



AU-IBAR/KMFRI COLLABORATION TO SUPPORT ONGOING COMMUNITY-LED INITIATIVES ON AQUATIC BIODIVERSITY CONSERVATION AND CLIMATE CHANGE IMPACT MITIGATION EFFORTS

STRENGTHENING RESTORATION AND PROTECTION OF BLUE CARBON ECOSYSTEMS FOR COMMUNITY BENEFITS AND ENVIRONMENTAL SUSTAINABILITY – IMARISHA PROJECT

REPORT ON COMMUNITY TRAINING ON NATURE-BASED ENTERPRISES INVOLVING BLUE CARBON ECOSYSTEMS





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List of Acronyms

AU-IBAR	Africa Union InterAfrican Bureau for Animal Resources
BC	Blue Carbon
BMU	Beach Management Unit
CFA	Community Forest Association
GOGACOFA	Gogoni- Gazi Community Forest Association
KALRO	Kenya Agriculture and Livestock Research Institute
KMFRI	Kenya Marine & Fisheries Research Institute
KFS	Kenya Forest Service
NBE	Nature Based Enterprises
SIFS	Sustainable Integrated Farming systems

1.0 Introduction

This is a training report of the Nature Based Enterprises (NBEs) involving Blue Carbon (BC) ecosystems. It is part of the KMFRI's deliverables on the Project 'Strengthening restoration and protection of Blue Carbon ecosystems for community benefits and environmental sustainability' funded by AU-IBAR. The project aims to promote restoration and protection of blue carbon ecosystems in Kenya for climate, community, and biodiversity benefits. As a major output, the project is expected to contribute to improved management of mangrove forests and the associated biodiversity in Gazi bay. Knowledge and capacity gained through the trainings is also expected to enhance the community's understanding of the true values of mangroves forests, threats facing them, and the need to restore these coastal wetlands for community livelihood and ecosystem integrity.

A two days' workshop was held on 22nd and 23rd August 2023 at Titanic Hotel in Msambweni Sub-county in the above regard. The objectives of the workshop were as follows:

- To officially mark the beginning of the project
- To deliberate and agree on project objectives and expectations among key stakeholders -
- To undertake training on NBEs involving mangroves and associated ecosystems

1.1 Program overview

The meeting was structured to include presentations, breakout groups, plenary as well as training sessions on nature-based enterprises. Over the two days training period, the workshop started at 9.00am and ended at 4.30pm. (Annex 1: Meeting Program).

1.2 Participation

The meeting comprised of 65 participants made up of Gazi Bay community as well as technical experts from Kenya Marine & Fisheries Research Institute (KMFRI), Kenya Forest Service (KFS), Kenya Agriculture & Livestock Research Institute (KALRO), Kwale County government and Africa Union Inter-African Bureau for Animal Resources (AU-IBAR). The Community participants were sourced from user groups of community forest association (CFA) and beach management units (BMUs) in the area (Annex 2 – List of Participants).

Day 1

Ms. Anne Wanjiru, Social Impact Officer Mikoko Pamoja, welcomed the participants and informed the meeting's objectives and expected output. She made references to the Kenya's National Mangrove Ecosystem Management Plan that advocates for community empowerments through consumptive uses of mangrove areas and nature-based enterprises.



Plate 1: Dr. James Kairo, Chief scientist KMFRI, giving his remarks on the AU-IBAR funded project

2.0 Opening Remarks

Village elders, Gazi Bay

The Gazi and Makongeni village elders relayed their expectations for the training encouraging community members to ready themselves to learn and apply the knowledge gained from the training. The training dwelt on sustainable land management as a means of reducing pressure on aquatic resources, particularly mangroves.

Mr Abdallah Mwarima, Chairman, GOGACOFA

Mr. Mwarima, encouraged participants to learn from the training and to practically apply the knowledge gained. He emphasized on the need for the user-groups to recruit young members, a demographic that is poorly represented in the various groups.

Ms. Gladys Gikonyo, Forest Extension Officer, KFS

Ms. Gladys, said that the Msambweni KFS office is there to support communities in activities such as nurseery establishment, and she was looking forward to learning along with the rest of the participants. She pointed out the need to integrate multi-purpose tree species in the planting program to ensure sustainability.

Dr. Juma Magogo, Deputy County Director, KALRO

Dr. Magogo, stated that he was there to train the members on the establishment of orchards. Orchards comprise fruit- or nut producing trees that are generally grown for commercial production. For the sake of our schools, we shall endeavor to grow among other species mangoes, cashewnuts, coconuts, jackfruits, citrus, tamarinds among others. These would be established and integrated with other commercial timber species suitable for the area.

Mr. Nyalle Tsenga, Kwale County Livestock Officer

Mr. Tsenga, remarked on how timely this project is in view of the ongoing efforts by the county government in promoting apiculture (bee keeping). He highlighted that bees are an integral component of mangrove ecosystems as some of the tree species are pollinated by bees. Mr. Tsenga also noted that drawing from experience in Gazi and Makongeni communities have shown limited understanding of apiculture. He concluded with relaying the County's willingness to support the success implementation of the project.

Dr. James Kairo, Chief Scientist, KMFRI

Dr. Kairo, pointed out challenges facing marine resources in general and the need to come with innovative approaches to reduce the pressure. The current training is of its kind to be carried by KMFRI as it targets the intervention areas identified in the national mangrove management plan. In is in these areas that targeted community programs such as agroforestry, sustainable agriculture and wood lot establishment should be made. Despite the time it has taken to kick-start the new project, if well implemented it can be used as a pilot to promote similar ventures in the country and the region at large. Dr. Kairo also pointed out that the project outputs will contribute to fulfilling the country's commitments, including Sustainable Development Goals (SDGs) and Nationally Determined Contributions (NDCs).

Dr. Alberta Sagoe, Gender Expert AU-IBAR,

Dr. Sagoe relayed her greetings from the AU-IBAR Country Director, and her gratitude to the participants for availing themselves for the training. She explained that AU-IBAR is a technical branch of the African Union Commission (AUC) that is tasked with coordinating utilization of animal resources for the benefit of all Africans. She said that the branch had expanded its operations to include economic targeted initiatives such as the conservation of aquatic biodiversity through promotions of Nature-Based Enterprises (NBE) with communities residing adjacent to these wetlands. She informed all that AU-IBAR was implementing a three-year project on "conserving Aquatic Biodiversity in African Blue Economy" with support from Swedish International Development Agency (SIDA). The project aims to strengthen the policy frameworks and institutional capacities of AU Member States and Regional Economic Communities to sustainably utilize and conserve aquatic biodiversity and ecosystems. An important area that the project is addressing is the strengthening of measures for mitigating the negative impacts of climate change on aquatic biodiversity and environment. Consequently, the project is supporting: (i) provision of support to ongoing initiatives focused on climate change mitigation and other biodiversity conservation initiatives, (ii) strengthening and replicating benefits, (iii) actions to relieve over-dependence on mangroves, and (iv) alternative livelihood development, as part of its objectives. KMFRI'S Mikoko Pamoja was found to be among initiatives that were mitigating the negative impacts of climate change. Dr. Sagoe pointed out that it was due to KMFRI'S successful implementation of the Mikoko Pamoja Project that AU-IBAR identified it for collaboration in

implementing the 'strengthening conservation and restoration of Blue Carbon Ecosystems for Climate Change Mitigation and Adaptations' project'.

3.0 Presentations

3.1 Overview of Blue Carbon Ecosystems

Mr. Josphat Nguu, Research Associate, KMFRI

Mr. Nguu gave an overview of blue carbon ecosystems, including mangroves, seagrass beds, salt marches and kelp forests. He further highlighted the values, threats facing them, and the interventions to safeguard them. Specifically, he expounded on mangroves as the most carbon rich coastal wetlands and further described their; ecology, distribution and their zonation.

3.2 Local Mangrove Governance

Dr. Amina Hamza, Research Scientist, KMFRI

Dr. Hamza elaborated on the various policies/regulations/acts that address mangrove conservation in Kenya. These include but are not limited to; National Mangrove Ecosystem Management Plan (2017-2027), Forest Conservation and Management Act (2016), The Fisheries Management and Development Act (2016). She pointed out the duality in mandates by the government management agencies which serves as a challenge in the implementation and enforcement of the regulations and policies. Dr Amina made reference to the National Mangrove Management Plan, and the proposed management programs as well as its role in guiding the protection and utilization of mangroves in Kenya. She further gave an overview of the benefits and threats of mangroves and highlighted the underlying root causes of ecosystem degradation. These included; coastal population increase, weak governance, economic pressure, poverty, lack of alternative sources of livelihoods, and climate change. She highlighted NBE and ecotourism as possible solutions for addressing these threats.

3.3 Community perceptions

3.3.1 Questions & Answers

The community were given an opportunity to ask facilitators questions to gain a better understanding of the information conveyed (Table I).

Table I: Q & A session during day 1 of the training

No	Question	Answer
1	How can the issue of sedimentation caused by River Mkurumudzi be resolved? Groups that have established propagule nursery in this area are attributing poor success rate to elevated levels of sedimentation.	KMFRI is currently conducting research in this area, assessing historical trends to advise on the best solution.
2	Do seagrasses and seaweeds occur within mangrove areas?	Each vegetative system is distributed according to its adapted environmental needs. Seagrasses can colonize creeks that border mangroves.

No	Question	Answer
3	The Beach Management Units (BMUs) and CFA are in constant disputes over governance of management areas, how can these disputes be resolved? The two entities have overlapping activity areas. They have been unable to agree and at present Gazi BMU is not party to the current management plan between CFA and BMU.	This is a recurring problem within the region, and policy is not clear due to duplication of mandates. KMFRI can only advise on possible solutions after identifying and documenting the problem. Its then up to the government to implement the best-fit solution. Enactment of policies and regulations should undergo a public participation process.
4	UNDP and KMFRI have supported the inception of Gazi Women Boardwalk and Dabaso Community Group in Malindi. The group in Malindi have established their eco-tourism venture which running successfully. How come both groups were assisted by the same entities yet they have differing levels of success? How can the Boardwalk venture be expanded to make it profitable?	The problem is not sponsorship its management i.e., poor book keeping. The user-group members have received several trainings but implementation is inadequate. The group should consider including other demographics such as youths and men.

3.4 Breakout Groups

The participants were divided into different groups depending on their uses of mangrove areas. The user-groups were to discuss challenges, solutions, and opportunities facing the groups. The user-groups included: seaweed farmers; POA Conservation Picnic Camp - CAMP POA (eco-tourism); Baraka Self-help Group (aquaculture); Gazi Women Boardwalk (eco-tourism); Mikoko Pamoja community Based Organization; Bee Keepers; Makongeni entrepreneurs, and Gazi Youth Environmental Group. Each group then presented the results of the group discussions to all the participants (Annex III).

3.5 Training session

3.5.1 Bee Keeping Enterprise

Mr. Nyalle Tsenga

Mr. Tsenga introduced the subject by highlighting the importance and implications of apiculture which includes; food security, livelihood support, raw materials for cosmetic and pharmaceutical industries, pollination, and security against property theft. Mr Tsenga highlighted the challenge to this venture which included (i) Low knowledge in modern husbandry; (ii) Destruction of forests through fires and cutting of trees; (iii) Indiscriminate use of pesticides/ herbicides; (iv) High cost of Beekeeping tools and equipment and (v) Perceptions among the youths that beekeeping is a old people's venture. However, he pointed out that there was high potential of apiculture in Kwale County due to (i) availability of forage materials for bees (ii) Availability of local tools for making bee keeping equipment such as mango and coconut trees (iii) lack of cultural limitations to beekeeping such gender barriers and (iv) Increased number of field officers to combat the challenge of insufficient knowledge of beekeeping practices. Mr. Tsenga listed the tools and equipment needed for apiculture, highlighting that Langstroth as the most widely used type of hive. He then explained the cost implications and estimated annual profit margins.

Mr. Tsenga continued with the discussion on apiculture by first stating the various companies wherein bee keeping tools and equipment can be procured such as East African Bee Keepers in Nairobi. He stated the challenges to uptake of apiculture in Kwale County as follows:

- Lack of knowledge in modern husbandry practices.
- Indiscriminate use of husbandry practices.
- Destruction of forests (habitats) i.e., forest fires to clear agricultural land, use of pesticides that kill

indiscriminately.

- High cost of bee keeping tools, one hive is approximately KES 8,000.
- The perception that this enterprise is for the elderly

Mr. Tsenga then went on to describe the type of markets available for trading apiculture products. The main were the local market and a fixed market that is being established by Kwale County Government through the formation and registration of cooperatives. Registration is estimated at KES 300/person or KES 3,000/group. This fixed market will identify buyers offering a stable market for local.

Day 2

The day started with Ms. Anne Wanjiru providing a recap of the proceedings of day 1.

4.0 Presentation

4.1 KMFRI Project overview

Ms. Anne Wanjiru

Ms. Anne Wanjiru detailed the objectives and expected outputs of our new Project “Strengthening Conservation and Restoration of Blue Carbon Ecosystems for Community Benefits and Environmental Stability” or IMARISHA Project. The development objective of the project is the conservation of aquatic ecosystems while the project focus is conservation of aquatic biodiversity. Mangroves are critical ecosystems for fisheries and other wildlife. Some of the species found in mangroves such as marine turtles, dugong, and sharks are of conservation concern. Improved management of mangroves and associated blue carbon ecosystem would respond directly to all thematic areas of Africa Blue Economy Strategy (ABES), particularly thematic areas 1. (Fisheries and Aquaculture) and 3 (climate change and environment). Ann pointed out that mangrove restoration activities would be pursued using the UNEP’s Guidelines on Mangrove Ecosystem Restoration in Western Indian Ocean Region (2020). Some of the project activities include; capacity building on mangrove ecosystem restoration and NBE, tree planting, agroforestry, and establishment of woodlots. Concerning outputs, she stated that a map of degraded areas in Gazi and Makongeni would be produced. At least 50 members of Gazi community would be trained on ecological mangrove restoration and Nature Based Enterprises; 7,000 seedlings of fast-growing tree species and 500 fruit trees would be established in schools and community woodlots; together with 10,000 mangrove seedlings replanted in degraded areas of Gazi bay.

4.1.1 Degraded mangrove areas

Mr. Fred Mungai

Mr Fred Mungai, Research Scientist KMFRI, displayed the four identified degraded sites that can be used for restoration activities and gave recommendation on how to restore each area. (Table 2).

Table 2: Possible intervention areas

Site	Description	Driver	Recommended Restoration Technique
A1	Gazi near fish ponds	Anthropogenic	Enrichment planting
A2	Near mouth of R. Mkurumudzi at waterline	<ul style="list-style-type: none"> Limestone harvesting Strong wave action 	Experimental
A3	Near Chale Island	<ul style="list-style-type: none"> Clear and selective cutting 	Direct and enrichment planting
A4	Near the landing site	Sedimentation	

4.2 Training session

4.2.1 Ecotourism

Dr. Amina Hamza

Dr. Amina relayed how mangrove forests are tourists' attractions globally boasting of approximately 4,000 ecotourism sites in 93 countries. She stated that 2/3 of these sites were in North America and the Caribbean. Majority of the activities in these sites involved bird watching (82%), and 28% were boat related. Dr. Amina pointed out that mangrove ecotourism sites in Kenya do not offer any of these activities identifying a gap. She also highlighted other ecotourism activities such as guided tours, accommodation, local culture and crafts. In referring to Gazi and Makongeni villages Dr. Amina said some of the major challenges for these communities were; the drive for personal gratification, poor marketing and management, lack of age inclusivity and capacity building, transparency and accountability, and politics. She encouraged members present to; choose suitable leaders, seek capacity building for members, ensure diversification of membership and income generating activities, collaborate with stakeholders, and revise by-laws.

4.2.2 Sustainable Integrated Farming Systems

Dr. Juma Magogo

Dr. Juma taught on Sustainable Integrated Farming Systems (SIFS). The layout for SIFS was based on food assessments and the need to reduce pressure on natural resources. He defines SIFS as strategy of assessing the whole farm as a system to identify how different components work together to enhance ecosystem functions of land at a local and possibly even landscape levels. Dr. Magogo listed a few applications such as nursery crop production, complementary forestry and cropping. Operationality of SIFS is based on recognizing and understanding; climate change, crops – livestock suitability maps, and quality and certified seeds. The contextual elements of SIFS include; Agroforestry; farm ponds; Bio – pesticides, gas, fertilizers; Vermicompost construction; Green manure; Rain water harvesting and watershed management.

Dr. Magogo stated there are various reasons to venture into SIFS such as; enhancement of production and productivity, health and nutrition, waste management, biodiversity conservation, and income diversification. He gave examples of models for integrating BC with SIFS i.e., BC + agroforestry (rice farming) or forestry (coconut farming). Dr. Magogo emphasized that mangrove ecosystem would dictate other farming activities to be integrated, as well as the rooting system of the plants. He also distinguished the difference between intercropping and integrated farming (mixture of different types of farming). The participants were asked to share any experiences with SIFS, in which they confirmed they had yet to interact with such a mechanism. Limitations for SIFS were identified as; inadequate capacity, climate change, inadequate models, resource constrain, protected areas encroachment, BC ecosystem degradation and lack of strategic plan, high reliance on BC systems, value chain diversification, and uncoordinated stakeholder activities. Benefits include;

Increased forest cover, food & nutrition security, enhanced carbon sink function, income diversification, job creation and livelihood enhancement.

Dr. Magogo elaborated on the implications of SIFS, which were supporting; national targets, agricultural business, economic development and interventions. He said that although many projects are started follow through is lacking. Dr Magogo disclosed upcoming palm oil project opportunities in the county.

4.3 Community perceptions

4.3.1 Questions & Answers

The community were given an opportunity to ask facilitators questions to gain a better understanding of the information conveyed (Table 3). Concerning ecotourism members present stated some of the challenges were project exposure and visibility. They complained of poor collaboration between stakeholders and opportunistic group representations in conferences and workshops. They suggested the separation of user-groups according to villages to reduce internal politics. One of the members raised the idea of a watch tower as possible ecotourism venture.

Table 3 Q & A session during day 2 of the training

NO.	QUESTION	ANSWER
1.	What is the best and most eco-friendly hive?	Langstroth which is the most modern offering increased quantity (25 kgs) and quality. It can be harvested using a honey extractor therefore its recyclable. It also has a lifespan of 6 – 8 years depending on; handling, method of extraction, and type of wood used (mango tree is recommended).
2.	What is the price range for the different hives and tools?	<ul style="list-style-type: none"> • Langstroth hive – KES 8,000 • Kenya top bar hive – KES 4,000 • Log hive – KES 1,500 • Honey extractor – KES 120,000 • Hive tool – KES 1,000 • Bee suit – KES 6,000 • Smoker – KES 1,000
3.	Why are there few floriculture farms in kwale county?	Most residents do not perceive this to be an income generating activity and in the past there was limited availability of climate resilient varieties.

4.3.2 Recommendations for future support

Participants of the training made the following recommendations as areas for future support in their continued engagement with KMFRI and other partners:

- Leadership and management training.
- Ecotourism ventures such as a floating cottage.
- Capacity building in terms of trainings, equipment, and skills for the various user-groups.
- Training for the youth on constructing apiculture tools and equipment.
- Product value addition training.
- Training on current marketing interfaces and technologies.

- Promoting awareness creation on aquatic biodiversity and ecosystems conservation as well as nature-based enterprises within the communities.
- Inter-group competitions to foster seriousness and dedication among the various groups in achieving outlined conservation / sustainable enterprise objectives.
- Benchmarking similar community-led projects.

4.4 Closing remarks

The community representative thanked the donors and facilitators for the time, knowledge, and money they have invested in the two communities. All the participants present were grateful to the donor, AU-IBAR, and for the collaboration of the facilitators.

Ms. Gladys Gikonyo, Forest extension Officer KFS

Ms. Gladys said she learned a lot and was looking forward to further community engagement and capacity building.

Mr. Edwin Misachi, Forester, KFS,

Mr. Misachi listed the various national targets in regards to tree planting and increasing forest cover. He said that the user-groups reforestation activities play an important role in assisting the government to meet annual targets.

Mr. Nyalle Tsenga, Kwale County Livestock Officer

Mr. Tsenga emphasized on the need for stakeholder coordination. He challenged the user-groups to try and resolve challenges amongst themselves before seeking for support elsewhere.

Dr. Juma Magogo, Deputy County Director KALRO

Dr. Magogo cautioned members not to take donor support for granted, and to do their best in ensuring project success.

Dr. Amina Hamza, Research Scientist KMFRI

Dr. Amina Hamza commented that the training was fruitful affirming that success is dependent on successful implementation of project activities.

Dr. Alberta Sagoe, Gender expert AU-IBAR,

Dr. Sagoe relayed her gratitude to the facilitators for their excellence in delivery, and the community members for their dedication and valuable contributions towards the success of the workshop. She noted the community's recommendations, and commended them for their enthusiasm, attentiveness, and good group coordination. Dr. Sagoe gave a special thanks to the Swedish government for their support of the over-arching 'Aquatic Biodiversity' project. She said she was looking forward to continued collaboration with KMFRI. Finally, she thanked Titanic Hotel for hosting the 2-day training.

5.0 Challenges

The community found it difficult to follow along on some of the technical trainings and requested for hard copies of training materials.

6.0 Recommendations

Future capacity building workshops should include print outs of training materials.

7.0 Annexes

7.1 Annex I: Program

Time	Tue 22 nd August 2023	Wed 23 rd August 2023
9.00am	Introductions	Recap of Day I
	Opening remarks	Presentation: Overview of the KMFRI's AU-IBAR Project
	Presentation: Over-view of blue carbon ecosystems in Kenya	Training session - Ecotourism; existing challenges and opportunities drawing lessons from Mida creek
	Presentation: Local mangrove governance	Plenary
	Group Discussions: Opportunities and challenges faced by the forest user groups	Training session -Sustainable Integrated Farming
	Feedback from the group discussions	Plenary
12.30pm	Lunch	
2.00pm	Training session -Beekeeping enterprise	Overview of tree nursery growing
4:30pm	Plenary	Way forward and Closing remarks

Annex II: Participant list

	Name	Institution
1.	Dr. James Kairo	KMFRI
2.	Dr. Juma Magogo	KALRO
3.	Dr. Amina Hamza	KMFRI
4.	Anne Wanjiru	KMFRI-Mikoko Pamoja
5.	Nyalle Tsenga	Kwale County Government
6.	Josphat Nguu	KMFRI-
7.	Fredrick Mungai	KMFRI-
8.	Amy Mumo	Kenya Forest Service
9.	Edwin Misachi	Kenya Forest Service
10.	Milton Limbasi	Kenya Forest Service
11.	Kassim Juma	Mikoko Pamoja
12.	Isaac Mulwa	South Coast Tree owners association
13.	Brian Kiiru	KMFRI
14.	Iddi Bomani	Village Chair Gazi
15.	Abdallah Mwarima	CFA Chairman
16.	Hafsa Zuga	CFA
17.	Sadiki Shaban	CFA
18.	Suleiman Ronga	CFA
19.	Abdillahi Changu	Mikoko Pamoja
20.	Faiz Hamisi	Mikoko Pamoja
21.	Changare John	Mikoko Pamoja
22.	Zuberi Sudi	Mikoko Pamoja
23.	Mwanalima Abdallah	Mikoko Pamoja
24.	Saumu Ali	Mikoko Pamoja
25.	Mwanamisi Bakari	Gazi Women Mangrove Boardwalk
26.	Mwanamisi Sammy	Gazi Women Mangrove Boardwalk
27.	Mwanamkuu Mdaoma	Gazi Women Mangrove Boardwalk
28.	Halima Ismail	Gazi Women Mangrove Boardwalk
29.	Mwatime Hamadi	Gazi Women Mangrove Boardwalk
30.	Mariam Shikeli	Gazi Women Mangrove Boardwalk
31.	Mwanahawa Bakari	Seaweed
32.	Rehema Mohammed	Seaweed
33.	Zainabu Hamisi	Seaweed
34.	Sabina John	Seaweed
35.	Kadide Bakari	Seaweed
36.	Anne Charo	Beekeeping
37.	Zuhura Ali	Beekeeping
38.	Ali Hassan	Beekeeping
39.	Bakari Mwarika	Beekeeping
40.	Esha Abdallah	Beekeeping
41.	Ramadhan Salim	Beekeeping
42.	Mariam Juma	Beekeeping
43.	Mwanasiti Abdallah	Beekeeping
44.	Juma Kadegere	Beekeeping
45.	Said Hamisi	Beekeeping
46.	Bilal Ali	Environment Club Gazi
47.	Asina Kassim	Environment Club Gazi

	Name	Institution
48.	Mariam Hamisi	Environment Club Gazi
49.	Biasha Juma	Environment Club Gazi
50.	Juma Mwarandani	Baraka
51.	Zainab Hamisi	Baraka
52.	Mwanalima Salim	Baraka
53.	Zuhura Ali	Baraka
54.	Saumu Muindi	Baraka
55.	John Daniel	Camp poa
56.	Prisca Akelo	Camp poa
57.	Imra Suleiman	Camp poa
58.	Eric Omondi	Camp poa
59.	Salim Ali Edward	Eco-Preneurs
60.	Bakari Abdallah	Eco-Preneurs
61.	Matano Juma	Eco-Preneurs
62.	Mtwi Jefa	Eco-Preneurs
63.	Dr Alberta Sagoe	AU-IBAR
64.	Albert Obiero	AU-IBAR

Annex III: Breakout Groups

User-groups challenges, solutions, and opportunities

Group	Challenges	Opportunities
Gazi Youth Environmental Group	<ul style="list-style-type: none"> • Suitable locations to conduct activities i.e., sorting of waste and nursery establishment. • Lack of knowledge/training. • Lack of capital and market. • Community awareness 	<ul style="list-style-type: none"> • Selling of seedlings • Selling of collected plastic waste
Gazi Women Boardwalk	<ul style="list-style-type: none"> • Low literacy levels of members • Market • Transparency • Diversification of activities • Poor leadership • Lack of knowledge/training on mangroves • Lack of elements of local culture & crafts 	None
Mikoko Pamoja	<ul style="list-style-type: none"> • Inaccurate data collection. • Low literacy levels of members. • High mortality rate of seedlings • Climate change • Gender inclusion • Leakage • Governance between CFA & BMU • Obstruction of freshwater flow by Base Titanium increasing salinity levels in certain areas • Awareness creation • Diversification of revenue generating activities Solutions • Increase number of scouts 	<ul style="list-style-type: none"> • Global exposure • Collaboration with national and international stakeholders • Community empowerment, livelihood support, improved quality of life • Environmental and social impact • Climate resilience
Baraka Community Group	<ul style="list-style-type: none"> • Limited transference of skills and knowledge to the youth. • No tools for measuring water levels. • Birds preying on caged fish. • Collections of feeds requires a boat during high tide. • Poor book keeping • Climate change • Lack of knowledge/training on mangroves 	<ul style="list-style-type: none"> • 5 operational fish ponds • Project account • Project activity sites • Easily accessible fish larvae • Ready market
Bee Keeping	<ul style="list-style-type: none"> • Inadequate or lack of proper equipment and tools. • Poor security within activity areas. • Spraying of pesticides that kills indiscriminately. • Pests • Marketing 	<ul style="list-style-type: none"> • Job creation • Sales of products • Pollination • Community inclusion
Tree Nursery	<ul style="list-style-type: none"> • Inadequate knowledge/skills of nursery establishment • Reliable water access • Climate change • Lack of nursery inputs • Market access <p>Solutions</p> <ul style="list-style-type: none"> • Land for project activities • Fresh water source • Increased man power <p>Donor support</p>	

Group	Challenges	Opportunities
CAMP POA	<ul style="list-style-type: none"> • Infrastructure • Security • Lack of shaded areas for nursery establishment • Limited information and poor coordination • No stakeholder collaboration i.e., CFA • Funding and ability to apply for grants • Poor remuneration for project activities 	<ul style="list-style-type: none"> • Citizen science • Recreational center for visitors • Trainings on tree nursery planting • Agroforestry (fruit trees) • Job creation
Seaweed Farmers	<ul style="list-style-type: none"> • Low market prices • Boat to allow expansion of activity area into deeper waters • Seaweed processing machines • Fridge/freezer for storing seamoss gel • Weighing machine 	



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