

Table of contents

Foreword	vii
----------------	-----

Part 1. Introduction

1. Introduction to innovation tools and management practices for sustainable irrigated agriculture in Central Asia <i>L.S. Pereira</i>	5
2. The Aral Sea Basin: past, present and future <i>V.A. Dukhovny, L.S. Pereira</i>	17

Part 2. Information systems and remote sensing

3. Knowledge base of the project “Crop irrigation management for combating desertification in the Aral Sea Basin <i>B.K. Turdybaev, I.F. Beglov, A.G. Pulatov, N.D. Ananyeva</i>	37
4. Information system for irrigation management to combat desertification. Application to Fergana Valley <i>V.I. Sokolov, A.I. Tuchin</i>	51
5. Remote sensing applied to irrigation <i>A.E. Platonov, B. Vincent</i>	63

Part 3. Farm irrigation and water management

6. Model tools for irrigation scheduling simulation: WINISAREG and GISAREG <i>P.S. Fortes, P.R. Teodoro, A.A. Campos, P.M. Mateus, L.S. Pereira</i>	81
7. Testing the irrigation scheduling simulation model ISAREG for cotton and winter wheat in Central Asia <i>E.D. Cholpankulov, O.P. Inchenkova, P. Paredes, L.S. Pereira</i>	97
8. Strategies for irrigation scheduling to cope with water scarcity <i>E.D. Cholpankulov, O.P. Inchenkova, P. Paredes, L.S. Pereira</i>	125
9. Soil hydraulic properties of Sierozem soils and field crop observations for RZWQM application in Fergana <i>G.V. Stulina, M.R. Cameira</i>	147

10. Calibration of RZWQM and evaluation of alternative water and crop management practices <i>G.V. Stulina, M.R. Cameira, L.S. Pereira</i>	163
11. Improvements on furrow irrigation for sloping lands <i>K.M. Kulov, A.J. Atakanov, P.M. Jooshev, N.J. Sharshekeev</i>	177
12. Water and land productivity analysis <i>S.A. Nerozin</i>	189
13. Assessment of furrow irrigation improvements and water saving in cotton irrigation <i>M.G. Horst, Sh.Sh. Shamutalov, J.M. Gonçalves, L.S. Pereira</i>	203
14. Surge-flow irrigation for water saving <i>M.G. Horst, Sh.Sh. Shamutalov, J.M. Gonçalves, L.S. Pereira</i>	225

Part 4. Drainage and salinity control

15. Drainage and salinity control: review of related problems in Central Asia <i>V.A. Dukhovny, Kh.I. Yakubov, P.D. Umarov</i>	251
16. Relationships between irrigation and drainage <i>V.A. Dukhovny, Kh.I. Yakubov, P.D. Umarov</i>	273

Part 5. Decision support tools

17. Performance of irrigation canals and water distribution modeling <i>V.A. Dukhovny, A.I. Tuchin</i>	289
18. SADREG, a DSS for surface irrigation <i>J.M. Gonçalves, M.G. Horst, J. Rolim, A.P. Muga</i>	307
19. Irrigation demand and delivery simulation: the SEDAM DSS model <i>J.M. Gonçalves, A.P. Muga, P.M. Mateus, A.A. Campos</i>	339

Part 6. Future developments

20. Future trends in water management for Central Asia <i>V.A. Dukhovny, L.S. Pereira</i>	363
--	-----