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Session abstract

Title: Catchment Water Quality Management

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Catchments may also be referred to as drainage basin, river or a watershed. Catchment influencing factors are topography, slope, shape, size, soil type, geology and land use and water sources, water use, etc. Topography of a catchment decides the speed with which the runoff will reach a river. Each catchment has a different size, shape, drainage pattern and features that are determined by natural processes, particularly geology and climate. The geology of your catchment will influence many of its characteristics. Soil type and land use influences too to the volume of water reaching the river.

It is very important to manage a catchment as a whole, rather than in parts. Healthy catchments can provide a source of clean drinking water, un-spoilt natural areas for recreation, habitat for plants and animals, healthy vegetation and waterways, reliable and clean water for stock and irrigation, and opportunities for sustainable agriculture and industry. Cities and towns are being build, land has been cleared, roads and footpaths laid, farms created and storm-water systems installed in the catchments. Urbanisation, agricultural and industrial developments has lead to poor health throughout most of the catchments. Flood & storm-water, pollution, sedimentation, lack of infiltration, loss of biodiversity and invasion of invasive species are some of the primary problems that we are facing in our catchments prsently.

For the long term sustainable catchment water quality management (CWQM), it is recommended to use remote sensing & GIS techniques to implement reforestation/aforestation, to do water & soil conservation, to build engineering structures (Check dams, Gabion walls), to implement bio-engineering measures like vegetated soft gabion walls, vegetated loose stone walls, live brush wood walls, to allow only controlled grazing, rangelands & pastures management, to do land use & water use planning and to make new laws & regulations and to implement already existing legislation & environmental laws. There are many practical reasons for adopting Integrated Catchment Management (ICM) or Integrated Water Resouce Management (IWRM) to achieve sustainable use of water resources in a catchment to tackle especially the problems of water quality and quantity.