NWRC, FAO

3.10.1. Introduction

Sustainable intensification and productivity enhancement of irrigated agriculture are needed to reduce the gap between food demand and supply in many of the NENA countries. The unnecessary losses of surface irrigation still constitute a significant amount of precious water and may reach up to 60% or more. Reducing the losses of applied irrigation water should lead to an increase in water productivity (WP) as more output per unit of applied water. Improvements in water productivity can be achieved by replacing plant varieties by improved high yielding ones, optimizing production inputs such as fertigation, introducing best agronomic and cultural practices, and implementing improved irrigation scheduling. However, modernization, and optimization of irrigation systems, as well as institutional improvements (WUAs and other interface for improved coordination between managers and users) are other main strategies that lead to improvements of water productivity. This session looked into the main challenges and opportunities facing irrigation systems modernization and optimization strategies. It also discussed an integrated irrigation technology packages that could be scaled up in some NENA countries. These included improving water productivity through deficit irrigation and land, water, and salinity management.

3.10.2. Objectives

Identify irrigation systems modernization and optimization strategies, their challenges and opportunities to improve water productivity within NENA region.

3.10.3. Discussion Issues

- Important to move from land to water productivity
- The costs associated with improving surface irrigation systems and its sustainability
- The improved coordination between users and managers
- The outreach strategies that are needed to ensure farmers uptake of system modernization and optimization

3.10.4. Conclusions

- Modernizing irrigation systems and adaptive strategies management can be done in different ways depending on the many local and external factors.
- Modernization should be done in three main fundamentals ways: farm-level physical, hard and software; policy; and institutions.
- Given the declining water availability in the region, farm-level modernizations coupled with changing cropping pattern become a necessity.
- Documentation of the “good practices” of irrigation modernizations (pro and cons, conditions for success) should be developed, reviewed, and published for lesson learned
- The policy and institutional dimension of the irrigation modernization should be well evaluated
- Involvement of WUA in farm modernization is highly recommended, though mere involvement does not guarantee success. Only well evaluated policy and institutional dimensions of the modernization ensure effective involvement of WUA (empowerment of WUAs)

3.11. Technical Session 11: Ensuring food security in land and water scarce settings

Conveners: WFP, AOAD

3.11.1. Introduction

The availability and access to land and water is a fundamental pillar of food security and underpins economic and human development. In most countries of the middle-east, these critical resources are becoming increasingly scarce for a number of reasons, including increased demand from population growth, conflict and governance issues, privatization and mismanagement of resources at local level, and shifting demand patterns related to commerce and consumption. In this context, the most vulnerable and most affected are the poor and rural people with very few development opportunities. Urgent coordinated, partnered and at-scale actions are therefore required to avoid increasing political and social tension and a potential deterioration of vulnerable people's capacity to be food secured and self-sufficient.

3.11.2. Objectives

- Highlight the links between food insecurity, poverty, resource scarcity and fragile settings.
- Identify key lessons learned, challenges, and opportunities for replicating and scaling up approaches that work for poor, food insecure and vulnerable communities.

3.11.3. Discussion Issues

- Policy reforms and their implementation are essential for higher livelihood level of small holders
- Land consolidation and collective farming
- Partnerships among key stakeholders to increase investments and agricultural productivity.

3.11.4. Conclusions and Recommendations

- Technologies and approaches that proved successful included: consolidation of lands and collective farming, educating and training women, and microfinance to small holders with technical assistance.
- When considering up-scaling of these success stories, specificities of conditions should be identified and detailed including; similarities/differences of socio-economical setup at case study and up scaled application and their relevance to the application, economics of the up-scaled application, and governance at case study and up-scaled application.
- The establishment of a committee to decide and negotiate on behalf of the farmers seen as an efficient mean to collectively manage small holders.
- Overall, the successful implementation of land consolidation at the socially complex setting of Egypt's Nile Valley and the potentially replicable nature of the project, suggest significant potential for this approach. Moreover, the regional nature of the problem implies that this approach may be adapted by the regional initiative for water scarcity.
- The demonstrated benefits of land holding consolidation will be used by the government (as an incentive for the farmers) to revive the crop pattern policy, which appear as a national priority.

3.12. Technical Session 12: Land and Water Economics

Conveners: LAS, GIZ, ACSAD

3.12.1. Introduction

As water and land is becoming increasingly scarce, the economics of food production in the NENA region are also increasingly becoming a complex dimension. The relentless pressure of population growth and increased consumption rates are also adding to such a complexity. All this necessitates the identification of tools that have the most potential to achieve an adequate return, for each cubic meter of water used, to farmers and to the national economy. However, policies that facilitate efficiency of water use, such as water pricing, improving resources allocation efficiency, changing land use patterns for coping with climate change and, are areas at the center of debates among social and political groups and needs further evidence, research review and follow-up actions.

3.12.2. Objectives

- Discuss tools for assessing Land and Water economics.
- Building blocks for assessing economic of drought, land degradation and risk analysis.
- Recommendations on potential agriculture land use patterns

3.12.3. Discussions

- The policy dimension needs to improve both productive and allocative efficiency of water, implying moving from traditional to modern irrigation and from low value to high value crops.
- Given that water being scarce and lands continue to degrade, the countries of the region have to produce and trade according to their comparative advantage- Enhancing land and water productivity by adopting good agriculture practices is key.

3.12.4. Conclusions and Recommendations

- Adopting modern irrigation technology is applicable to very few farms in the region, a large section of small and resource poor farms are left out of this development paradigm. To have a scalable impact, we need to link small farmers to credit, technology and market.
- The fact that some solutions of land and water development and management fall outside the sector domain, makes agriculture policy and links of farmers to markets the options needed to be explored, along with traditional approach of agriculture water management.
- The issue of land degradation and water scarcity is embedded in the lack of appropriate policies, missed adoption of good agricultural practices, limited marketing access and poor environmental sustainability.
- Social and economic aspects are key to address issues related to land and water.
- Establishment of platforms for collaboration on land and water-food security nexus to develop action oriented strategies.
- Developing competitive and sustainable agriculture can be effective and successful only if we: (1) enhance land and water productivity (2) make development inclusive and (3) preserve our natural resource base for present and future generation.

4. The Market Place

Following the opening session, the activities of the market place were organized as knowledge fair over the various halls of the events. The marketplace provided the participants valuable opportunities to meet and discuss together, and with experts from around and outside the NENA region, various issues related to land and water. The fair included three main activities as follows:

Thematic coffees which are facilitated brainstorming sessions (see Table 1 for details). A small number of participants were present at the thematic tables at a given time. Every 15 minutes, new participants were invited to join the discussion. If after 4 rounds of discussion on a given topic, there was still interest, the topic table continued while a new set of thematic coffee discussion starts.



Information/training sessions that aims to present, in significant details, one of the tools/methods/issues (see Table 2 for details) discussed in the thematic coffees and illustrate how to use it.

Thematic areas that display tools, methods, documents and projects (posters) relevant to the theme and “technical sessions” of the Land & Water Days. Activities were facilitated around each thematic area with the aim of providing participants with a quick overview of what is offered.












Table.1: Activities of the Thematic Coffees

Thematic Coffees	
Serie 1	1. Water accounting, water audit
	2. Cost curve (food supply, fish)
	3. Water marketing
	4. Modernization-performance analysis-RAP
Serie 2	5. Water rights and water tenure
	6. Reduction of food losses and waste
	7. Decentralization and participation
	8. Water users associations and Irrigation management transfer
Serie 3	9. Capacity Development for coping with water scarcity
	10. Reuse and recycling wastewater
	11. Groundwater management
	12. Resilience to climate change

Table.2: Activities of the information/training sessions

Information/ trainings sessions
I1 Documenting Sustainable Land Management – Technical options and approaches
I2 Tools – MOSAICC (Modeling System for Agricultural Impacts of Climate Change)
I3 Tools for Decision Making – Policy Analysis Matrix
I4 Approaches – water audit/water accounting
I5 E-learning – Watershed Management
I6 Tools – Communicate for impact
I7 Tools – MASSCOT: Assess irrigation performance
I8 Tools – Documenting Good practices on land and water management

Annex I: Agenda of the NENA Land & Water Days

Day I (Sunday 15 December)							
8.30-9.00	Pre-registration <i>(Lobby - Registration desk)</i>						
09.00-10.30	Introduction to Market Place (*) Good practices, knowledge management, communication <i>(Main Hall)</i>						
10.30-11.00	Coffee/tea break & Market Place starts (facilitation of knowledge sharing in the thematic areas of the Market place)						
11.00-11.15	World Bank presentation: Improving agricultural water productivity in the MENA Region					Thematic Coffees 	Communication Corner 
11.00-12.00	 Knowledge sharing around 8 thematic areas (activities change every 15') (Foyer)					Serie 1 <i>(Fayrouz)</i>	individual interviews slots every 15' with communication specialist <i>(Dana)</i>
12.00-13.00						Serie 2 <i>(Fayrouz)</i>	
13.00-14.30	LUNCH * Open Space <i>(La Brasserie)</i>						
14.30-15.30		Info/ Training 1 <i>(Kahraman & Aqiq)</i> 	Info/ Training 2 <i>(Al Mass)</i> 	Info/ Training 7 <i>(Yaquot)</i> 	Info/ Training 8 <i>(Murjan)</i> 	Serie 3 <i>(Fayrouz)</i>	Interviews Continue <i>(Dana)</i>
15.30-16.00	Poster sessions <i>(Foyer)</i>	Coffee Break <i>(Foyer)</i>					
16.00-17.00		Info/ Training 4 <i>(Kahraman & Aqiq)</i> 	Info/ Training 5 <i>(Al Mass)</i> 	Info/ Training 3 <i>(Yaquot)</i> 	info/ Training 6 <i>(Murjan)</i> 	Serie 4 <i>(Fayrouz)</i>	
17.00-17.30						meeting of the facilitators conclusion	
17.30-18.00	Poster Session <i>(Foyer)</i>						

 Share & find	 Learn	 Discuss	 Tell
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(*) only the plenary session in the main hall will benefit from simultaneous interpretations in French English, Arabic

Day II (Monday 16 December)				
8.30-9.00	Registration <i>(Lobby - Registration desk)</i>			
09.00-9.30	Opening Session (*) <i>(Main Hall)</i>			
9.30-10.00	Coffee/tea break <i>(Foyer)</i>		Press conference <i>(Main Hall)</i>	
10.00-10.30	Visit of the market place and posters area <i>(Foyer)</i>			
10.30-13.00	Plenary session 1a : Coping with water scarcity in Near East and North Africa: shifting gear (*) <i>(Main Hall)</i>			
13.00-14.30	LUNCH * Open Space <i>(La Brasserie)</i>			
14.30-16.30	Technical Sessions			Market Place (Open space activities & free access to booths) <i>(Foyer)</i>
	T1	T2	T3	
	Transboundary water resources management: informing land and water cooperation and investments UNESCO, ESCWA, FAO <i>(Kahraman & Aqiq)</i>	Exploring alternative water sources : lessons learned from experiences and way foreword AWC, GIZ, FAO <i>(Al Mass)</i>	Regional cooperation mechanism for integrated water and land management FAO, GIZ, LAS <i>(Fayrouz)</i>	
16.30-17.00	Coffee/tea break <i>(Foyer)</i>			
17.00-17.30	Plenary session 1b- Summary and wrap up (*) <i>(Main Hall)</i>			
19.00-21.00	WELCOMING RECEPTION <i>(Grand Hall)</i>			

Day III (Tuesday 17 December)				
08.30-10.30	Plenary 2a- Increasing Agricultural Water Productivity in the Near East and North Africa: a FAO-WB partnership (*) <i>(Main Hall)</i>			Market Place (Open space activities & free access to booths) <i>(Foyer)</i>
10.30-11.00	Coffee/tea break <i>(Foyer)</i>			
11.00-13.00	Technical Sessions			
	T4	T5	T6	
	Groundwater protection, management and governance AWC, CEDARE, FAO <i>(Kahraman & Aqiq)</i>	Rainfed agriculture: financing climate smart agriculture projects ICARDA, DRC, WFP <i>(Al Mass)</i>	Making research and science reach farmers and end users LAS, CEDARE, AOAD <i>(Fayrouz)</i>	
13.00-14.30	LUNCH Open Space <i>(La Brasserie)</i>			
14.30-16.30	Technical Sessions:			
	T7	T8	T9	
	Sustainable Watershed & land management: learning experiences CEDARE, WFP <i>(Kahraman & Aqiq)</i>	Governing water and land through secure tenure: designing for implementation FAO <i>(Al Mass)</i>	Building resilience in agricultural systems: soil conservation and fertility management FAO, ICARDA, ACSAD <i>(Fayrouz)</i>	
16.30-17.00	Coffee/tea break <i>(Foyer)</i>			
17:00-18:00	Plenary session 2b- Summary and wrap up (*) <i>(Main Hall)</i>			

Day IV (Wednesday 18 December)				
09.00-11.00	Technical Sessions			Market Place (Open space activities & free access to booths) <i>(Foyer)</i>
	T10	T11	T12	
	Irrigated agriculture: modernizing irrigated systems and adaptation strategies ICARDA, IWMI, NWRC, FAO <i>(Kahraman & Aqiq)</i>	Ensuring Food Security in Land and Water Scarce Settings WFP, AOAD <i>(Al Mass)</i>	Economics of land and water LAS, GIZ, ACSAD <i>(Fayrouz)</i>	
11.00-11.30	Coffee/tea break <i>(Foyer)</i>			
11.30-13.00	World Café - Final brainstorming - (*) <i>(Main Hall)</i> The way forward -towards a practical agenda for joint action for the NENA region through partnership			
13.00-14.30	LUNCH * Open Space <i>(La Brasserie)</i>			
14.30-15.30	Plenary 3a - Report and final wrap up (*) <i>(Main Hall)</i>			
15.30-16.00	Coffee/tea break <i>(Foyer)</i>			
16.00-18.00	Plenary 3b . Coping with water scarcity in Near East and North Africa: the way forward (*) + Official Closing Session <i>(Main Hall)</i>			

Annex II: List of Participants

COUNTRIES

ALGERIA

Mohamed Kessira
Deputy Director of irrigation
techniques

Amar Kessal
Chef de Département

Chaoui Mohamed Sofiane
Assistant Professor

EGYPT

Aly Ismail Naguib
Director
Land, Water and Environment Institute

Ahmed Youssef
Head of Water and Desert

Othmen ElShaikh
Ministry of Agriculture

Magdi Mohamed Ahmed
ElSherbini
Director General of Minister's
Technical Office

IRAN

Abbas Keshavarz
Head of Agriculture and Water
study group

IRAQ

Ahmed Aallessa
Civil Engineer
Irrigation Projects

LEBANON

Salim Roukoz
Head of the Rural Engineering
Service

DanyBassil
Head of Batroun Agricultural
Center

Sylvana Gerges
Agriculture Engineer

JORDAN

Dr. Radi ElTarawni
Deputy Minister for Agriculture

Suliman Sawalha
Head of Irrigation and Soil

Monthir Talal Ali Adwan
Head of Studies and Information

Ayman El-Hadid
Water Harvesting Director

Sabri Mbidien
Karak Agriculture Directory

Ahmad Madadhah
Karak Agriculture Directory

Sabri Midien
Karak Agriculture Directory

Tamam Yassin
Agriculture Engineer

Ahmed MadadhohKarak
Agriculture Director

Dr.Nimer Haddadin
Director of Committee

Monthir Talal Ali Adwan
Head of Studies and Info Div.

Eman Banihassan
Head of Range Societies Division

Mahmoud Ahmed Abujamous
Director of Monitoring and Evaluation

Mahmoud Al-Freihat
Head of Sail Survey & Land

Ra'ad Zayadeen
Head of Range Reserves
Division

Fayez Al-Khawaldeh
Project Dictorate, Studies

Monther Talal Adwan
Head of Studies and Info Div.

Mervat Abu Alragheb
Amman – Jordan

Mahmoud Rubai
Director

Sabri Mbidien
Karak Agriculture Directory

Fouad Irteimeh
Director of Agric Statistic

Khalaf Al-Raggad
Amman-Jordan

Naji Haddad
Focal Security Unit

EmanBanihassan
Head of Range Societies
Division

Ra'adZayadeen
Head of Range Reserves
Division

Fayez Al-Khawaldeh
Amman – Jordan

Mahmoud Rubai
Director

Mona Barghouth
Project Manger

LIBYA

AbobakerAkhaty Elamin
Under Secretary

Khalifa Ahmeda Salem
Director General Irrigation dept.

Almbrok Ali Yousef Adgimach
Engineer of Geology

Ali Milad Abu Fares
Resouces, Director General
Dept of Sail Omar

MAURITANIA

MoulayaSaid Nana Ainina
TechnicalAdvisor

MOROCCO

Aissam El Rherari
Hydraulics Engineer

Mhamed Belghiti
Ingénieur Général

Abdelkrim El Majoudi
Engineer, Head of Soil and Water
Conservation and Forest Protection

Said Saghir Zarouali
Chef de Division des program Agri.

Mohamed Saada
Chef Department Territorial D'Erfoud

Mohamed Saïdi
Confédération Marocaine de
l'Agriculture et de Dév.rural

EIMahdi ElArabi
Engineer

Mohammed Karrou
Water & Drought
Management

NETHERLANDS

Job Kleijn
Senior Policy Advisor

OMAN

Slim Zekri
Associate Professor

Ahmad Al-Busaidi
Ministry of Agriculture and Fisheries

Eng. Mahmood Al-Azri
Director of Aflaj Department

SolimanAlMusalman
Engineer

AbdulHafith El Maskray
Head Section

Ahmad Al-Busaidi
Ministry of Agriculture and Fisheries

Salim AlMamary
Ministry of Agriculture &
Water resources

PALESTINE

Issam Nofal
Director General

Ibtisam AbuAlhaija (Ms)
Manager of Water Department

Naser Qadous
Program Manager

Qasem Abdou
Deputy Minister, Assistant for
Natural Resources

Emad Ghanma
Director

Amar Ghazi Salahat
Manger of Land Development

Jamal Aldadah
Head of Planning Department

SAUDI ARABIA

Abdallah Mohammad Al-Dabah
Deputy Director General

Abdulrahman Suliaman Al-
Gukhaiman
Head of Planning and
Development

Abdulmohsin Ibrahim Sulaiman
Director General

SUDAN

Nabil Ahmed Mohamed Saad
General Director of Planning
and Agricultural Economics

SalaheldinShariefTambel
Researcher

Siddig Yousif Idriss
Director of Gezira Scheme
Irrigation Affairs

Magda Youssif
Head of Women's organization

SYRIA

Ahmad Kadish
Deputy Minister of Agriculture

Mahmoud Shahadat
Directorate of National Project

Anas AlMustafa Al Hossany
Head of the Geographic Info
Systems

TUNISIA

Karra Chedli
Direction Générale des Forêts

SHILI Hédi
Chef de Service
Direction Générale de
l'Environnement

Nasri Slah
Directeur de la cellule de la
planification prospective des eaux

Elmissaoui Imed
Chef de services de la planification
prospective et stratégique

Slaheddine Ghedhoui
Directeur adjoint à la Direction
Générale de l'Aménagement et de
la conservation des terres agricoles

Afef Ben Rejab (Ms)
Directeur Adjoint à la
Direction de la Coopération
Internationale

Aymen Frija
Assistant Professor

Leith Ben Bechir
Président du Syndicat des
Agricultures

HediHamrouni
Engenieur General

Achour Hichem
Esier

UNITED ARAB EMIRATES

Shoaeb Ismail
A/Director, Innovation &
Research Div.

Dr.Mohamed Dowoud
Advisor Water Resource

Mohamed Dawoud
Advisor Water Resources

YEMEN

Amin Rageh

Fawaz Abdel Aziz AlOdhari
Head of Operation and
Maintenance

Abdulkarim Al-Sabri
Irrigation and Water Mngt. Adviser

Taofeg Al-Sharjabi
Deputy Minister

Aymen ElHadid
Water Harvesting Director

Nabil Saleh
Technical Director of RNRRC

Mohammed H. AlMashreki
General Director of RNRRC

Lotfi Qasem Alasbahi
Head of Land Resource Section

ORGANIZATIONS

ACSAD

Wadid Erian
ACSAD/LAS

Wael Seif
Director Water Resources
Department

AOAD

Ali Abu Hammour
Head of Regional Office in Amman

Ayman AlHusny
Economist, Head of Investment

Salah AbdelGadir
Senior Agricultural Economist

Ahmed AlSamawi
DG Assistant

Zakaria El Kanawat

AGPN

Razan A. Zuayter
Preseident

Mariam A/ Jaajaa
Executive Manager

ARAB FARMS ESTABLISHMENT

Abdullah A.R. Arar
Consultant & Farmer of Dates

AWC

Mahmoud Abu Zeid
President

Hussein Al Atfy
Secretary General

Mary Halim (Ms)
Documentation/Publication
Consultant

CEDARE

Omar ElBadawy
Regional Land Resources Manager

Amr Abdel Meguid
Regional Programme Manager

CENTECH

Mohamed Abdel Gandour
General Manger

CHIEAM.MAI-Baj

Atef Hamdy

CSIRO

John Passioura
Chief Research Scientist

DRC

Ahmed Youssef
Head of Water Resources and
Desert Land Division

ESCWA

Carol Chouchani Cherfane (Ms)
Chief, Water Resources Section
Sustainable Development

ESDC

Obed Yassin
Programme Manger

GIZ

Nicole Stuber (Ms)
Egyptian-German Water
Management Reform Program
(WMRP)

Ariane Borgstedt
Program Coordinator

Friederike Kraemer

ICARDA

Mahmoud Solh
Director General

Fawzi Karajeh
Principal Scientist – Water
Resources
Integrated Water and Land
Management Program

Michael Devlin
Communications Head

Theib Oweis
Director Water and Land

David Feindel
Agronomist
Tel: +962795974976
E-mail:d.feindel@cgiar.org

Atef Swelam
NPO, Water Management Specialist

Halim Ben Haj Salah
Regional Coordinator_

Vinary Nangia
Agricultural Hydopologist

Dr. Dieter Prinz
Professor

Aden Aw-Hassan
Jordan

Rajta Majundar
Communication Specialist

Kristofer Dodse
Manager Water Livelihoods
Institute

Jack Dvrell
WEB+ Information Manager

Ampaitepin Singhabhandhv
Environmental Economic
Consultant

Roberto Telleria
Doctor

Mai Touma
Communication Specialist - Syria

Tamam Yassin
Agriculture Engineer, Statistics

ICBA

Ismahane ElOuafi
Director General

Shoaib Ismail
Acting Director, Research &
Innovation Division,

IDRC

Hammou Laamrani
Senior Program Officer

IFAD

Mohamed Shaker Hebara
Country Programme Officer

IWMI

Ir. Edwin Rap
Researcher -Water Mngt & institutions

Andrew D. Noble
Sri Lanka

JUST

Saeb Khresat
Professor

KATALIST

Elena Lopes-Gun
Spain

LAS

Shahira Hassan Ahmed Wahbi (Ms)
Chief of Sustainable
Development and International
Cooperation

Nermin Wafa (Ms)
Head of Programmes and
Activities Division

Eman Mohamed Hassan
Water Expert

Laamrani Hammou
LAS/GIZ

MATAMETA

Francesco Sambalino
Italy

MWI

Ibrahim Al Shakhanbeh
Doctrine

Ali Subah
SG Assistant for Technical
Affairs

NCARE

Mohammad Abu-Raddaha

NWRC

Shaden Abdel Gawad
Professor and Former President

Samia ElGueindy
Professor

Mohamed Fawzi Bakry
Vice President

Ahmed Khater
Natural Water Resources Center

Abdrabbo Shehata
Associate Professor

SIDA

Muna Barghouth
Regional Program Manager
(Swedish Dev't Agency)

Fatma A.R. Attia Rezk
Professor

UNESCO

Abdelaziz Zaki
National Professional Officer

Abdalla A. Ahmed
Director General

UNDP

Amin AlHaj
Programme of Assistance to the

WFP

Koryun Alaverdyan
Cairo Office, Egypt

Tarrig Mustafa
Programme Officer

Ithar Khalil
WFP. Egypt Cairo Office

Oscar Ekdahl
Cairo Office

UNDP

Amin AlHaj
Programme Manager

UNHCR

Thomas Palo
Environmental Specialist

USAID

Scott Christiansen
Science Advisor

WB

Shawki Barghout
Advisor World Bank

Steven Schonbergen
Sector Manager Water &
Agriculture

Qun Li
Senior Operation Officer

POSTERS PRESENTERS

Redouane Choukr-Allah
Professor of Horticulture

AmeenRageh
Agricultural Research and
Extension

Mohammed Al-Mashreki
Senior researcher in soil survey
and Land Evaluation

Naser Qadous
Programme Manager

Hedi Hamrouni
Soil Director and

Samia Elgendy (Ms)
Professor Emeritus,
National Water Resources

Sara Khamis Abdalla
Researcher

Imad Ghanameh
Deputy Director of Soil Department

Hichem Achour
Irrigation Specialist

Adel Cortas
Former Minister of Agriculture

Friederike Kraemer
GIZ

Ithar Khalil (Ms)
Programme Officer
Roberto Telleria
Agricultural Policies

**INVITEES and PLENARY
SPEAKERS**

John Passioura
Honorary Fellow
CSIRO Division of Plant Industry

Ismahane Elouafi
Director General (ICBA)
International Center for Biosaline

Shoaib Ismail
Acting Director, Research &
Innovation Division

Tawfek Ali Saleh
Director-General (ACSAD)

Wael Seif
Director of Water Resources
ACSAD, Damascus, Syria

Abdalla Abdelsalam
Director General of UNESCO-
CWR

Abdelkader Larabi
Professor and Director of the
Regional Water Centre in Maghreb

Ahmed Mohamed Rashad Khater National Water Research Center	Lutfi Qasem Al-Asbahi Land Resources, Agricultural Research and Extension Authority	Mufleh Al Alaween Regional Programme Manager Water and Climate Change (WCC) IUCN (International Union for Conservation of Nature)
Selim Sarraf Consultant, FAO	Alia Abdulla Syria	<u>Oman Food investment Holding</u> Saleh Al Shanfari Oman
Karuppan Sakadevan Soil-Water Eco Physiologist Joint FAO/IAEA Division for Nuclear	Abdou Qasem Deputy Minister Assistant for Natural Resources Affairs	<u>AlMassa Organization</u> Ensaf Abdalla Project Manager
Othman El Shiekh Project Manager	Yaser Ghallab Social Fund For Development	<u>Baladna Association</u> Ali Mostafa Ali General Manger
Momamed Adel Hafez ElGhandour General Manager, CENTECH	Tarig Mustafa Programme Officer (WFP)	<u>Dayak Ali Mustafa Ali</u> Amman office <u>Arab Group for Protection of Nature</u> Hassan AlJaajaa
Awidis Areslan Deputy Director General General Commission for Scientific Agricultural Research, Habouni,	Elena Lopez-Gunn ICATALIST and Universidad complutense (Spain)	<u>ALMASAR</u> Ensaf Abdalla Ebrahim (Ms) Almasar organization for Nomadic - Devlpt and Env. conservation
Majdi Gouja Engineer of Food Sciences and Technologies	Stephen HODGSON Environmental Lawyer	<u>Palestinian Farmers Union</u> Rafat Khandaqji, Palestine
Demetre XANTHOULIS Professor Emeritus	Samah Hilo Programme Officer Head of the West Bank Operation	Mohamed Leith ben bechir Agriculture syndicate Tunisia
Shaden Tawfik Ahmed Abdel Gawad Professor (NWRC, Egypt)	David Feindel Cropping Systems Agronomist, ICARDA, Director DSIPS Program.a.i	El Arabi El Mahdi Federation nationale du secteur agricole
Hamdy Atef Professor and Expert of Water Resources Mediterranean Agronomic Institute	Andrew Noble Program Director, Water, Land and Ecosystems International Water Management Institute	<u>UNIVERSITIES</u> Chaoui Mohamed Sofiane Assistant Professor Université Constantine, Algeria
Fatma Rezk (Ms) Professor Emeritus Research Institute for Groundwater, National Water Research Centre	Dia EIDin ElQuosy Professor	Elias Fereres Castiel University of Cordoba & IAS-CSIC Spain
Mohammed Dawoud Water Resources, Environment Agency – Abu Dhabi	Mohammed Karrou Water and Drought Management Specialist (ICARDA)	Mohamed Amine Filali Professor Assistant University of Constantine - Algeria
Karl Dieter Prinz Karlsruhe Institute of Technology	Walid Abdel Rahman Professor (AWC) Arab Water Council	Mohamed Sofian Chaoui Professor Assistant University of Constantine - Algeria
Abbass Keshavarz Head of Agriculture and Water study group (ICCIMA)	Richard Sopp Senior Marginal Water and Salinity Management Specialist, ICARDA	

Hussam Hussein
PHD Student
University of East Ang, Italy/
UK

Sara Khamis
Researcher
Alexandria University
Egypt

AbdelKarim Dawoudd
Omar AlMokhtar Univesity,
Libya

Ghada Kassab
University of Jordan

Mohamed Harhash
Master Student
Chemistat Alexandria Water
Company
Cotogne University; Germany /
Jordan

DuaaTelfah
Student, Irbid

Victor Nergu
Master Student, Jordan

Nicola Parigini
Master Student

Natalia Ciobanu
Student

Abdel KkaderLarabi
Director, Morocco University

Hussam Hussein
UEA University, PHD Student

Noha Mahmoud
University of Jordan / Uni. of
Applied

Malte Schummelfeder
University of Jordan / Uni. of
Applied Science – Koln
Student – Germany

Amel Saadoun
University of Jordan / Uni. of
Applied Science – Koln

FAO/HQ

Alberto Del Lungo
Forestry Officer

Jean Marc Fures
Senior Officer, NRL

Jippe Hoogeveen
Technical Officer, NRL

Ronald Vargas
Technical Officer, NRL

Francois Delobel
Natural Resources Officer,
NRC

Christopher Ward
FAO Consultant

FAO/IRAQ

Fadel ElZubi
Senior Programme
Coordinator
FAO Representative to Iraq a.i.

FAO/ JORDAN

Andrea Berloffia
Senior Emergency Coordinator, TCE

FAO/LEBANON

Elie Choueiri
Programme Assistant

FAO/SOMALIA

Hussein Gadain
Chief Technical Advisor

FAO/RNE

Abdessalam Ould Ahmed
ADG/Regional Representative,
RNE

Pasquale Steduto
Deputy Regional Representative
& FAO Representative in Egypt,
OIC

Faycel Chenini
Water Resources and Irrigation
Consultant

Mahmood Ahmad
Senior consultant for Water
Scarcity Initiative

Magdi Latif
Knowledge/Information
Management Officer, (RNE)

Daniel Dale
Land Tenure Officer, RNE

Abdel Hamid Hamed
Senior Forestry Officer

Raffaella Rucci (Ms)
Communication Consultant

Sanaa Mahfouz (Ms)
Library Assistant

Amr Fadlelmawla
Consultant

Elodie Perrat (Ms)
Consultant

Omnia Moussa (Ms)
Office of ADG/Regional
Representative

FAO/ SNE

Abdelwahab Belloum
Land and Water Officer

FAO/ SNG

Muhammad Bhatti
Land and Water Officer

FAO-West Bank

Azzam Saleh Ayas
Head of Programme

Loay Froukla
Senior Water Consultant
Amman- Jordan

FACILITATORS

Domitille Vallée (Ms)
Agriculture Water Management
Land and Water Division FAO
Rome

Sophie Treinen (Ms)
Information and Knowledge
Management Officer, FAO
Rome

Carine Rouah (Ms)
International Consultant

Ebba Augustin (Ms)
Consultant

Lucie Lamoureux (Ms)
Lead Associate
KM4D Associates, Belgium

Annex III: Communication activities

Communication activities were organized during:

1. Pre-event phase (communication and buzz)
2. During the event (event coverage)
3. Post-event phase (reporting)

Phase 1: Pre-Event Communications and buzz

To gain publicity to the event and raise awareness among general public on water scarcity and land degradation in the region, *simple messages to position and brand the event* were identified and the following events were organized:

a) Two media meetings in Cairo

More specifically a media briefing was organized with selected media representatives from news wires, newspapers as well as with on line platforms. The media briefing greatly contributed to create good buzz among the local press about the event.

The second media event was a discussion panel on land and water. The panel was broadcasted live by the CBC satellite channel. Besides FAO, selected panelists were from League of Arab States, Arab Center for Studies on Arid and Dry Land and the Arab Water Council.



Interviews with FAO representative on local and regional TV channels were also organized

b) Coordination for media meeting in Amman

A media focal point was identified in Amman (communication specialist from United Nation – Resident Coordinator) to engage local and regional media based in Amman in the coverage of the event, including the Press Conference.

Phase 2: During-Event coverage

To gain full media coverage during the Conference, the following activities were organized:

1. Press Conferences and Press Releases
2. Production of communication materials such as: bulletins, a blog, YouTube interviews with partners and participants, tweets and pictures.

Phase 3: Post event communication Management

As follow up to the event, the CBC channel has hosted FAO and partners to a short discussion about the main outcomes of the Land and Water Days. The channel has also produced a 7 minutes report about the event.

In cooperation with:



With the support of:



The Ministry of Agriculture of the Hashemite Kingdom of Jordan

In cooperation with:



With the support of:



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