

# **BUILDING ENVIRONMENTAL PROTECTION MONITORING SYSTEM FOR HYDROPOWER PROJECTS BY APPLICATION REMOTE SENSING AND GIS TECHNOLOGY**

Nguyen Thi Thanh Huong

*Centre for Environment Information and Documentation (CEID), Vietnam Environment  
Administration (VEA), Ministry of Natural Resources and Environment (MONRE), 556 Nguyen  
Van Cu road, Long Bien District , Hanoi, Vietnam, [thanhhuong81283@gmail.com](mailto:thanhhuong81283@gmail.com)*

## **ABSTRACT**

In Vietnam, the construction of Hydropower plants is booming after the government has decreed that two thirds of the country's energy requirements will be met by hydro power by 2015. However when they are numerous, the environmental impact can be very large, leading to deforestation and impact on the water, possibly linked to flooding downstream, change accretion rule , erosion, wetland formation... With the construction of resource monitoring system around hydropower sector, we will assess the impact of the construction of hydropower plants to natural resources. The system includes a full range of information and data: natural (geological, hydrological, vegetation, biodiversity ...), social (population ...), the results of environmental monitoring, environmental incidents; watershed management, and environmental law. The main method is application remote sensing and GIS technology. Remote sensing will give us the forest area change caused by the creation of reservoirs, changes the river border, flow change, migration, flooding, inundation, landslide (possibly with high resolution images)... Combined with the documents, data which have been integrated in the monitoring system, provide an overview environmental status. With that results, the environmental managers propose methods and plans economic development, parallel to environmental protection.

Keyword: environmental, remote sensing, GIS, hydropower, monitoring system