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## Impact of Climate Change on the Salinity Situation of the Piyali River, Sundarbans, India

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### ABSTRACT

The Sundarbans, an UNESCO Heritage site has a large rural population which depends on natural resources for sustenance. The present paper deals with the management of the salt water intrusion of the Piyali River a tributary of the Matla River which empties into the Bay of Bengal. The study also delves into the population affected by the effects of the perennially saline river and their dependence on it for their livelihood. A look into the soil texture, seasonal variation in chloride content of soil along with pH and Electrical Conductivity (EC) levels of water sampled at different time and locations is analyzed in order to improve management options. With (EC) values of 17,000 mS and pH 8.94, sustaining the inhabitants in this area is quite challenging. Under the threat of climate change, increased levels of salinity arising from sea level rise and coastal flooding will pose a serious problem to the rural inhabitants of the Sundarbans. The predicted negative impacts of climate change are likely to bring new challenges in addition to magnifying existing problems, particularly in the Sundarbans community that already has limited capacity to adapt to these changes.

### KEYWORDS

Sundarbans, Salinity, Water Management, Piyali River, pH, EC, Sustainable Options

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