Contents

Part I  Introduction to the Nile Delta

Nile Delta Biography: Challenges and Opportunities  ........................................ 3
Abdelazim M. Negm, Oliver Saavedra, and Ahmed El-Adawy

Ancient Water Supply System in Tall Tanis, Archaeological Area
Northeastern Nile Delta Region, Port Said, Egypt  ........................................... 19
Elsayed Abbas Zaghloul

Part II  Groundwater in the Nile Delta

Nile and Groundwater Interaction in the Western Nile Delta, Egypt  ...... 33
Abbas M. Sharaky, Adel S. El Hasanein, Samir A. Atta,
and Karima M. Khallaf

Mapping of Groundwater in Egypt Using RS/GIS: Case Studies, Areas
Surrounding Nile Valley and Its Delta  ............................................................. 63
Salwa Farouk Elbeih

GIS-Based Spatial Distribution of Groundwater Quality in the
Western Nile Delta, Egypt  ............................................................................. 89
Abdelazim M. Negm and Asaad M. Armanuos

Modeling of Fertilizer Transport Through Soil, Case Study:
Nile Delta  ...................................................................................................... 121
Abdelazim M. Negm and Mohamed Galal A. Eltarabily

Groundwater Degradation and Remediation in the Nile Delta Aquifer… 159
Bakenaz A. Zeidan
Part III  Land and Soil, On-Farm Irrigation and Drainage Water

Land Degradation in the Nile Delta .................................................. 235
Nader Noureldeen Mohamed

Management of Salt-Affected Soils in the Nile Delta ................. 265
Nader Noureldeen Mohamed

Remediation of Agricultural Drainage Water for Sustainable Reuse ..... 297
Amr Fleifle and Ayman Allam

On-Farm Water Management in the Nile Delta ......................... 325
Mosaad Khadr, Bakenaz A. Zeidan, and Ayat Elnmer

Part IV  Nile Delta Coastal Zone Assessment and Management

Sediment and Water Quality of the Nile Delta Estuaries............ 347
Ayman A. El-Gamal

Assessment of Nile Delta Coastal Zone Using Remote Sensing ........ 379
Ali Masria, Abdelazim M. Negm, and Moheb Iskander

Protection Methods Against Sea-Level Rise Caused by Climatic
Change: Case Study of the Nile Delta Coastal Zones .................... 397
Ayman Sabry Koraim and Abdelazim Negm

Estimation of Bathymetry Using High-resolution Satellite Imagery:
Case Study El-Burullus Lake, Northern Nile Delta ..................... 425
Abdelazim M. Negm, Hassan Mohamed, Mohamed Zahran,
and Sommer Abdel-Fattah

Sustainability of Water Bodies of Northern Egyptian Lakes:
Case Studies, Burrulus and Manzalla Lakes ............................. 455
Abdelazim M. Negm and Hickmat Hossen

Part V  Fishing Ports, Fish and Fisheries

Assessment of Egyptian Fishing Ports Along the Coasts
of the Nile Delta ........................................................................... 471
Abdelazim M. Negm, Mahmoud Sharaan, and Moheb Iskander

Fish and Fisheries in the Nile Delta .............................................. 495
Abdel-Fattah M. El-Sayed
Part VI  The Nile Delta: Conclusions

The Nile Delta: Update, Conclusions, and Recommendations ............ 519
Abdelazim M. Negm

Index ........................................................................................................ 531
The Nile Delta
Negm, A.M. (Ed.)
2017, XVII, 537 p., Hardcover
ISBN: 978-3-319-56122-6