The restoration and rehabilitation of damaged or degraded mangrove ecosystems in Kenya

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Towards the end of the twentieth century, scientific concern began to arise about the unprecedented loss of naturally occurring mangroves ecosystems around the world. The causes of this mangrove degradation range from urban development, agriculture, commercial or artisanal extraction of wood to shrimp farming. This destruction has led to reduced mangrove dependent fisheries, shortage of wood, coastal erosion and loss of human lives due to storm surges, as well as other consequences. This widespread degradation and increased awareness of the importance of mangrove forests, led to an upsurge in attempts to restore mangroves in various parts of the world. Many of the initial restoration projects were aimed at silviculture for wood production without assessment of recovery (or otherwise) of other mangrove goods and services. However, in recent times, the rationales of mangrove restoration have evolved and include coastal stabilization, fisheries productivity, biodiversity conservation, pollution mitigation and even public awareness. This paper presents a review of the functionality of restored mangrove ecosystems using functional indicators ranging from vegetation structure, natural regeneration, productivity, nutrient recycling to conservation of inherent biodiversity and socio-economic valuation. Finally, it looks at the constraints and opportunities for successful mangrove restoration.

Keywords:
Mangrove restoration, functionality, vegetation structure, biodiversity, socio-economics, opportunities and constraints.