



Food and Agriculture Organization  
of the United Nations



**PROGRAMME & CONCEPT NOTE**

**INTERNATIONAL SEMINAR ON**

# **DROUGHT & AGRICULTURE**

**PREDICT, PLAN, PREPARE: STOP DROUGHT BECOMING FAMINE**

**A CELEBRATION OF THE WORLD DAY TO COMBAT DESERTIFICATION AND DROUGHT**



**19 JUNE 2017**  
**SHEIKH ZAYED CENTRE**  
**FAO HQ, ROME, ITALY**



**CO-ORGANIZED BY THE ISLAMIC REPUBLIC OF IRAN, THE KINGDOM OF THE NETHERLANDS AND FAO**

**THE SEMINAR WILL BE HELD IN ARABIC, ENGLISH, FRENCH AND SPANISH**

**#FIGHTINGFAMINE**

**#2017WDGD**



# Programme:

International Seminar on Drought and Agriculture | 19 June 2017 | Sheikh Zayed Centre

Time	Title
9.30-9.45	<b>Introduction by the Kingdom of the Netherlands and the Islamic Republic of Iran</b>
09.45-10.30	<b>HIGH LEVEL PANEL</b> <ul style="list-style-type: none"> <li>– Mr. José Graziano da Silva, Director-General of FAO</li> <li>– Hon. Minister John Mutorwa, Minister for Agriculture, Water and Forestry of Namibia</li> <li>– H.R.H. Prince El Hassan bin Talal, The Hashemite Kingdom of Jordan (Video message)</li> <li>– Mr. Petteri Taalas, Secretary-General of WMO</li> <li>– Mr. Gilbert Fossoun HOUNGBO, President of IFAD</li> </ul>
10.30-10.35	<b>Short Visual Orientation on Drought</b>
10.35-10.40	<b>Ceremony for the signature of a Memorandum of Understanding (MoU) between FAO and WMO</b>
10.40-11.00	<b>Coffee Break</b>
11.00-11.15	<b>SETTING THE SCENE: <i>What could be done differently and by whom</i></b> <ul style="list-style-type: none"> <li>– Professor Donald Wilhite, Applied Climate Science, School of Natural Resources, University of Nebraska</li> </ul>
11.15-11.30	<b>Showcases on thematic 1 - <i>Integrating and aligning water and soil management strategies to maximize response to drought</i></b> <ul style="list-style-type: none"> <li>– Mr. Saidi Mkomwa, African Conservation Tillage Network - Sustainable Land Management &amp; Climate Change Resilience</li> <li>– Ms. Marcella D'Souza, Water Organization Trust - Towards Resilience in the Face of Drought: The Case-study of Kumbharwadi, Maharashtra, India</li> </ul>
11.30-12.15	<b>SESSION 1:</b> Moderator: Mr. Theib Y. Oweis, ICARDA <ul style="list-style-type: none"> <li>– Mr. Sibiri Jean Ouedraogo, Interim Director-General, Institut du Sahel</li> <li>– Ms. Gulchekhra Khasankhanova, Head of Soil and Irrigation Department, Uzbek State Uzgipromeliiovodkhoz Institute (UZGIP) Institute</li> </ul> Discussion
12.15-13.30	<b>Presentation on Monitoring Water Productivity through Remote Sensing (light lunch served)</b>
13.30-13.45	<b>Showcases on thematic session 2 - <i>Connecting farmers to technologies – changing threats to opportunities</i></b> <ul style="list-style-type: none"> <li>– Ms. Kate Fehlenberg, International Maize and Wheat Improvement Center - Drought Tolerant Maize for Africa Seed Scaling (DTMASS)</li> <li>– Mr. Teweldebrhan Hailu Abrha, Project Concern International (PCI) - Satellite-Assisted Pastoral Resource Management (SAPARM)</li> </ul>

Time	Title
13.45-14.30	<p><b>SESSION 2:</b></p> <p>Moderator: Mr. Joseph Ahenda, FAO Somalia</p> <ul style="list-style-type: none"> <li>– Ms. Maria Isabel Andrade, Board Member, AGRA</li> <li>– Mr. Leith Ben Becher, Former President and Founder, Syndicat des Agriculteurs de Tunisie (SYNAGRI)</li> </ul> <p>Discussion</p>
14.30-14.45	<p><b>Showcases on thematic session 3 - <i>Moving from reactive to proactive management in drought emergencies</i></b></p> <ul style="list-style-type: none"> <li>– Ms. Jyothi Bylappa, World Food Program (WFP) - R4 Rural Resilience Initiative</li> <li>– Mr. Horacio Rubio Gutiérrez, Comisión Nacional del Agua, Government of Mexico - Programa Nacional Contra la Sequia (PRONACOSE)</li> </ul>
14.45-15.30	<p><b>SESSION 3:</b></p> <p>Moderator: Mr. Dominique Burgeon, FAO</p> <ul style="list-style-type: none"> <li>– Mr. Johannes Cullmann, Water and Climate Division Director, WMO</li> <li>– Mr. Daniel Tsegai, Drought Programme Officer, UNCCD</li> </ul> <p>Discussion</p>
15.30-15.45	<p><b>Showcases on thematic session 4 - <i>Mainstreaming drought management in the context of the 2030 Agenda</i></b></p> <ul style="list-style-type: none"> <li>– Mr. Johannes Hunink, Future Water - DMIAT: Drought Monitoring and Impact Assessment Toolbox for Vietnam</li> <li>– Ms. Catherine Ogolla, CAFOD - Managing drought in Kenya through interagency cooperation</li> </ul>
15.45-16.30	<p><b>SESSION 4:</b></p> <p>Moderator: Mr. Mawira Chitima, IFAD</p> <ul style="list-style-type: none"> <li>– Mr. Ronald Hugh Jackson, Executive Director, Caribbean Disaster Emergency Management Agency</li> <li>– Mr. Michael Brüntrup, Senior Researcher DIE (German Development Institute)</li> </ul> <p>Discussion</p>
16.30-16.50	<p><b>Remarks and Conclusions</b></p> <ul style="list-style-type: none"> <li>• Summary by moderators of sessions 1-4</li> <li>• Co-Chairs' wrap-up</li> <li>• Co-Chairs' Communiqué</li> </ul>
16.50-17:00	<b>Closing</b>
17.00	<b>Informal drink – FAO cafeteria – 8<sup>th</sup> floor</b>

**Launching of FAO Publication: Drought characteristics and management in Central Asia and Turkey - FAO Water Report 44**

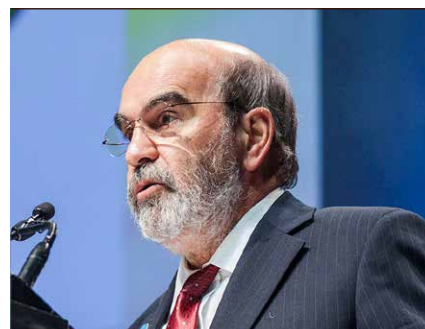


## A Background

There is no shortage of knowledge, technologies, and good practices for addressing drought, agricultural and rural development and water shortage. Coping with these issues in a global framework and with a global approach helps us ensuring food security and avoiding famines.

Promoting and supporting partnerships to harness the knowledge and experience of stakeholders and enabling targeted actions for drought response, agricultural production and sustainable use of water in agriculture is the way forward, thereby addressing the challenges for agricultural production and livelihoods posed by climate change.

The organization of a joint seminar on drought follows the letter by the two Permanent Representatives from the Islamic Republic of Iran and the Kingdom of the Netherlands, dated 02 December 2016, to the FAO Director-General that underlined the importance of integrated approaches to drought management and drought preparedness, suggesting a seminar to discuss these approaches along with scalable good examples and innovations for associated implementations and investments. The positive response by the FAO Director-General was followed by exploratory and preparatory meetings involving FAO and the offices of the two Permanent Representations.



“ We cannot avoid droughts, but we can stop them from becoming famine ”

FAO Director General  
Jose Graziano da Silva



## An Overlooked Phenomenon

Drought, a devastating natural hazard, affects a significant proportion of the global population, particularly those living in semi-arid and arid regions. The consequences for agricultural communities can be stark, often reversing gains in food security and poverty reduction, hampering efforts to reach SDG 1 and 2. Drought can also exacerbate social tensions and fuel civil unrest.

Despite the known impacts of drought and the growing availability of technological and policy innovations to lessen them, drought management and planning is too often overlooked until a crisis unfolds. This reactive, crisis-led response gives rise to a fragmented policy space where interventions are sectorally isolated, and drought mitigation strategies under-perform.

In recent months, the world has watched drought unfold in many parts of Africa, devastating the livelihoods of farmers across the continent and, in Somalia, raising the spectre of famine. In the context of this region-wide, cross-country drought and with the prospect of many millions of people suffering, improving how we manage drought has never been more prescient.

In this context, and building on the momentum provided by the SDGs, the Paris Climate Agreement, and recent efforts by FAO, UN Water, and others, to support national drought management policies<sup>1</sup>, this seminar seeks to promote *proactive, integrated action* that engages actors within and beyond the drought community. By engaging in this way, the seminar hopes to *highlight existing best practice* drawn from different contexts, *drive the sharing of knowledge and promote the implementation of integrated, holistic* drought interventions.

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<sup>1</sup> See for example a recent report on capacity development to support national drought management policies (UN Water, 2015). <http://www.unwater.org/activities/multi-agency-featured-projects/drought-management/en/>



## **B** Objectives of the International Seminar on Drought and Agriculture

The aim of the seminar is to increase agricultural resilience to drought, and reduce risk, by advocating an integrated, proactive approach to drought planning, adaptation and management.

The main objectives are to:

- **kick-start** a renewed focus on drought in relation to climate change and to scale-out upon the research, policy and project knowledge residing in the drought community.
- **showcase** examples of best practice, transformational projects and innovative approaches thereby sharing knowledge and experience across the global drought community.
- **encourage** better links between political decision-making, technology development, financing, and engagement of the private sector.





## C Agenda and themes

### 1. High Level Panel:

Distinguished guests are invited to set out the framework for a productive discussion on the strategies required to successfully shift from managing crises to preparing for droughts.

### 2. Short Visual Orientation on Drought

### 3. Setting the Scene:

This session provides an overview of the drought phenomenon. It describes past attempts to plan for, and respond to drought and highlights the strengths and weaknesses of the main approaches. Given the rapid onset of famine in a number of countries, the session also highlights key changes that need to be made to manage droughts differently and prevent further suffering.

### 4. Thematic sessions: What to do differently

#### Theme 1: Integrating and aligning water and soil management strategies to maximize response to drought

*How should we change Land and Water management to better respond to drought?*

Integrated soil and water management can play a role in mitigating the impacts of drought by conserving soil moisture and providing some minimal levels of production. A large number of technological measures can be adopted to effectively and jointly manage soils and water<sup>2</sup>. But it is not all

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<sup>2</sup> Reduction of soil evaporation by using conservation tillage practices and mulch; Enhancing soil organic matter for better moisture storage; Enhancing soil fertility;

Reducing crop water requirements through inducing microclimatic changes, like wind barriers, shade cover or vegetative soil cover; and

Improving soil quality through avoiding erosion—e.g. building raised ridges that follow the contour, growing crops in pits, and building eyebrow terraces around trees and shrubs- can improve crop yields and reduce erosion.



about technologies: policy and institutional<sup>3</sup> measures are as important to ensure that response to drought is maximized.

**What is the right mix of technological, policy and institutional measures that can be most effective in managing the risks related to droughts? And what is preventing so far the effective, joint management of land and water?**

Joint soil and water management solutions can help farmers boost yield and hedge the risks connected to droughts. Nonetheless, many smallholder farmers are not aware of such techniques and are not reached by extension agents at all. And where extension does exist, too often improved land and water management practices are insufficiently integrated. Do national policies and legislation provide sufficient incentives - such as secure land tenure and property rights - to stimulate farmers to invest in improved soil and water management?

There is no doubt that improved, coordinated practices in terms of soil and water management are well-known to specialists in the sector as well as to governments. **What pathways can be designed to scale-up integrated water and soil management, from the policy-making sphere to the farm? In particular, what is the role of: 1) policy and legislative incentive; 2) knowledge management systems; 3) investments (private and public); 4) the private sector; 5) capacity building and training?**

Forging the partnerships required to work holistically and integrate actions across sectors, is made possible by firstly, engaging in participatory drought planning processes, and secondly, by harnessing the legacy of periods of water stress, which often serve to change entrenched mind-sets and allow the introduction of new ways of working.

This panel will explore the synergies between the management of water, soil and other resources in the context of drought planning and response. This will include an examination of the role of drought within the water, food and energy nexus. It will focus on the role of integration and forming partnerships. It will draw in part of FAO's works in managing water scarcity, for example through the Global Framework for Action to Cope with Water Scarcity in Agriculture in the Context of Climate Change.

## **Theme 2: Connecting farmers to technologies - changing threats to opportunities**

*How can we connect farmers to advances in research and technology to help in the fight against drought?*

Food production is not keeping up with the world's appetite. Crop yields have remained relatively flat in recent years, even as demand is increasing because of population growth and the rising middle class in developing nations such as China. **What is the role of technologies in making agricultural production more efficient and, ultimately, in feeding a growing world?**

Private sector investments in connecting farmers to technologies have been pouring in developed countries. Food and agriculture technology start-ups attracted \$4.6 billion last year, compared with \$2.3 billion in 2014 (AgFounder). The fields have changed with drones providing bird's-eye views of fields; mapping software locating underground water sources; sensor-laden tractors monitoring harvests in real time. The use of renewable energy, in particular solar, in agriculture is also emerging giving opportunity to farmers to use cheap/clean energy for their farming activities, whilst contributing to the achievement of the SDG 7 targets. Developing countries have not yet adopted similar technologies as rapidly and successfully. **Why are developing countries lagging behind?**

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<sup>3</sup> Input and output market development; Weather index insurance; Development of effective climate information systems and early warning systems; Develop a system of incentives for appropriate soil management (e.g. land tenure rights); Extension services.



Is the bottleneck capacity, investment, or the enabling environment? And how can technology adoption to manage drought at the farm-level be enhanced?

There has been a consistent effort, over recent years, to build sound drought forecasting models. We can cite examples of models developed at Columbia University with the support of USAID<sup>4</sup> or at the International Rice Institute<sup>5</sup> and several other organizations. **How can we make sure that these models do not remain simply enticing intellectual exercises with limited applications but that they are, firstly, developed in a concerted and coherent manner and, second, that they are scaled-up to all drought-prone countries?**

Success stories in applying drought models at the farm level do exist. Learning from these success stories and having no fear to criticize the status quo is a must. **So what would be the advice to governments that are right now engaging into the development of technology-based drought early warning and forecasting systems? In particular, what should the role of governments be in ensuring that no farmer is left behind and that drought alert and management systems are adopted by each and every farmer?**

This panel explores how technologies can help smallholder farmers become more resilient to drought, how and when these tools should be used, and how to better connect smallholder farmers to these technologies.

### Theme 3: Moving from reactive to proactive management in drought emergencies

*Can we respond better to droughts by using proactive rather than reactive management?*

Responding to drought once a crisis has begun is a reactive strategy that misses many opportunities to mitigate impacts and often comes at high cost; whereas proactive strategies that emphasize preparedness are cheaper and more effective. Since millions of people who depend on agriculture for food production, marketing and consumption can be suddenly hit by natural disasters – like drought – causing migration to safer places, the governments and international organizations must collaborate to move from reactive to proactive management in drought emergencies. To achieve this shift, the panel will focus on a new paradigm that moves away from earlier government efforts which predominantly focused on drought impacts, and instead will highlight the importance of drought awareness. Through this paradigm shift, drought responses can be made more proactive, and early interventions can be enabled, by raising awareness, building capacity and overcoming political inertia.

In an emergency context, it is necessary to rapidly mobilize resources, timely deliver a comprehensive aid package, and act coherently to limit the damage. Emergency response has been in nature reactive and yet achieved the desired results of damage containment. **So how can we plan for resilience in an emergency context, while at the same time providing critical, timely services to populations in dire need?**

Very often, after a comprehensive policy change is introduced, governments (and their people) are left struggling with the dilemma of implementing on the ground a policy that, at times, seems too ambitious or abstract to be realized in full. Lack of ownership, conflicting or overlapping mandates, lack of capacity, inability to cover the financial needs for implementation have often been cited as reasons that hampered the full implementation of the most visionary policies. We are discussing a similar paradigm shift. **So it is now the time to ask: in proactive drought management in**

<sup>4</sup> <https://www.usaid.gov/news-information/frontlines/science-technology-innovation-and-partnerships/innovative-weather-model>

<sup>5</sup> <http://www.cgiar.org/consortium-news/technology-to-tackle-drought/>

emergency context, who is responsible for what? What is the role of development partners, donors, governments, the scientific community, the civil society, and the private sector?

We understand that proactive drought management requires a concerted effort, from planning to day-to-day implementation. **Do we have the right tools (scientific, financial, human resources) at hand to make proactive drought management a reality?**

#### **Theme 4: Mainstreaming drought management in the context of the 2030 Agenda**

*How can we use the 2030 Agenda to raise the profile of drought, raise awareness of proactive approaches, and integrate across sectors?*

Managing drought by reducing risk and increasing resilience is key to achieving many of the SDGs (including those related to climate, change, migration, food security, poverty, water and nutrition). Thus, the 2030 Agenda provides a timely opportunity to mainstream proactive drought management as an integral part of efforts to meet a range of SDG targets.

The 2030 Agenda committed all of us to “ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality (Goal 2.4)”. Considering the progress made so far, and taking stock of the recurrent droughts that afflict several countries while we speak, **is this too ambitious an objective?**

The panel will delve into these opportunities and seek concrete steps to increase political momentum, identify and form partnerships, and raise awareness.

### **5. Lunch event: Presentation on Monitoring Water Productivity through Remote Sensing (light lunch served):**

Achieving Food Security in the future while using water resources in a sustainable manner will be a major challenge for us and the next generations. Agriculture is a key water user and a careful monitoring of water productivity in agriculture and exploring opportunities to increase it is required. With financial support from the Netherlands, FAO is developing a publicly accessible near real time information system using satellite data to monitor water use in agriculture. The FAO portal to monitor Water Productivity through Open access of Remotely sensed derived data (WaPOR) provides access to 10 years of continued observations over Africa and the Near East. The portal provides open access to various spatial data layers related to land and water use for agricultural production and allows for direct data queries, time series analyses, area statistics and data download of key variables to estimate water and land productivity gaps in irrigated and rain fed agriculture, monitor trends of water use in irrigated areas and assess the influence of droughts on agricultural production.

### **6. Remarks, Co-Chairs' wrap-up and Co-Chairs' Communiqué:**

A summary of the seminar's discussions will be offered by the moderators of the sessions, followed by key conclusions and the Co-Chairs Communiqué.

### **7. Closing**





## D Outcomes

- Co-Chairs' Communiqué
- Publication containing a collection of experiences (to be launched on the occasion of COP23 of the UNFCCC, to be held in Bonn, Germany, in November 2017).





The Islamic Republic of Iran



Kingdom of the Netherlands



Food and Agriculture  
Organization of the  
United Nations