

CLIMATIC CHANGES & ITS IMPACT ON AGRO-ACTIVITIES IN DELTAIC REGIONS

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Global Climatic Changes and the Sundarbans: -The Global climate is undergoing momentous changes in the wake of man made interventions and one can expect a re-engineering of the deltaic regions of the world. The Sunderbans, a tidal deltaic system in Bengal, is a case in point.

Physio-environmental aspects of climate: - The global climate is both a Direct and Long Term (Accretion) system with Heat Sinks and Heat Transporters. Human activities directly or indirectly change these variables jeopardizing the whole system. The Heat Islands, and Green house effect leading to global warming which will see a world wide rise in sea level, melting of alpine glaciers/ice-caps and result in lower and more erratic precipitation.

The deltaic regions globally, would go through a phase of tidal deterioration and, a reversal of river valley /estuarine formation. The Sunderban tidal deltas a rather recent geological development will certainly undergo a backward push to the North with larger inundation inland and loss of coastal mangrove cover. Soil salinity is also expected to increase. The cutting of mangrove trees can only make the things worse. Human Settlements, Agriculture and interventions

The Sunderbans have seen a large influx of population in recent times along with deforestation, newer agricultural practices and poor conservation.

The excessive change of land use both in terms of urbanization and agriculture, irreversibly alters the 'albedo of the terrain, contributing to greater warming.

Systematic deforestation intervenes with the soil formation, encouraging salinity.

The Sundarbans, the largest mangrove biosphere in Asia, has an evergreen biomass creating a vast zone of evapo-transpiration. This natural buffer tempers the southwest monsoon in terms of lowering cyclone and disaster events. Its close loop link with the monsoon system, is now in jeopardy, with substantial loss of green cover.

Measures for protection of this ecosphere:- Strict measures to curtail further urbanization and population infringement are required to protect the deltas and the existing human settlements with its agrarian population. Aforestation has to be encouraged with larger mangrove plantations as a protective shield.

Rollback: -Eventually the climatic changes are bound to make the deltas further inhabitable and a roll back to the more stable delta is inevitable. One can of course plan for the same and, this study tries to provide a framework of strategies.

References

- [1] An Approach to Climatic Model. S.Mondal and R.Gupta (2002).