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Sommario/riassunto

"This reference book summarizes the current knowledge about check dams as key soil and water conservation structures in some of the most sensitive and vulnerable ecosystems in the world, as exemplified by the Mediterranean area and the Chinese Loess Plateau. Check Dam Construction for Sustainable Watershed Management and Planning provides basic knowledge on check dam design and watershed planning, the use of advanced modelling techniques and decision-making support tools, and discusses challenges in dam construction and how to overcome them. Sections I and II focus on the experiences gained from the erosion hotspots in the Chinese Loess Plateau, whereas Section III expands the scope to other regions with different functions for check dams, including headwater ecosystems and alpine environments. Volume highlights include: - Advantages and limitations of ecological engineering efforts during long-term watershed restoration - Case studies from Austria, China, France, Iran and Japan - A thorough discussion of dam erosion dynamics and processes - Recent technologies such as isotope tracers, long-term in-situ monitoring in conjunction with GIS and field observation platforms With its systematic coverage of all aspects of dam construction and maintenance, this unique reference can support decision making by local authorities and can also be used as a professional guide for ecologists, hydrologists and water resource managers"--
