

Mohamed Ouessar · Donald Gabriels  
Atsushi Tsunekawa · Steven Evett  
*Editors*

# Water and Land Security in Drylands

Response to Climate Change

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 Springer

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## **Short Biography of Dr. Houcine Taâmallah**



*Born in Sidi Bouzid (central Tunisia) in 1960, Dr. Houcine Taâmallah completed his undergraduate and M.Sc. studies at the National Agronomic Institute of Tunisia (Institut National Agronomique de Tunisie) (INAT) in 1984 and 1987, respectively. He received a Ph.D. in Agricultural Sciences (Soil and water management) from the Faculty of Applied Bio-engineering Sciences of the University of Ghent (Belgium) in 2007.*

*After working for a private company (1987–1988), he joined the Arid Zone Research Institute (Institut des Régions Arides) (IRA) (Médenine, Tunisia) in 1988 as a researcher.*

*Since his appointment at IRA, he contributed actively, as coordinator or team member, to the realization of numerous joint research projects funded by national and international agencies (WB, ABOS, EU, CSFD, UNU, UNESCO, etc.). His research programs focused mainly on land degradation, soil physics and fertility, climate change impacts and adaptation, combating desertification, and drylands management.*

*He contributed also to training and capacity building through supervision of trainees and students of all levels from national and international centers and organizations and universities, part time teaching at the universities on drylands and natural resources management related issues, and organization of specialized local and international training sessions.*

*He was solicited to provide expertise for studies and/or projects conducted by numerous national (Ministries of Agriculture, Environment, Planning) and international organizations (FAO, GTZ, OSS, UNU, etc.) in addition to assisting local development agencies (agriculture, environment, development).*

*He published several scientific papers in national and international journals in addition to his contribution to the edition of books and book chapters.*

*He moved in 2012 to work as a university professor in soil sciences at the National School of Rural Engineers (ESIER) in Medjez El Bab.*

*He passed away on May 16, 2013.*

# Foreword

Drylands are increasingly considered as regions of major concern for the international community because they are subject to natural resource degradation and depletion, particularly in terms of soil and water. Climate change would exacerbate pressure on those resources. The inhabitants of dryland regions are forced to make various adaptations. Therefore, the research community has to play a key role in assisting local societies and development agencies by bringing science to play in guiding field actions.

It is in this spirit that the international conference on '*Integrated Land and Water Resources Management in the Dry Areas Under Climate Change*' (ILDAC2015) was organized in Djerba Island, Tunisia, during May 11–14, 2015. It was organized in memory of *Dr. Houcine Taamallah*, senior researcher in soil sciences and combating desertification, who worked for IRA from 1988 to 2012. It brought around 200 participants of 18 nationalities from Africa, Europe, the USA, and the Middle East. The objectives were as follows:

- Updates on climate change and projections
- Present recent developments in land and water resources management in the drylands
- Provide a forum for debate and exchange among all stakeholders working for drylands development
- Learn from local experiences in combating land degradation and desertification

In order to share the outcomes, this proceedings book contains a selection of 27 papers out of the 50 oral presentations and 190 posters presented in this conference.

We wish to thank all the conference partners that assisted in the organization of this conference. Special thanks are due to donor agencies, ICARDA, the EU, and the Government of Tunisia, who generously contributed in ensuring the



participation of the key people involved in research for development of drylands. A special mention must go to the editors and contributing authors as well as Springer for agreeing to publish these proceedings.

August 2016

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# About the Book

## **Integrated Land and Water Resources Management in the Dry Areas under Climate Change**

*Proceedings of the international conference on 'integrated land and water resources management in the dry areas under climate change' (ILDAC2015) Djerba Island, Tunisia, May 11–14, 2015.*

Over 40% of the world is drylands, where about 2.3 billion people live in nearly 100 countries. By surface area, it accounts for up to 44% of all the world's cultivated systems. Climate change is a serious reality to cope with. Land degradation, already present in dryland areas, is likely to worsen with high population growth rates and accompanying mismanagement of rangelands and cropped areas.

This book consists of chapters drawn from proceedings addressing these issues. The main themes include climate change impacts, water resources mobilization and management, land degradation remediation, spatial tools, and integrated socio-economic approaches. It brings various rich experiences from all over the world, ranging from traditional know-how to up-to-date high technologies, to bear on the problems of land and water resources management in the drylands.

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