

3rd International Conference on Hydrology & Meteorology

September 15-16, 2014 Hyderabad International Convention Centre, India

Integrated river basin management in Western Ghat region through a case study

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An integrated river basin management plan for Chaliyar river basin in Western Ghat region, considering both surface and groundwater in relation to quantity and quality has been prepared based on detailed hydrological investigations. The spatial and temporal availability, present utilization and future demand of water for domestic and livestock, irrigation, industrial purposes, hydel power generation, flushing, salinity removal, inland navigation, recreation and cultural needs have been estimated based on actual data from the user departments and graphical representations made. Modern tools like geographical information system, global positioning system and remote sensing techniques were employed wherever applicable. The groundwater recharge, as estimated by Central Ground Water Board (CGWB), for different blocks of the river basin, was appropriated to the river basin. Water quality status of Chaliyar River and selected groundwater sources in the river basin have been assessed based on the secondary data collected from Kerala State Pollution Control Board (KSPCB) and updated with recent sampling. Considering the utilizable yield, present and future demand and spatial water balance has been worked out for monsoon and non monsoon season separately. The investigations have brought to light that the Chaliyar Basin is at present deficit by 133.5 MCM of water during non monsoon period and will have a deficit of fresh water of 214 MCM by 2040 AD. Long term and short term strategies have been suggested to ensure sustainability of water resources in this river basin. For successful planning, implementation and management of the river basin, the need for State Water River Authority or River Basin Board has been highlighted with proposed objectives and composition.

Biography

Anitha A B is basically a civil engineer with a Post graduate degree and PhD in Hydrology and Water Resources Engineering from University of Calicut, Kerala. She is the Head of Surface Water Division of Centre for Water Resources Development and Management (CWRDM). She has more than 30 years of experience in research, teaching, and consultancy in the field of water resource management and published 50 papers in various national and international journals and conferences and 30 research reports.

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