

## **Strengthening Blue Carbon Ecosystems Conservation and Community Livelihood through Carbon Credit Schemes: Insights from Mikoko Pamoja Community Based Carbon Offsetting Project in Kenya.**

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Conservation of the blue carbon ecosystems is vital if climate change mitigation through increased carbon sequestration and reduced CO<sub>2</sub> emission under the Paris Agreement is to be realized. Here, we present analysis of carbon offsetting scheme as one successful approach for mangrove conservation by coastal communities in Kenya, in which locals earn incentives through sale of mangrove carbon credits. Underpinned in translation of scientific research into practical solutions, Mikoko Pamoja, the first community-based carbon offsetting project in the world, has resulted in protection of 10 ha of planted mangroves forest and 107 ha of natural forest in Gazi bay, Kenya. The initiative has been achieved through avoided deforestation, new plantings, prevented degradation and efficient carbon management. From these activities, the conservative carbon benefits are estimated at 2,500 tonnes of CO<sub>2</sub> yr<sup>-1</sup>. Additionally, the local community of about 5,000 residents earn more than USD 13,000 per year from voluntary carbon buyers for livelihood improvement. This has seen improved education, creation of employment and provision of other social amenities such as water and healthcare. In an effort to conserve more acreage of mangroves and seagrass, the project has been upscaled in Vanga, Kenya, and is also in the final stages of bundling seagrass ecosystems. If successful, Kenyan communities will similarly establish the first seagrass carbon credit scheme. Our work therefore showcases insights from Africa on one of the effective and successful approaches to marine ecosystems conservation, by incorporating local communities who are key actors in sustainable utilization and management. Additionally, it shows the need for demand driven research, both at the local and global scale for enhanced conservation in the changing climate.