



Empowering Communities to Address Environmental Challenges in Urban Areas

Big Ship Organization is a community-based organization that works in several peri-urban centers across the Kenyan Coast. It primarily focuses on biodiversity and wetlands protection, livelihood resilience, child protection and well-being, and climate action.

AREA AND SCOPE

Big Ship has been active for 15 years and works in about 15 communities in urban centers and informal settlements in Mombasa and the larger coastal counties of Kenya.

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CONTEXT

Mombasa County is located on the eastern coast of Kenya. It hosts a large and diverse population with high rates of social inequality. Many people in Mombasa rely on natural resources and the environment for their livelihoods, but Mombasa's urban and coastal ecosystems are increasingly threatened by the adverse impacts of climate change, industrial activity and population growth.

For example, mangroves and coral reefs protect the shoreline from sea erosion, support biodiversity, and underpin the livelihoods of fisherfolk and their families. However, rising sea temperatures, leading to coral bleaching and ocean acidification, and mangrove degradation are causing fish stocks to dwindle and coastlines to recede. The traditional fishing villages that have long characterized the coastal shoreline are rapidly disappearing and, in the few remaining villages, fishing nets are increasingly used to house chickens, serving as a visual testament to the changes these communities are experiencing.

Likewise, peri-urban forests play an important role in reducing the risk of sudden-onset hazards such as flash floods and landslides. However, deforestation and soil erosion in Mombasa County, coupled with the fact that a large population lives along waterways in flood-prone areas, have contributed to disasters and associated displacement in the area. Each year, hundreds of families are displaced by heavy rains and flash floods - a situation that became more apparent in the 2023 El Nino season.

The survival of urban and peri-urban ecosystems is threatened by a lack of conservation efforts, as well as a growing urban population and an ineffective local waste management system. These pressures are likely to increase as rural populations in areas including Kinango, Bamba and Kaloleni are increasingly impacted by long-lasting droughts, threatening their livelihoods and forcing them to explore alternative sources of income. This often includes migrating to nearby peri-urban areas in search of employment.

RESPONSES

Big Ship seeks to address environmental challenges through interventions such as marine ecosystem preservation, habitat restoration and plastic waste management. In doing so, it aims to address the conditions that contribute to displacement and migration in urban and peri-urban communities in Mombasa County.

Mapping of Risks and Impacts

The organization conducts mapping exercises to identify degraded forest areas and plan restoration efforts accordingly. These efforts are facilitated by the use of drones, which gather data on forest cover and canopy changes. Drone images help to accurately monitor activities that are leading to forest degradation, including forest encroachment by brewers of a local form of moonshine called *chang'aa*, enabling the organization to report cases to the Kenyan Forest Service (KFS).

Remote sensing and geographic information systems (GIS) technologies have also enabled the organization to map and actively monitor many of the dumpsites in Mombasa. Information on the coverage and amount of garbage in dumpsites informs Big Ship's advocacy activities.

The organization also implements child protection and welfare mapping programs. In doing so, it aims to gain a comprehensive understanding of the challenges faced by children in Mombasa and improve child wellbeing with a particular focus on those living in informal settlements.

Ecosystem Restoration

A key element of Big Ship's work is the restoration of degraded urban forests and coastal ecosystems. For example, the organization implements long-term forest restoration and rehabilitation projects in collaboration with local communities and the KFS under its "Adopt a Site" initiative. It also provides training and support to urban forest communities to empower community members to participate in and benefit from restoration processes.

Big Ship also actively engages in waste management efforts, particularly to reduce marine pollution. These efforts go beyond traditional clean-up activities and focus on plastic resource recovery, which involves collecting and repurposing various types of plastic waste through a project called "Yogurt Forest Campaign". The organization also advocates for better waste management practices and policies in Mombasa City and other peri-urban centers such as Kwale and Lamu, engaging value chain actors including garbage collectors, the business community, and the County Government.



Promoting Energy Efficiency to Reduce Local Impacts on Ecosystems

Big Ship organizes energy efficiency initiatives to promote environmental sustainability and economic savings. This includes providing training to women and youth on alternative energy sources and encouraging urban families to utilize improved cookstoves. These cookstoves are designed to be more fuel-efficient and produce fewer emissions than traditional open fires or older stove models, reducing fuel consumption and lowering indoor air pollution rates.

CHALLENGES

The organization has identified the poor implementation of housing and planning policies as a significant challenge to its coastal wetlands and forest conservation initiatives. When these policies are not implemented effectively, they expose forests and riparian lands to encroachment and destroy ecologically sensitive areas. The organization works with the KFS and County Governments to establish beacons and to lay out demarcation points that prevent people from encroaching on these ecologically sensitive areas. In 2023, Big Ship organized several “Mangrove Marathons” to mobilize resources for the establishment of such beacons.

Additionally, there is a general lack of awareness among communities regarding environmental and conservation issues. This lack of awareness hinders efforts to promote sustainable practices and garner support for environmental protection initiatives. The organization is involved in advocacy campaigns and integrates environmental awareness elements in all its activities.



RESULTS

Big Ship's use of technology, including GIS, locus mapping and drones, enables it to access places that might otherwise be difficult to reach. This enhances monitoring and reporting and also facilitates the collection of critical conservation data such as area, water acidity, salinity, and temperature. Big Ship currently monitors about 400 hectares of forests in conjunction with KFS.

In 2023, ecosystem restoration work by Big Ship resulted in the planting of 110,205 mangrove trees, covering over 30 hectares of forest.

The organization's work on plastic waste management has supported the collection of over 33,000 tons of plastic in one year.

The data gathered on child welfare issues is used to link underprivileged children with a diverse range of organizations that provide assistance, including World Vision Kenya who support efforts around education and health.

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Photos: © Big Ship

The PDD implements the project to “Avert, Minimize and Address Displacement Related to the Effects of Climate Change” (PAMAD) to assist countries and communities facing the challenges of Loss and Damage and Displacement. Under PAMAD, and in partnership with the Global Network of Civil Society Organizations on Disaster Reduction (GNDR), the PDD promotes peer-to-peer learning on effective responses to displacement and climate change in Kenya. The project is supported by the Norwegian Agency for Development Cooperation (Norad). For more information, visit <https://pamad.disasterdisplacement.org>



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