

Plugging the Unplugged Resources of the Mangrove Forest

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According to the World Resources Institute, 2.2 billion people, or 39% of the world's population, live on or within 100 kilometers (60 miles) of seashore. Have we ever thought the fate of this considerable percentage of population due to sea level rise or natural disasters (Like tsunami, Cyclone etc.)? Is there any specific management action plan even after the COP 21? We believe that these obvious problems cannot be escaped – either the problems will ruin away the population or the population will have to overcome the problems by mitigation and adaptation. Adaptation to climate disruptions involves developing ways of protection from climate impacts, such as building sea walls to protect communities from rising sea levels or relocating coastal communities. Mitigation involves implementing ways to reduce the rise of sea level, such as reducing greenhouse gas concentrations in the atmosphere that lead to thermal expansion of the ocean.

An important asymmetry, however, exists between adaptation and mitigation. Unlike mitigation, adaptation in most cases provides local benefits and is the only response available for the impacts that will occur over the next several decades before mitigation measures can have an effect. Adaptation—such as building sea walls, relocating residents, altering the variety of crops planted, increasing water reservoir capacity, or transforming from freshwater pisciculture to brackish water pisciculture system—benefits those locally who pay for it. The benefits of mitigation effort are much more diffuse and global. Mitigation efforts such as lowering emissions in the United States will reduce atmospheric greenhouse gas concentrations in India as well, but will not be effective unless widely adopted.

Whatever demarcation line exists between adaptation and mitigation as per policy makers and intellectuals, but it is a fact that poverty stricken people are more susceptible to adverse impact of climate change. They have no proper shelter, no fund for resettlement and no insurances against their lives, health and properties. Institutional help hardly reaches them. Hence reduction of poverty is an important component in fighting against temperature rise, sea water intrusion, and disease outbreaks, which are the clutches of climate change potential to scratch the economics of the region. This component engages a wide and diverse spectrum of specialists to utilize the available resources for boosting up the living standard of the community. The local level economic profile is also upgraded by seeking expertise in the field of agriculture, poultry, animal husbandry, pisciculture etc. In Indian Sundarbans region few anticipatory actions have already been initiated by Techno India University of Kolkata (India) considering the seawater intrusion into the creeks and inlets crisscrossing the islands. These include training the local population with the technology of oyster and seaweed culture, which are widely distributed in the area. The island dwellers, however, have no idea of their edible values and economic benefits and Techno India University has initiated to aware the poverty stricken island dwellers on these untapped marine resources (Table 1).

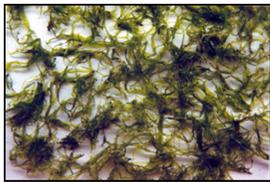
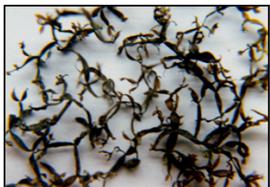
| Mangrove resource | Taxonomic position | Economic importance |
|---|---|--|
|  <p><i>Enteromorpha intestinalis</i></p> | Division – Chlorophyta Class – Chlorophyceae Order – Ulvales Family – Ulvaceae Genus – <i>Enteromorpha</i> Species – <i>intestinalis</i> | <ol style="list-style-type: none"> Used as cattle feed Used as poultry feed after mixing with trash fish dust Used as agent of bioremediation |
|  <p><i>Ulva lactuca</i></p> | Division – Chlorophyta Class – Chlorophyceae Order – Ulvales Family – Ulvaceae Genus – <i>Ulva</i> Species – <i>lactuca</i> | <ol style="list-style-type: none"> Consumed as food Used in salad, soup etc. Used as fodder and manure |
|  <p><i>Catenella repens</i></p> | Division – Rhodophyta Class – Rhodophyceae Order – Gigartinales Family – Rhabdoniaceae Genus – <i>Catenella</i> Species – <i>repens</i> | <ol style="list-style-type: none"> Rich source of astaxanthin and therefore used as an ingredient of fish feed Used as agent of bioremediation |
|  <p><i>Saccostrea cucullata</i></p> | Phylum - Mollusca Class - Bivalvia Order - Pterioida Family - Ostreidae Genus - <i>Saccostrea</i> Species - <i>cucullata</i> | <ol style="list-style-type: none"> Edible with high demand in South Asian countries Shell is a source of lime Shell dust is used in poultry feed as source of calcium |
|  <p><i>Crassostrea gryphoides</i></p> | Phylum - Mollusca Class - Bivalvia Order - Pterioida Family - Ostreidae Genus - <i>Crassostrea</i> Species - <i>gryphoides</i> | <ol style="list-style-type: none"> Edible with high demand in South Asian countries Shell is a source of lime Shell dust is used in poultry feed as source of calcium |
|  <p><i>Crassostrea madrasensis</i></p> | Phylum - Mollusca Class - Bivalvia Order - Pterioida Family - Ostreidae Genus - <i>Crassostrea</i> Species - <i>madrasensis</i> | <ol style="list-style-type: none"> Edible with high demand in South Asian countries Shell is a source of lime Shell dust is used in poultry feed as source of calcium |

Table 1: Few untapped living resources of mangroves in Indian Sundarbans.

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