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Hydrological, agricultural and environmental surveys of Lava and Rishop: Two ecologically important hamlets of North Bengal, India

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Lava is a small hamlet situated 34 km. east of the Kalimpong subdivision in Darjeeling district of the state of West Bengal, India. Rishyap/Rishop, which nestles amidst the hidden hills of Neora Valley is around 9 km. from Lava. The main objectives of the present research work were to study the social, environmental, agricultural and hydrological conditions of Lava and Rishop area and to highlight the proposals for sustainable management policies of those ecologically sensitive zones. The study was done in April 2014, by visiting Lava, Rishop and Neora Valley National Park. Information on agricultural activities was collected from the local villagers. Report on the Silviculture unit (hills) of Lava was prepared based on the information displayed there. Rainwater harvesting structures used and water management policies followed in those regions were observed by visiting in the village areas and at the local hotels. The common cultivable plants in the areas are rice, ginger, beans, radish, maize, green peas, potatoes, cauliflower, cabbage, tomato, garlic, coriander etc. In both regions, organic cultivation is done by using cowdung and jungle soil (rich in organic matter and micronutrients). Large Cardamom (Amomum subulatum) production has been severely affected at Rishop due to water crisis (according to local reports). In the Lava Silviculture Unit, various methods are followed for forest plants preservation, which include the clonal propagation, nursery work, composting, green house preservation etc. Main species cultivated here are Rhododendron grande, Betula alnoides, Acer hookeri, Elaeocarpus sikkimensis etc. The main source of water in Lava is the Neora River situated in the Neora Valley National Park. Long pipelines are constructed from the water source to Lava and water is distributed through networks of pipes in the houses. The roofs of the hotels, resorts and houses of Rishop have aluminium gutters for collecting rainwater. In spite of getting so much attention in the recent time as tourist spots, Lava and Rishop areas are not adequately developed. There is an urgent need for implementing sustainable management systems in the areas for the betterment of the socio-environmental and hydrological conditions.

Biography

Sayan Bhattacharya completed his MSc and PhD in Environmental Science from University of Calcutta. He has been engaged in Post Doctoral Research in Dept. of Chemistry, Presidency University from September, 2012 to present. He has published 18 international journal papers, 10 book chapters, 30 international conference proceedings and many national conference proceedings. He received Young Researcher Award from Govt. of India International Conference. He is in the reviewers' committee of many international journals and in the editorial boards of international journals with high impact factors. He has over 7 years of teaching experiences in 5 colleges and universities of West Bengal.

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