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Nota di contenuto	Introduction -- Baseline Information of Damodar River Basin -- Estimating Sediment Yield (SY), Water Discharge and Surface Runoff: SWAT model -- Identifying Soil Erosion Hotspot: Sediment Delivery ratio Modelling -- Sediment Connectivity Index -- Source-to-sink Sediment Transfer within the Catchments of Major Dams -- Land Use Land Cover Dynamics and Sediment Variation -- Management Planning and Recommendation -- Conclusions -- Index.
Sommario/riassunto	This book provides a novel integrated solution for sedimentation problems in major dams in the Damodar River Basin. Damodar River in India has been extensively regulated by major dams since the 1950s to manage water resources and control floods. According to the Central Water Commission and Damodar Valley Corporation report (2018, 2006), the Maithon, Panchet, and Tenughat dams suffer from a considerable reduction in water-holding capacity by 38%, 25.17%, and 16.8% respectively due to substantial sediment production from the upper catchment. The unpredictable nature of climate change in addition to human-caused impacts (deforestation, open cast mining)

significantly enhanced soil erosion and ready downstream transfer into the channels. Thus, it is essential to identify the sediment source zone and understand the nature of connectivity between the sediment source and to sink (dam) simultaneously managing the sediment yield from the upper catchment is also important for increasing the life span of dams. The book examines the entire domain of sedimentation processes connected to the dams by exploring the upper catchment's sediment source zone and downslope sediment connectivity considering numerous landscape features into account. The book will appeal to environmental scientists and civil engineers, as well as students, researchers, dam operators, government agencies, policymakers, management planners, conservation organizations, local communities, earth science, and applied geomorphology.

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