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Nota di contenuto	Cover; Half Title; Series Page; Title Page; Copyright Page; Table of Contents; Chapter photos; Notes on authors; Foreword; Chapter 1: Introduction; Chapter 2: History of water management in the Aral Sea Basin; Key messages; Introduction; Local water management and governance: from pre-historic times until the 1930s; The great hydraulic mission: from the 1930s to the 1980s; The post-Soviet period: the 1990s until present; Conclusions; References; Chapter 3: Surface water resources; Key messages; Introduction; Hydro-meteorological data sources; Climate and hydrology Anthropogenic impacts on surface water resourcesClimate change impacts on surface water resources; Water use and infrastructure; References; Chapter 4: Groundwater resources; Key messages; Introduction; Groundwater supply and demand; Regional and transboundary aquifers; Seasonal groundwater variation in irrigated

lowlands; Groundwater variability by GRACE satellite data; Groundwater quality; Groundwater mapping and data availability; Socio-economic implications of groundwater use; Future challenges for groundwater use; Acknowledgments; References; Chapter 5: Hydropower; Key messages

Introduction Reservoirs and hydropower: Basin overview; Hydropower in the Syr Darya Basin; Hydropower in the Amu Darya Basin; Small hydropower plants and renewable sources; Conclusions; References; Chapter 6: Environmental degradation; Key messages; Introduction; Land degradation; Water quality deterioration; Options for sustainable land and water management; Conclusions; Note; References; Chapter 7: Water for agriculture and other economic sectors; Key messages; Introduction; Water perception in a context of historical transformation; Water in the agriculture, energy and mining sectors

Competition for water resources and challenges for regional water cooperation Conclusions; References; Chapter 8: The status and role of the alpine cryosphere in Central Asia; Key messages; Introduction; Alpine snow cover; Alpine glaciers; Glacier mass balance; Glacier area changes; Climate considerations; Alpine permafrost; Runoff trends and water-related hazards in headwater catchments; Conclusions; Notes; References; Chapter 9: Transboundary water management; Key messages; Introduction; The evolution of regional frameworks for water resources management

Dealing with water: a quarter-century of accumulating problems Emerging political will for cooperation in transboundary water management; Conclusions; Notes; References; Chapter 10: Local and national institutions and policies governing water resources management; Key messages; Introduction; Common water resource challenges in Central Asia; Reforming the water sector in Central Asia; The institutional landscape in the water sector in the Aral Sea Basin; Indigenous water management in Central Asia; Conclusions; Note; References

Sommario/riassunto

This book offers the first multidisciplinary overview of water resources issues and management in the Aral Sea Basin, covering both the Amu Darya and Syr Darya River Basins. The two main rivers of Amu Darya and Syr Darya and their tributaries comprise the Aral Sea Basin area and are the lifeline for about 70 million inhabitants in Central Asia. Written by regional and international experts, this book critically examines the current state, trends and future of water resources management and development in this major part of the Central Asia region. It brings together insights on the history of water management in the region, surface and groundwater assessment, issues of transboundary water management and environmental degradation and restoration, and an overview of the importance of water for the key economic sectors and overall socio-economic development of Central Asian countries, as well as of hydro politics in the region. The book also focusses on the future of water sector development in the Basin, including a review of local and international actors, as well as an analysis of the current status and progress towards the Sustainable Development Goals by Basin countries. The book will be essential reading for those interested in sea basin management, environmental policy in Central Asia and water resource management more widely. It will also act as a reference source for decision-makers in state agencies, as well as a background source of information for NGOs.
