Training Course on "Assessment of Reservoir Sedimentation Using Geo-Spatial Technique and QGIS"

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Being Organized by

DELTAIC REGIONAL CENTRE, NATIONAL INSTITUTE OF HYDROLOGY, KAKINADA-533 003, ANDHRA PRADESH

Introduction

The natural process like erosion in the catchment area, movement of sediment and its deposition in various parts of the reservoir require careful consideration in the planning of major reservoir projects. The silt which gets deposited in different levels reduces the storage capacity of the reservoir. Reduction in the storage capacity beyond a limit prevents the reservoir from the fulfillment of the purpose for which it is designed. Periodical capacity surveys of the reservoir help in assessing the rate of sedimentation and reduction in storage capacity. With the correct knowledge of the sedimentation processes going on in a reservoir, remedial measures can be undertaken well in advance and reservoir operation schedule can be planned for optimum utilization of water. Present conventional techniques of sediment quantification in a reservoir, like the hydrographic survey and inflow-outflow methods, are cumbersome, costly and time consuming. With the introduction of remote sensing techniques, it is possible to obtain synoptic, repetitive and timely information regarding the revised water spread conditions of a reservoir. This information can be used to quantify the sedimentation rate in a reservoir and thus the Elevation-Area-Capacity curve of the reservoir can be updated.

The main objective of this short-term course is to focus on to quantify the sedimentation of reservoirs using remote sensing technique.

Course Contents

The course will consist of lectures on assessing the rate of sedimentation and reduction in storage capacity. The lectures will be supported by tutorials and hands-on training. The faculty will comprise of scientists from NIH and experts from other reputed academic organizations. The course mainly comprises the following topics:

- **Introduction to Remote Sensing**
- **Image processing techniques**
- **Modeling catchment erosion**
- **Conventional Estimation of Reservoir Capacity**
- **Assessment of Reservoir Capacity and Sedimentation Using Geo-Spatial Technique**

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