Blue carbon storage and climate change mitigations

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Coastal wetlands – mangroves, salt marshes and seagrasses – are some of the most threatened ecosystems on Earth. They are being degraded or destroyed at four times the rate of tropical forests and climate change threatens to accelerate these losses. The global CO2 emissions from the degradation and destruction of these 'blue carbon' ecosystems is estimated at 45 billion metric tons annually, with an associated economic cost approaching USD 20 billion each year. Globally, coastal wetlands are some of the most valuable natural resources, providing essential ecosystem services such as protection from storms and sea level rise, erosion control, maintaining coastal water quality, carbon sequestration and storage, and food security. They are vital to human well-being along the coasts of all continents and particularly for some of the world's most vulnerable people.

Blue carbon is defined as the carbon stored, sequestered or released from coastal ecosystems of tidal marshes, mangroves and seagrass meadows. These ecosystems sequester and store large quantities of blue carbon in both the plants above ground and in the sediment below. For example, over 95% of the carbon in seagrass meadows is stored in the soils. Likewise, mangroves capture and store up to 5 times more carbon than any productive terrestrial forest. Due to the carbon sequestered and stored in these systems, when they are degraded or destroyed all that carbon is released back into the atmosphere as CO2 emissions. The emissions released through ecosystem conversion are now being recognized by the IPCC and UNFCCC as significant sources of GHGs. Thus, effective management and conservation of coastal wetlands is now a critical priority, especially in regions where people are highly dependent on these ecosystems for critical services.

The Blue Carbon Initiative is an integrated program focused on mitigating climate change by conserving and restoring coastal marine ecosystems globally. The Working Group consists of experts in coastal carbon science, carbon assessment, remote sensing and international climate change policy. The group has identified sub-Saharan Africa as a critical priority for:

- Assessment of coastal wetlands for carbon storage and other ecosystem services, including field surveys, mapping, threat analysis
- Support for building capacity on science, conservation and management of coastal wetlands
- Building awareness of the importance of coastal wetlands
- Inclusion in global analyses

The current presentation will explore the status of blue carbon research in Kenya and the opportunities therein.

Keywords:
Blue carbon, NAMA's, Climate change mitigation & adaptations.