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CHALLENGES AND PROSPECTS OF SATELLITE MAPPING IN RIVERS LIKE BAGMATI

Abstract

Bagmati River lies in the heart of the capital city of Nepal. Although, cleanliness works by NGO's and INGO's such as Friends of Bagmati have been going on for considerable period of time, with no sources to monitor the overall level of cleanliness of water, the chances of its cleanliness are flimsy. And the history of never having used satellite technology in the country for water resource management exacerbates the cause. In my paper I have briefed upon the history of abuse of the river, what pollution sources it has had, what works are currently being done for its cleanliness and on what grounds do earth observation techniques supersede techniques being currently used for cleanliness of the river. Then I have discussed in length about how the problems of earth observation techniques in water resources such as the varying sensitivity of the individual scanner of pushbroom spectrometer in satellites like MERIS is escalated in a system like Bagmati, the factors affecting the rate of change of sedimentation in Bagmati caused through sewage and industrial activities and why this will be especially difficult to monitor through earth observation, why the unknown sources would pop up in large scale in satellite imagery of Bagmati, what these unknown sources could possibly be and how they have evolved through time. I have elaborated elaborate on the virtues of improving the quality of water of the river and what lays ahead for other river systems of Nepal and at what varying degrees of freedom will the problems that lie in earth observation techniques discussed above be present in other major rivers such as Karnali and Koshi. I have rounded off with the discussion of what lies ahead for the people who settle in close proximity of the rivers through statistics from the Department of Health, Kathmandu, Nepal.