



CONSULTANCY SERVICES FOR WATER RESOURCE PLANNING

Building water resilience through better flood management

RMSI provides technical and consulting services in water resource management, flood risk assessment and mitigation planning at urban, catchment and national levels. RMSI adopts an integrated approach using simulation and modeling techniques with the help of GIS and IT to provide cost effective solutions. Our expertise lies in hydrology, hydraulics, probabilistic hydro-meteorological hazard modeling, and climate change impact assessment.

RMSI has extensive experience of working with multi lateral funding agencies, governments and private enterprises engaged in the water resources sector. We have a notable experience of having modeled various large river basins throughout the world, such as Zambezi, Limpopo, Mekong, Cagayan, and Ganges.

Water Resource Management

- Excess water availability analysis
- River basin hydrology & water balance studies
- Integrated water resources planning
- Stochastic analysis and design storm studies
- Probable maximum precipitation estimation

- Hydrological model development
- Analysis of water harvesting options
- Climate change impact assessment on water resources, hydro-meteorological risk, rural infrastructure and hydropower

Flood Risk Assessment & Mitigation Planning

- Urban/Flash flood modeling - Probabilistic / Stochastic flood models
- Dam break analysis
- Cost benefit analysis & flood mitigation planning
- Integrated Storm Water Management Systems (ISWMS)

Hydro Informatics

- Development of Hydrological Information Systems (HIS)
- Development of Decision Support Systems (DSS)

Comprehensive Capacity Analysis of Urban Storm Water Drainage (Saylah) System of Sana'a, Yemen

The client wanted to prepare a long-term City Development Strategy (CDS) including an urban upgrading strategy, land use planning, capital investment and prioritized action plan. Towards this objective, the client commissioned RMSI to conduct a comprehensive hydrological, hydraulic and capacity analysis of the existing and planned structures for urban drainage. RMSI developed a hydrological and hydraulic model and coupled it to a water network model to estimate the peak flows and channel overflow with associated duration of flooding for various return periods. Based on the analysis, recommendations for long term City Development Strategy (CDS) were provided to the Municipality of Sana'a.



Kafue Gorge Lower (KGL) Hydropower Project, Climate Risk Assessment, Zambia



The main objective of the study was to evaluate potential climate change risks and impacts, and develop adaptation measures associated with the new KGL Hydropower Project on the Kafue river in Zambia. RMSI adopted advanced hydrological and hydrodynamic modeling approaches for the assessment.

The study provided an innovative approach to the client for assessment of climate risk for hydropower generation. It was found that climate change will impact hydropower generation in the mid and late century.

"Experience of modeling some of the largest river basins of the world and complex geographies such as India & Morocco"

