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Editors

Sustainable Water Solutions in the Western Desert, Egypt: Dakhla Oasis

 Springer

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Preface

This volume came into conception to highlight the sustainability of water resources in Dakhla Oasis. This unique volume is authored by experts in the topic from Egypt and Japan to present the results and findings of their research and the state of the art of knowledge related to the book title. The volume is divided into five parts and contains 16 chapters including introductory and conclusion chapters written by more than 20 authors.

This book was planned to mainly publish the results of the research on Dakhla Oasis, and with the cooperation of researchers of various disciplines who have been conducting fieldworks in Dakhla Oasis to cover important topics related to the sustainable water solutions in the Dakhla Oasis.

This book is a multidisciplinary manuscript bringing together contributions on water issues from natural and social scientists focusing on water management and structures in a challenging environmental situation such as Dakhla Oasis, Western Desert of Egypt. Dakhla Oasis is a challenging field for the study of sustainability and environment, because it depends upon groundwater which is almost unsustainable in nature. How can we realize sustainable development in an unsustainable water condition? This difficult paradoxical question is not relevant only to Dakhla Oasis, but also to the world in the twentieth century where the environmental problems are becoming increasingly important. Hence, although the book focuses on Dakhla Oasis in Western Desert of Egypt, it can serve as a reference for practitioners and experts of different organizations concerned with sustainability in arid regions. Equally, we hope that researchers, designers, and workers in the field of sustainability and environments covered in the book will find the text of interest and a useful reference source.

The subject of water and sustainable development is a wide-ranging one, and only some of the most basic aspects and environmental problems are covered in this book. It soon became apparent that although a number of good books may be available on oasis or sustainability, no text covered the sustainable development of oasis. Thus, the idea of “Sustainable Water Solutions in the Western Desert, Egypt: Dakhla Oasis” book came about. By gathering the researchers, experts and scientists from Egypt and Japan of different disciplines, this book hopes to shed light on the way to keep the oasis sustainable.

It is worth mentioning that Erina Iwasaki (Sophia University, Japan) and Salwa Elbeih (National Authority of Remote Sensing and Space Sciences (NARSS), Egypt) have been conducting a multidisciplinary joint research in Dakhla Oasis about land use, water resources, and agriculture with focus on Rashda Village within the framework of the research project “Development of the sustainable underground water use in the water-scarce societies in North Africa” (MEXT/JSPS KAKENHI Grant Number, Project JP17H16026). Also, Abdelazim M. Negm and his team are working on a multidisciplinary project (ID 30771) that is funded by Science, Innovation and Technology Funding Association (STIFA) of Egypt. Therefore, acknowledging the support provided by STIFA is made.

Moreover, several authors in this book, including Reiji Kimura (Tottori University, Japan), El-Sayed Zaghloul (National Authority of Remote Sensing and Space Sciences), and Adel Shalaby (National Authority of Remote Sensing and Space Sciences) have been part of the team for the project JP17H16026.

Special thank goes to all contributors and to all who contributed in one way or another to make this book a real source of knowledge and the latest findings in the field of sustainability in Dakhla Oasis until the date of publication. We would like to thank all the authors/coauthors for their invaluable contributions. Without their patience and effort in writing and revising the texts several times based on the comments from the reviewers and Springer editors particularly Andrey Kostianoy and Alexis Vizcaino, it would not have been possible to produce this unique book and make it a reality. Much appreciation and great thanks are also owed to the editors of the Earth and Environmental Sciences series at Springer for the constructive comments, advice, and the critical reviews since the editors started the book project in July 2018. Acknowledgments are extended to include all members of the Springer team who have worked long and hard to produce this book.

The volume editors would be happy to receive any comments to improve future editions. Comments, feedback, suggestions for improvement, or new chapters for next editions are welcomed and should be sent directly to the volume editors. The emails of the editors can be found inside the books at the footnote of their chapters.

Tokyo, Japan
Zagazig, Egypt
Cairo, Egypt
November 2019

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