Community Based and Gender Responsive Participatory Forest Management

A Manual for Training of Trainers (ToTs)

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1. A KEFRI Forester training local community in Kilifi County (Photo credit- KEFRI)

2. Msitu Women Group tree nursery, Gede (Photo credit: KEFRI/COSME Project)

3. Arabuko Sokoke Forest, Gede (Photo credit: Africa Image Library/KEFRI)

4. Plantation of *Tectona grandis* (Teak). (Photo credit- KEFRI)

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This training manual is intended to provide skills and tools necessary for community based trainers, forestry conservationists and private entities interested in forestry, to undertake effective training to local community, project managers and implementers. While we have taken care to ensure we provide accurate, reliable, and complete information, we cannot guarantee the suitability of this manual to every situation. Users should use their judgment as local conditions vary. The developers and distributors of this manual will not be responsible for any damages or losses resulting from its use. The manual is not a substitute to professional advice and users are therefore, urged to consult experts particularly on complex or sensitive issues. By using this manual, users agree to exempt the authors, publishers, and distributors from any claims, liabilities, or disputes arising from its use or misuse.

PREFACE

This Training Manual is the outcome of collaboration among various stakeholders in the forestry sector, as part of the Conservation and Sustainable Management of Coastal and Marine Ecosystems (COSME) project. The project aims to yield improved climate resilient, equitable economies within communities relying on coastal and marine ecosystems, especially women, in coastal regions of Kenya. Terrestrial forest conservation and management is identified as an important Nature-based Solution (NbS) to improve livelihoods and adapt to climate change.

The Manual aims to build the capacity of community-based trainers to effectively deliver training content to community members in targeted project areas. Drawing from existing work on participatory forest management in Kenya and beyond, it equips trainers, community members, and stakeholders with knowledge and skills for effective management and conservation of terrestrial coastal forest ecosystems. By enhancing understanding and proficiency, the manual strives to promote sustainable environmental conservation and socioeconomic development.

With seven modules, the manual starts by covering the basics of Participatory Forest Management (PFM) with emphasis on community based approach. Understanding governance and management structures of Community Forest Associations (CFAs) and their role in forest management has been highlighted. The manual brings out the critical importance of gender equality and social inclusion in forestry management, along with sustainable forest use practices, tree nursery operations, and climate change adaptation and mitigation strategies.

The manual concludes with facilitation skills for necessary for trainers to deliver successful adult learning. It serves as a primary reference material for community-based trainers in forestry management and conservation, and is expected

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The dedication of Global Affairs-Canada in fostering sustainable development and through its funding of the COSME Project, the expertise of Kenya Forest Service in forest management and conservation, and the research prowess of Kenya Forestry Research Institute, especially developing technologies for conservation and working with communities through social forestry, have collectively enriched the content of the manual. The proactive engagement of County Governments of Kwale and Kilifi has ensured that the content of the manual is tailored to the specific needs and contexts of the local communities. The National Museums of Kenya's, commitment to cultural heritage preservation and community engagement and the Jane Goodall Institute-Tanzania, renowned for their conservation initiatives, have provided valuable perspectives that enhance the overall quality of the manual. This collaborative endeavor symbolizes the strength that results when diverse organizations unite in a shared vision for sustainability. We express our sincere appreciation to each organization for their dedication, expertise, and collaborative spirit.

Thank you for your unwavering support and commitment to making a positive impact on the communities and environments we serve.

ABBREVIATIONS AND ACRONYMS

CBFM	Community-based Forest Management
CBT	Community-based Trainer
CCF	Chief Conservator of Forests
CFA	Community Forest Association
CITES	Convention on International Trade in Endangered Species
CSA	Climate-smart agriculture
EMCA	Environmental Management and Coordination Act
FAC	Forest Adjacent Community
FCMA	Forest Conservation and Management Act
FLMC	Forest Level Management Committee
IFC	International Finance Corporation
JFM	Joint Forest Management
KEFRI	Kenya Forestry Research Institute
KFS	Kenya Forest Service
KPI	Key Performance Indicator
KWS	Kenya Wildlife Service
LGAs	Local Government Authorities
MoU	Memorandum of understanding
NbS	Nature-based solution
NBSAP	National Biodiversity Strategies and Action Plans
NEAP	National Environment Action Plan
NEMA	National Environment Management and Coordination Act
NGO	Non-governmental Organization
NTFPs	Non-timber Forest Products
PELIS	Plantation Establishment and Livelihood Improvement Scheme
PES	Payment for Ecosystem Services
PFM	Participatory Forest Management

PFMP	Participatory Forest Management Plan
PLWDs	Persons Living with Disabilities
REDD+	Reducing emissions from deforestation and forest degradation
SDG	Sustainable Development Goals
TFS	Tanzania Forest Service
UNDP	United Nations Development Programme
VAT	Value Added Tax
VLFR	Village Land Forest Reserves
VNRC	Village Natural Resource Committee
WB	World Bank
WIO	Western Indian Ocean

INTRODUCTION

1.1 Background

Forest resources contributed about USD 1.52 trillion to global gross domestic product, creating over 33 million employment opportunities (Government of Kenya, 2023). According to FAO report of 2021 and the Kenya's National Landscape and Ecosystem Restoration Strategy, the monetary value of the global forest ecological is about 9% of global GDP (FAO, 2021).

In Kenya, forests play a key role for local and national economic development, especially provision of livelihoods and environmental goods. However, conservation and management of these forests face a number of challenges with key among them being infective local community involvement, governance and lack of sustainable utilization practices (National Forest Policy, 2014). To ensure sustainability for future generations, effective conservation and management is required through capacity stakeholders especially the local community and financial support for alternative livelihoods. It is against this backdrop that this training Manual was developed as a collaborative outcome among various stakeholders in the forestry sector, with funding through the Conservation and Sustainable Management of Coastal and Marine Ecosystems (COSME) project implemented by Plan International-Kenya.

Drawing from existing work on participatory forest management in Kenya and beyond, the Manual is tailor made for community-based trainers to deliver training content to other community members and other stakeholders in conservation. The manual equips trainers, community members, and stakeholders with knowledge and skills for effective management and conservation of terrestrial forest ecosystems. By enhancing understanding and proficiency, the manual strives to promote sustainable environmental conservation and socioeconomic development.

1.2 Purpose of the Training Manual

The training manual will serve as a primary reference material for community based facilitators/trainers to effectively deliver training content to community members and other stakeholders in forestry conservation.

1.3 Target users and audience

The manual targets to equip trainers from local community, civil society organizations, government and relevant stakeholders with knowledge and skills for effective management and conservation of forest ecosystems.

1.4 Training modules/sessions

The manual is composed of seven (7) modules, and the training divided sub-sessions for efficiency in delivery and understanding.

Module 1: Understanding participatory forest management (PFM): This module aims to enhance participants' understanding of Participatory Forest Management (PFM). It covers the concept of PFM, historical evolution in Kenya, legal and policy framework principles and approaches guiding the implementation. Case studies comparing the two forms of PFM i.e. Joint Forest Management (JFM) and Community Based Forest Management (CBFM) in Tanzania has been highlighted too. The module concludes by drawing lessons and challenges of Community based forest management. At the end of this module training, trainees will have gained knowledge, understanding and capacities towards forest resources conservation and sustainable management through the PFM.

Module 2: Governance and management structures of community forest associations: Community Forest Associations (CFAs) are important and legally recognized in managing forests sustainably, and to be successful, they need strong governance and management structures. In this module, participants will acquire practical skills and knowledge to establish and maintain effective governance and management within CFAs. Topics to be covered include legal frameworks for CFAs, the roles and responsibilities of members, gender inclusion, group dynamics, fundraising, and building partnerships. By the end of this module, participants will understand the process of forming CFAs and their governance, and empowering them to actively participate in forest conservation and management.

Module 3: Gender equality and social inclusion in Community based participatory forest management: This module provides trainees with information for understanding and integrating gender roles and dynamics in community based forest management, focusing on promoting gender equality and inclusion. The content emphasizes the importance of recognizing and challenging traditional gender roles, gender balance and deliberate gender inclusions through interactive

activities like role-plays and discussions, alongside practical exercises to visualize daily gender-based activities and responsibilities. The module strives to equip trainees with understanding the historical context of gender roles, societal norms and barriers associated with forest management to be able to apply the relevant strategies for integration of gender considerations.

Module 4: Sustainable forest use and conservation practices: this module aims to provide learners/participants with knowledge and skills on the benefits of forest ecosystem goods and services especially biodiversity. It also implores ways for sustainable management through adopting agroforestry and other nature-based solutions in holistic value chains and market channels that also promote the use of traditional knowledge and practices. At the end of the module, the trainees will be able to appreciate why Biodiversity conservation is crucial for maintaining healthy ecosystems that provide essential services and improve quality of life. In addition, they will be able to understand why conservation efforts should focus on both in-situ and ex-situ methods, along with sustainable utilization, education, and community involvement.

Module 5: Tree nursery operations in forestry: The purpose of this module is to empower trainees with the knowledge and skills necessary to establish and manage tree nurseries effectively. This module aims to educate participants on techniques for propagating, caring for, and maintaining tree seedlings. By providing training on nursery operations, communities can enhance their capacity for tree planting initiatives, promote environmental conservation, livelihood enhancement, and contribute to sustainable development goals such as reforestation, biodiversity conservation, and climate change mitigation.

Module 6: Climate change adaptation and mitigation in forest management: This module aims to equip trainees with knowledge on how climate change affects forest ecosystems and the measures to implement in mitigating the impacts. The module explores impacts of climate change on forest ecosystems, appropriate climate –smart practices in PFM, adaptation to climate change, role of forests in payment for ecosystem services (PES), carbon credit and trading as well as the opportunities and challenges. At the end of the module, the trainees will acquire knowledge on how to deal with climate change related challenges in forest management.

Module 7: Facilitation skills and adult learning: This module aims to equip trainees with knowledge and skills on how to facilitate and deliver training to adult learners. The module explores qualities of a facilitator, adult learning, facilitation techniques and mechanism for adult learning. At the end of the module, the trainees will be able to understand the differences between

a facilitator and a trainer. In addition, participants will have knowledge and understanding on adult learning, its principles and challenges. Lastly, participants will have acquired knowledge on qualities and skills of facilitating adult learning.

1.5 Facilitation/Training approaches and techniques

In this Manual, the following facilitation techniques have been employed to deliver the content to trainees; lectures, talks, presentations, focused group discussions, photography, brainstorming, buzz groups, case studies and study visits among others. The learning Instructions/participatory guide and materials required are depended on the type of the content/module to be delivered. The training emphasizes on principles of adult learning and group dynamics and its challenges, considering that the target audience are adult persons. The duration to deliver modules was based on contact hours needed to deliver the units except the field visits and practical work, which may require days due to logistics and distance.

MODULE: UNDERSTANDING PARTICIPATORY FOREST MANAGEMENT (PFM)

2.0 Introduction to the Module

This module aims to enhance participants' understanding of Participatory Forest Management (PFM). It covers the concept of PFM, historical evolution in Kenya, legal and policy framework principles and approaches guiding the implementation. The module also highlights Key Principles and approaches of PFM, including community based forest management (CBFM) in Tanzania.

Module Summary and Facilitator guidelines

	Activity	Audience	Duration	Instructional Methodology	Learning Objective	Learning Outcomes	Inputs needed
2.1	The Concept of PFM	Conservation groups and individuals (All gender)	30 Min	Lectures/ & Group discussions	To equip participants with PFM skills	Participants to understand the concept of Participatory Forest Management. Participants to understand how PFM enables community involvement in forest conservation and management.	Flip charts, audio visual slides
2.2	History and Evolution n of PFM in Kenya	Conservation groups and individuals (All gender)	30 Min	Lecture	To enhance understanding of the history and evolution of PFM in Kenya	Participants to have knowledge of historical perspective of PFM learners have knowledge on what premised the change and	Flip charts, audio visual slides

						impact of PFM.	
2.3	Legal and Policy Framework Governing PFM in Kenya	Conservation groups and individuals (All gender)	30 Min	Lecture & Group discussions	Participants to have a good understanding of the legal and regulatory framework governing PFM	Participants will become familiar with the legal and policy frameworks that govern PFM in Kenya, and have an awareness of other related Acts (water, etc.) Participants to understand the roles and responsibilities outlined in these frameworks for various stakeholders.	Flip charts, audio visual slides
2.4	Key Principles and approaches of PFM, including CBFM	Conservation groups and individuals (All gender)	60 minutes	Lecture & Group discussions	To understand the key principles and approaches of PFM	learners will have a good level of understanding of the principles of PFM process	Flip charts, audio visual slides
2.5	The role CFAs in PFM	Conservation groups and individuals (All gender)	30 minutes	Lecture & Group discussions	To enhance the understanding of CFA & their roles in PFM	Participants to understand the concept of CFA. Participants to gain an understanding of the roles of CFA in PFM	Flip charts, audio visual slides

2.1 The Concept of Participatory Forest Management (PFM)

Participatory Guide: Introduce the concept and have an open discussion forum where the participants give accounts of previous participation in related activities and the benefits accrued.

Training Notes

What is PFM?

Participatory Forest Management (PFM) is an approach to forest management that deliberately involves active participation and collaboration of local communities, government agencies, NGOs, and other stakeholders in the management and conservation of forests.

The fundamental objective of PFM is to create a management framework that contributes to the community's livelihoods improvement and forest conservation

Why adopt PFM?

1. To empower local communities through involvement in decision-making processes allowing them to actively participate in the management of their natural resources.
2. To sustainably manage forest resources: By involving local stakeholders, PFM enhances sustainable use of forest resources, reducing the risk of overexploitation and degradation.
3. To alleviate poverty: PFM can contribute to the socio-economic development of communities by providing them with access to forest resources for livelihoods such as non-timber forest products (NTFPs), ecotourism, and sustainable agriculture.
4. To conserve biodiversity: Engaging local communities in forest management increases their awareness and stewardship of biodiversity, leading to better conservation outcomes.
5. To resolve conflicts: PFM can help mitigate conflicts over resource use by fostering collaboration and dialogue among stakeholders.

Key Components in the adoption of Participatory Forest Management:

1. **Stakeholder engagement:** Identify and involve all relevant stakeholders, including local communities, government agencies, NGOs, and private sector players.
2. **Collaborative decision-making:** Foster a participatory approach to decision-making processes, ensuring that all stakeholders have a say in forest management plans and policies.

3. **Capacity building:** Provide training and support to local communities to enhance their knowledge and skills in forest management, conservation, and sustainable livelihoods.
4. **Legal and policy frameworks:** Establish clear legal and policy frameworks that support PFM initiatives and provide guidelines for implementation.
5. **Monitoring and evaluation:** Develop mechanisms for monitoring and evaluating the effectiveness of PFM initiatives, including assessing socio-economic impacts, forest condition, and community participation.

2.2 History and Evolution of PFM in Kenya

Training guide/instructions: Through participation, determine through discussion with the participants how the community has been interacting with forest resources historically.

Training Notes

1. Public forest resources in Kenya have been managed by the government with the inclusion of adjacent communities and other stakeholders growing with the evolution of forest legislations and policies.
2. The policy and legislation used to manage forest resources by the colonial government and the post-colonial Kenyan government concentrated authority to govern the country's forest resources in the hands of the Government institutions excluding many other stakeholders who had interest in the forests.
3. The management of forests by government only was largely considered oppressive and inconsiderate to communities living adjacent to forests. Thus, local communities yearned for policies and laws that would recognize and include them in the governance of the country's forests.
4. In the 1980s and 1990s, there was a growing recognition of the limitations of forest management by the government only. International, national and local pressure piled advocating for a participatory approach, emphasizing community involvement and empowerment. The pressure came from various stakeholders including forest adjacent communities, civil society, and development partners. This culminated with the development of a strategic plan for forestry.

5. The strategic plan for forestry reviewed the forest management situation in the country and recommended various management strategies, including the development of a new policy and law that would make forestry governance all-inclusive and not a preserve of the Government
6. In response to the demand for change, the government allowed the piloting of Participatory Forest Management (PFM) in a small area of about 42km^2 of the Arabuko Sokoke Forest in 1997. The pilot was conducted in partnership with three forest adjacent villages (Dida, Kahingoni and Kaftisoni).
7. The pilot was a collaborative undertaking between various stakeholders including the then Forest Department, Kenya Forestry Research Institute (KEFRI), Kenya Wildlife Service (KWS), National Museums of Kenya (NMK), Birdlife International (BI), Nature Kenya, USAID, local administration, traditional leaders, Arabuko Sokoke Forest Adjacent Dwellers Association (ASFADA) and forest adjacent communities.
8. The enactment of the Forests Act No 7 of 2005 provided a framework for recognition of the roles of local communities in management through legally formed entities referred to as the community forest association (CFAs).
9. The enactment of the Forest Conservation and Management Act No 34 of 2016 further strengthened the role of CFAs and other stakeholders in forest management. PFM is now being implemented in virtually all forest stations in Kenya, with CFAs actively contributing to forest management.

2.3 Legal and Policy Framework Governing PFM in Kenya

Participatory Guide: The trainer to ask participants to list the relevant PFM legal and policy frameworks they are conversant with.

Training Notes

Understanding the legal and policy framework is important for effective engagement and cooperation between communities and relevant stakeholders.

PFM implementation in Kenya is supported and guided by a robust legal framework in adherence to the Constitution of Kenya 2010.

The constitution obligates the state and the public to protect the environment. It provides an opportunity for devolution of power and makes community participation mandatory. In addition, the constitution also provides for the right of every person to a clean and healthy environment and to have the environment protected for the benefit of present and future generations. This has allowed the devolvement of forest management and the development of various legislations supporting PFM as outlined in Table below:

Table 1.1: Legal and Policy Framework Governing PFM in Kenya

SNo.	Legislations supporting PFM	Provisions
1.	The Constitution of Kenya, 2010	It provides an opportunity for devolution of power and makes community participation mandatory
2.	Forest Conservation and Management Act, 2016	Addresses forest management and governance across the country and in cognizance of devolved functions. It provides detailed support to the community participation in forest management in section V of the Act. It provides an opportunity for PFM and the basis for the development of several guidelines; CFA formation, PFM guideline 2015, and PFMP development guideline.
3.	County Governments Act, (2012) Revised 2017	The Act requires the county when planning to protect and develop natural resources (forests included) in a manner that aligns with national and county government policies

4.	Transition Implementation Plans (TIPs)	This provides a framework for partnership between the county government and KFS. Twenty-one (21) functions have been devolved; counties still facing challenges in implementing the functions
5.	National Forest Programme (NFP) 2016-2030	This guides forest sector development in the country from 2016-2030. It recognizes the importance of PFM and its contribution to community livelihoods and forest management in Kenya
6.	The Environmental Management and Coordination Act (EMCA), 1999 (Amended, 2015)	The Act supports community participation and even provides for their membership in county environmental committee
7.	Participatory Forest Management Guidelines 2015	This manual aims at assisting in preparation of a PFMP, also considered as an operational (working) plan for a specific site.
8.	Manual on Forming and Registering Community Forest Associations (CFAs) 2009	The manual provides adequate guidance for the formation of a CFA. The law also provides for the formation of separate entities to run business. This is meant to ensure that the CFA remains focused on its main agenda of forest management.
9.	Forest Management Agreement (FMA)	This FMA is meant to give the community special rights to associate with KFS in forest management. The Forests Act recognizes CFAs as the only legal entity through which communities enter into a management agreement with the CCF, KFS.

10.	The Forests (Participation in Sustainable Forest Management) rules, 2009	Provides Access Rights in Part III Which CFA Can Exploit

2.4 Key Principles and approaches of PFM

Participatory Guide: At the end of the lecture, do a recap session led by a participant**.**

Training Notes

Participatory Forest Management (PFM) is anchored on the following key principles summarized below;

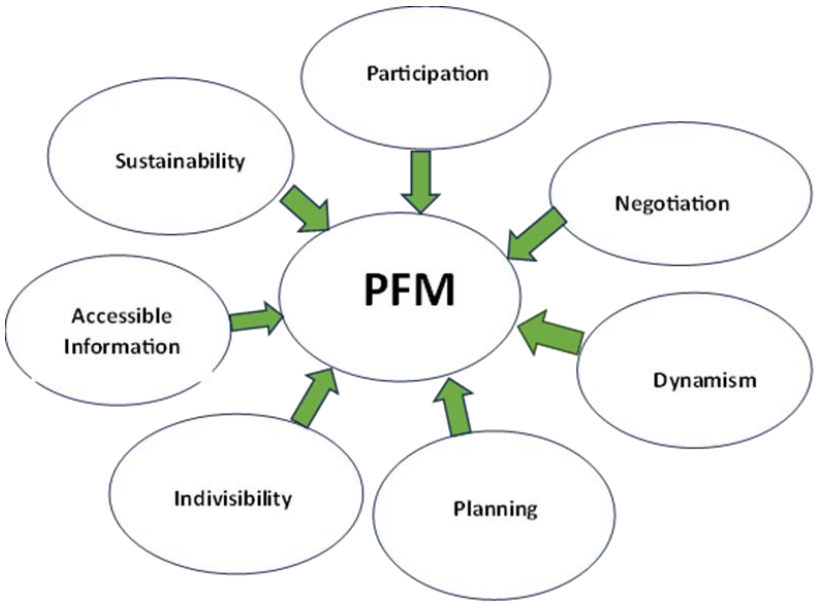
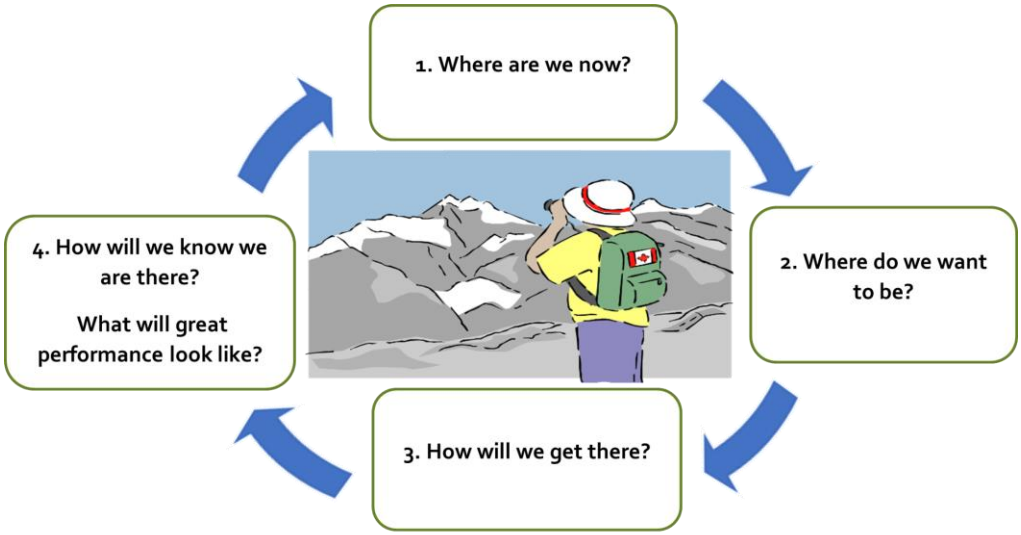


Figure 1.1: Principles and approaches of PFM

1. ***Sustainability***: Ensure forest resources are utilized in a manner that supports the needs of the community today, while preserving them to meet the needs of future generations.
2. ***Participation***: involve the local communities, indigenous people and all the relevant stakeholders in decision-making processes regarding forest management.

3. ***Negotiation:*** Facilitate constructive negotiations among stakeholders to reconcile conflicting interests and achieve consensus on forest management objectives and strategies. Develop mutually beneficial agreements.
4. ***Dynamism:*** Recognize the changes in management of forest resources and adapt management approaches and policies aligning to environmental conditions, societal needs, technological advancements, and cultural changes.
5. ***Planning:*** In a participatory approach, develop comprehensive forest management plans that consider ecological, economic, social, and cultural factors.



6. ***Indivisibility***: Acknowledge the interconnectedness of forests with other ecosystems, landscapes, and human activities. Promote integrated approaches to forest management that address cross-cutting issues such as land use, water resources, biodiversity conservation, and climate change mitigation.
7. ***Accessible Information***: Provide accessible and reliable information on forest resources, management practices, rights, and responsibilities to all stakeholders. Enhance transparency, accountability, and awareness through communication channels such as community meetings, workshops, educational materials, and digital platforms

PFM implementation process

The successful implementation of PFM has eight key interrelated processes

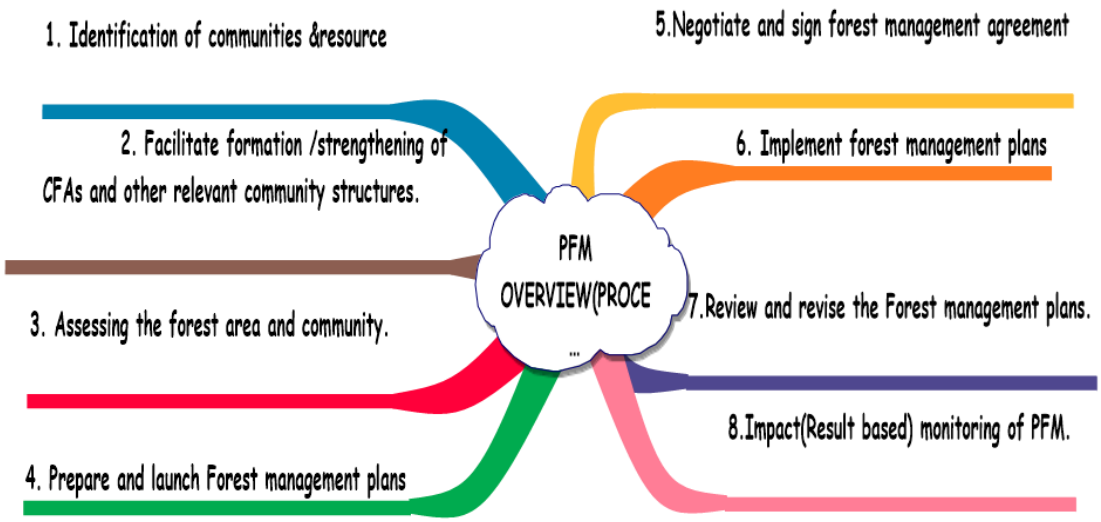


Figure 1.2: PFM Implementation process

Achievements associated with PFM

1. Improvement in physical resources for communities: construction of community resource centers, elephant deterrent electric fences, construction of honey processing units, and community tourism facilities.
2. Better management of forest resources
3. Livelihood improvement for Forest Adjacent Communities (FAC)
4. Contribution to social change, built natural, physical, and human capital, and empowered the marginalized.
5. PFM, through CFAs contribute immensely to forest rehabilitation, tree growing on farms and enhanced multi-sector participation in forest management.
6. Reduced poverty and improved food security through PELIS.
7. PFM has been an "eye" opener to the FAC that the forest resource belongs to them hence an increased sense of ownership of local forest resources, this will ensure long-term sustainability.

Challenges to the Implementation of PFM

1. Limited Resources: Inadequate financial resources, technical expertise, and capacity at both governmental and community levels hinder effective implementation.
2. Policy and Legal Framework: Inconsistent or inadequate policies, laws, and regulations related to forest management create ambiguity and hinder community participation and empowerment.
3. Lack of Awareness and Education: Many local communities lack awareness of their rights, roles, and responsibilities in forest management. Education and awareness programs are crucial for fostering community participation and building capacity.
4. Power Dynamics: Power imbalances between different stakeholders, including government agencies, private sector interests, and local communities, sometimes undermine participatory processes and decision-making.
5. Resistance to Change: Resistance from entrenched interests, including commercial entities and individuals, at times hinder the adoption of participatory approaches, as they may perceive them as threats to their authority or profits.
6. Climate Change and Environmental Degradation: Increasing pressures from climate change, deforestation, and degradation exacerbate the challenges of sustainable forest management, requiring adaptive strategies and investments in resilience.
7. Social and Cultural Factors: Some socio-cultural norms, gender dynamics, and traditional practices influence community engagement and decision-making processes, requiring culturally sensitive approaches to participation.

2.5 Role of Community Forest Associations in PFM

Community Forest Associations play an important role in protecting, conserving and managing forests in Kenya. Communities that live near the forests form these associations. These communities use the forests sustainably as a source of livelihood by generating income, thereby easing the pressure on the forested areas. In addition, they use these associations to play a significant role in decision making concerning land use. They support the government efforts in forest conservation and management and as change agents.

The Community Forest Associations benefit from the communal management of forests by generating income from timber and non-timber forest products. It is one way of community

empowerment and poverty reduction. A legal framework exists to establish and define the role of the Community Forest Associations. The Forest Conservation and Management Act is the law that meets that purpose in Kenya. Where a community forest association receives permission to participate in the management or conservation of a forest, that association shall;

1. Protect, conserve and manage the forest or a part of it following an approved management agreement entered with the Kenya Forest Service and the provisions of the management plan for the forest;
2. Formulate and implement sustainable forest programmes that shall be consistent with the traditional forest user rights of the relevant forest community;
3. Protect sacred groves and protected trees;
4. Assist the Kenya Forest Service or any other relevant authority in enforcing the provisions of the Forest Conservation and Management Act, including illegal harvesting
5. Enter into partnerships with other persons to ensure the efficient and sustainable conservation and management of the forest, with the approval of the Kenya Forest Service;
6. Inform the Kenya Forest Service of any developments, changes and occurrences within the forest which are critical for the conservation of biodiversity;
7. Help in firefighting; and any other activity necessary for the efficient conservation and management of the forest.

Participatory Forest Management (PFM) involves local communities, government agencies, civil society organizations (CSOs), and other stakeholders collaborating to manage forests sustainably to improve livelihoods and conserve biodiversity. In Kenya, PFM evolved from exclusive government control to an inclusive approach, institutionalized by laws such as the Forests Act of 2005 and the Forest Conservation and Management Act of 2016, which empower Community Forest Associations (CFAs). Despite challenges like limited resources and inconsistent policies, CFAs play a critical role in sustainable forest management and community empowerment.

Plate 1: Arabuko Sokoke Forest in Kilifi County; one of the government-gazetted forests managed by KFS and local community through CFAs (Photo credit: Africa Image Library/KEFRI).

2.6 Case Studies: Success Stories of Community based Participatory Forest Management (CBFM) in Tanzania

Participatory Guide: Introduce the concept of CBFM as one of the participatory forest management (PFM) approaches and let the participants discuss the differences.

Community Based Forest Management, famously known as CBFM is one of the participatory forest management (PFM) approaches of which forest management takes place on the village land and where local people play a role as both managers and forest owners. It entails the paradigm shift in the management of forest resources from the government authorities to local communities who are integrated in the management of forest resources on their land. CBFM can be applied to any kind of forest, either rich or poor in biodiversity, intact or degraded, large or small, moist montane, woodland or mangrove forest, reserved or unreserved forest.

The issue of sustainability is one of the most important aspects in community-based forest management approaches. Hence, this module purposes at drawing lessons and challenges from the previous CBFM adapters, to promote effective ways to indulge conservation groups to practically apply their skills and their understanding of the learned facts to the real-world situation. At the end of the module, the trainees will have acquired knowledge on Participatory Forest Management under the following general topics;

Module Summary and Facilitators guides

Case Studies and Success Stories (# hours)							
	Topics	**Audience**	**Duration**	**Instructional Methodology**	**Learning objectives**	**Learning Outcomes**	**Inputs needed**
1	Successful and inspiring Case Studies of CBFM in the WIO region	Male and Female participants	60 mins + 2 Days Field visits	-Lecture/ documentaries -Peer to peer learning -Presentations from participants/ field visits	To highlight lessons learned and challenges faced in selected CBFM	Participants to appreciate CBFM from a practical context Participants to	- Trainers' guides -Audio-visuals -Projector -Laptops

	- Lessons Learned and Challenges Overcome				case studies	understand the challenges associated with CBFM and their possible solutions	-Flipcharts, markers Venue/logistics -Masking tapes -Transport

Training Notes

2.6.1 History of Community based forest management (CBFM) Approach in Tanzania

Historically, forests in Tanzania have been managed through the central government in which the state has extensive control and power over the resource, but with less involvement of local community. However, the forest cover continues to decrease to less than 36% in the recent years. For example, before independence, the forest cover was more than 50%, which gradually decreased to 45% in the late 1970s, to about 41% in mid 1990s. The direct causes of deforestation are biomass energy needs and commercial wood fuel production, settlement and agricultural expansion, overgrazing, wildfires, shifting cultivation, inadequate capacity to address illegal logging (fueled by both local and multinational companies). Faced with alarming deforestation rate, the government of Tanzania realized the need to involve local communities in forest management through: Participatory Forest Management (PFM). PFM includes Joint Forest Management (JFM) and Community Based Forest Management (CBFM). Community Based Forest Management has been implemented in Africa since the 1980's. For the first time Community-based Forest Management (CBFM) was initiated in 1990s in Tanzania, whereby Duru-Haitemba, Mgori and Suledo forest were the pilot project for CBFM initiation.

Legal basis for CBFM

The Village Land Act (1999), the Local Government Act (1982), the Forest Act (2002) and the Forest Regulations (2004) provide the legal basis for villages to own and manage forest resources on village land in ways that are both sustainable and profitable. The Forest Act provides incentives to rural communities to progressively "reserve" unprotected woodlands and forests currently outside forest reserves, estimated to be more than 19 million hectares.

The current forest policy of 1998 and new forest act have opened a way for changes in forest conservation and management. The policy has included alteration in the roles of the forest department, local communities, and other forest stakeholders such NGOs. The policy has handed more authority to the local communities to manage the forest with the logic that the local communities reside on the ground adjacent to the forest resources.

Steps in forming the CBFM

1. The first step is village registering their own village land. Villages must have legal rights over their land. In other words, it must be classified by the Ministry of Lands and Human Settlement as "Village Land" (and not "general land").
2. The second step is electing the village natural resource committee. The village must elect a committee to manage their forest on their behalf. This committee is usually called a Village Natural Resource Committee (VNRC)2 and is a subcommittee of Village Council. The VNRC must be elected by the Village Assembly and not appointed by the Village Council and is the principal body concerned with the management of the Village Land Forest Reserve.
3. The third step is defining the forest boundaries. The village must describe their forest land - in other words, the boundaries of the forest, or the area of land which they wish to establish a forest. This includes both external boundaries –and where more than one village shares the same forest, the internal boundaries within the forest owned by each village.
4. Then the village develops a management plan. The village must develop a management plan for their village forest land. This management plan describes how the forest is used, managed, and protected. Where there are opportunities for utilization of the forest, it will describe how much timber or forest products can be harvested and from which areas. The management plan must contain a map.
8. Preparing of the village by-law for forest management. The village must prepare bylaws that support the management plan (fines, sanctions, etc) and these must be approved by the village assembly (Forest Act: Section 34 (4))
9. Lastly, declaring the village land forest reserve. The management plan, the bylaws, the minutes, and membership details of the VNRC, must be approved by the Village Assembly before being forwarded to the district for approval by the District Council. Once this has been passed, the Village Land Forest Reserve is then "declared".

Effectiveness of CBFM

Definition of the word 'effectiveness'

The word effectiveness refers to a measure of success in achieving a clearly stated objective. Hence with the CBFM, the word effectiveness reflects on the success achieved by the community or state through the CBFM approach. There is diverse success obtained that clearly indicates the effectiveness of the CBFM as stipulated below.

1. CBFM does not create a new institution rather it builds on the existing institution whereby the village is the central institutional framework for rural communities' development. The **village council** is a powerful organ in the village and is concerned with all matters pertaining to resource management, allocation, and distribution. The village council is linked to the central government via district council and reports all its affairs to the district council, including approval of bylaws. Similarly, the Forest Act No. 14 of 2002 makes a detailed reference to the development of **bylaws** by the village council through legal provisions issued under the local government Act No 7 of 1982. The forest act strengthens the village council's role through forming the village forest committee. The village council is responsible for subcommittees of the overall village council and village. The **Village Natural Resource Committee** (VNRC) that reports regularly to the village council is the central institution for the management of forest resources within and around the village. CBFM utilizes the village council to manage land on behalf of the village assembly, and its tasks include land demarcation and allocation. Generally, the villages have gained a lot of experience in governance issues through the years.
2. There is also evidence that decentralized forest management through CBFM **improves local livelihood and sustainable forest resources**. For many CBFM undertaken have demonstrated that effective local people development and proper forest management resulted from decentralization of community forest resources.
3. CBFM **strengthens community participation** in conservation and sustainable management of the forest ecosystem in the community land. This has been achieved through encouragement of the local community to participate in forest protection to enhance ecological integrity and human wellbeing. In addition, CBFM has encouraged community cohesion, by recognizing individuals in the community to be the owners of the forest on community land.

4. Under CBFM, land tenure is communitarian where individuals in the community are motivated to involve in voluntary activities organized by the village environmental communities and village council. Moreover, CBFM facilitates raising environmental awareness and knowledge among the local people because of unity formed from being responsible of protecting the common property. In CBFM, forest resource management is more democratic and focuses on bottom-up forest resource management. Local people are involved in every step of the forest management resulting to development of leadership interest and skills through village meetings, seminars, workshops, and co-learning methods with researchers such as participatory geographical information system.
5. CBFM strengthen the **use of indigenous knowledge in natural resource management**. Indigenous knowledge has demonstrated success among the Sukuma and Pare people in Tanzania. For example, a CBFM approach applied by Sukuma is famous known as "Ngitili" have ensured that community regain the lost forest habitat, biodiversity, and has increased the output of the forest products such pasture, fuelwood, traditional medicines, and watershed conservations.
6. CBFM provides opportunities for the local poor who reside in rural areas to **gain tenure right over the forest**. Not only CBFM has provided employment to local poor in collection of Non-Timber Forest Products (NTFPs) and in forest product processing unit but also has enabled the local poor own share capital in cooperatives and companies that deals with forest products. However, statistics on contribution of NTFPs in increasing household income are always not given priorities or are even not documented. Moreover, the benefits from CBFM are not only increases the total household income but also decrease income disparities between rich and poor people.
7. In addition to income opportunities, CBFM has **empowered local people in particular women to take part in decision making process,** although women participation is not often amazingly high but appreciated for their responses to CBFM. This has increased confidence among the stakeholders to lead the forest resources around them, because the new forest regime CBFM enables the local people to share the same platform with senior foresters.

2.6.2 Inclusive Community Mobilization and sensitization on CBFMs

Definition of a Community

Community is a word that encompasses many different types of social groups, organizations, and/or institutions. These may include locations such as villages or groups of villages, community councils, church groups, youth groups, women's groups, community banks, or kinship groups. Communities can be non-territorial, as the importance of urban-based people in local community decision making in Africa is considerable. *For purposes of forest conservation in Tanzania, communities must be defined by geographic, spatial, ethnic, and economic criteria, with networks linking community members across landscapes, and even countries, increasingly factored into conservation planning*. **Inclusive community mobilization and sensitization** is defined as the process of bringing together as many stakeholders as possible to raise people's awareness of and demand for a particular program, to assist in the delivery of resources and services, and to strengthen community participation for sustainability and self-reliance. Community mobilization is possible, as there is a sufficient nucleus of local management capacity derived from traditional systems and modern practice. Also, it will be most effective when communities themselves take the lead, well designed projects can promote mobilization and equitable partnerships.

A need to inclusive community mobilization and sensitization on CBFM.

For CBFM approach community mobilization is necessary for sustainable management of forests and other natural resources. It might be argued that externally driven community level mobilization in the forest conservation context is required when management arrangements prove insufficient. When local institutions are weak and many barriers to involving communities exist, mobilization will be required. In Tanzania the government in collaboration with the NGOs and other stakeholders has inclusively empowered the communities to develop readiness and take power over forests through the community mobilization and sensitization.

Community Mobilization Approaches in Tanzania.

Participatory community resource mapping: The activity teams communities with government cadastral experts, enabling production of geo-referenced maps that reflect local resource use and ownership realities, allowing communities to represent resources and resource use as they see them.

Not only does the inclusion of government employees in the mapping process help communities and governments reach new understanding of forest management issues. This helps communities mobilize to negotiate resource access and management reforms with the private sectors.

Decentralization in Forest management: Tanzanian government in collaboration with NGOs and other stakeholders mobilizes local people to play a role as both managers and forest owners. Forest management is exercised through village institutions elected by all community members. The role of the districts is to support and assist the communities to manage their own forests sustainably. The communities are also given mandates as decisions makers over the forest resources which enhances the sense of ownership of the resources.

Sustained incentives to local communities: Tanzania Village Land Act (1999), The Local Government Act (1982), The Forest Act (2002) and the Forest Regulations (2004) provide the legal basis for villages to own and manage forest resources on village land in ways that are both sustainable and profitable. The Forest Act provides incentives to rural communities to progressively "reserve" unprotected woodlands and forests currently outside forest reserves, estimated to be more than 19 million hectares. The incentives are as shown in the table below.

Table 1.2: Incentives to local communities to preserve unprotected areas outside forests

SNO	Incentive type	Community benefits
1.	Waiving state royalties on forest produce	This means in principle that villages do not have to follow government timber royalty rates but can sell their produce at prices chosen by them (Forest Act: Section 78 (3)).
2.	Retaining 100% of revenue from sale of forest products	Villagers may retain 100% of the income from the sale of forest produce. In many cases, however, they may choose to share a portion with the district in return for services rendered. The percentage to be shared with the district is set by the village and not the district. This does not mean, however,

		that other taxes (income tax, VAT) are avoided.
3.	Levying and producing fines, exemption from the "reserved tree species list"	Fines payable under the Forest Act apply to National and Local Authority Forest Reserves and are sent to Treasury. Fines levied on village land in respect of Village Land or Community Forest Reserves are retained by the Village – so long as they are described in "Approved Village Bylaws"
4.	Confiscation of forest produce and equipment from illegal harvesting	Any forest produces or equipment used to illegally harvest in a village land forest reserve may be confiscated and sold by the "forest reserve manager" (Forest Act, Section 97 (1)(b)) – which in this case is the village council and proceeds be used to the benefit of the village.
5.	Exemption from the "reserved tree species list	The Forest Act protects commercially important or endangered tree species (reserved tree species) on general land and places their management with the district forest officer (DFO). Once under village management, decisions about harvesting are transferred to the village administration. (Forest Act, Section 65 (3))

Thematic areas of inclusive community mobilization and sensitization.

Governance and law enforcement.

In Tanzania CBFM governance has largely depended on community level institutions that oversee development and enforcement of forest management bylaws. The basis of this governance system is the re-introduction of Local Government Authorities in 1982 with the objective of enhancing decentralization by devolution (D by D) under the Local Government Act No. 7 of 1982. This is because it was that time when villages were vested power to make decisions on their area of jurisdiction, including an authority of drafting bylaws, which then became approved by district council. Bylaws states penalties for various unlawful activities carried out on defined natural resources also communities can directly communicate and report the unlawful actions to the respective authorities.

Existing challenges in governance and law enforcement. There are several challenges related to forest governance in CBFM that need to be addressed. These include lack of checks and balances to village level institutions that had developed to powerful entities with resources but without instituted mechanisms to control their operations; lack of unity among CBFM actors as the results villages are not speaking with one voice on matters of common interests; existence of conflicting policies, laws, regulations and guidelines in the CBFM implementation; lack of funds to implement planned activities, capacity development and provision of incentives to members of VNRCs; and lack of sustainable technical and financial support to manage forests.

Gender

Tanzania recognizes that gender integration in various socio-economic and environmental arenas is important. In recognition of this fact the Tanzanian government, NGOs and other stakeholders has taken various measures to ensure gender integration by promoting gender equality and equity in existing decision-making and forest monitoring platforms. In forest sector, particularly CBFM arrangement, the Section 33 (2) of Forest Act No. 14 of 2002 (preliminary steps by village council to create and manage VLFR) requires consideration of gender balance in formation of a village land forest management committee (i.e. VNRC). As per provision of the Act, the CBFM guidelines for the establishment of VLFRs and CFRs state that women must be at least one third of the VNRC members.

Existing gap in Gender issues. Despite the existence of various laws and guidelines emphasizing gender integration, women's participation is still poor in the forestry sector, especially CBFM. Many women are excluded from participating in some CBFM activities due to cultural barriers and existing gender imbalances, illiteracy, lack of time to attend meetings and to participate in forest related activities. This plan provides actions to promote gender (women) integration in CBFM.

1.6.3 Capacity Building and Empowerment on CBFM

Definition of capacity building and empowerment

The term **capacity building** is defined as the process of developing and strengthening the skills, instincts, abilities, processes, and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world. The essential ingredient in capacity building is the transformation that is generated and sustained over time from within, transformation of this kind goes beyond performing tasks to changing mindsets and attitude. The term **empowerment** refers to the process of enhancing the capacity of individuals or a group to make their own choices and encourage in such a way as to transform those choices into defined actions and outcomes.

Importance of capacity building and empowerment in CBFM

The importance of promoting capacity building and empowerment in CBFM provides a platform for communities to engage in decision-making processes regarding the management of forest under local and natural authorities. It supports the interaction, learn, and increase the managerial skills, support communities to establish and implement environmental related income generating activities to reduce pressure on forest such as beekeeping, tree planting, mushrooms farms and village savings.

Identified capacity gaps that need building and empowerment in CBFM.

Exogenous in conception and funding: CBFM is exogenous both in conception and funding. The concept was borrowed from other parts of the world particularly India and Nepal, where CBFM was initiated and found to work. Local people expectation over CBFM may either be or not be in line with the regional and international policies as well as the environment funding may request the local community project to align with regional priorities, yet such alignment may either be weak or may not coincide with regional goals (Shindler et al., 1999; Agrawal, 2002). However, CBFM is set to fulfill the expectations of the community and state and other stakeholders. For instance, the community may expect CBFM to offer solutions over the shortage of fuel wood, local

medicine, and pastures. While the state may be interested in CBFM because it protects forest biodiversity and reduces forest degradation. The conflicting argument is that the local people will be eager to protect tree species which are important for their utilization while the international and the state are concerned with creating highly diversity forest ecosystem. In addition, the local people may have long-term plan in forest management, for resource utilization such as wood and timber while the state and international organizations priority may be CBFM for conservations to secure long term benefits such as to restore water catchment.

Its poor spiritual basis: CBFM is supposed to work through protection of the forest by the people using a mix of institutions. However, because the policing model has failed at the national level, one would not expect it to be very successful at the village level. Thus, it would be interesting for forest protection under CBFM to be reminiscent of the protection that was achieved traditionally through spiritual means such as that applies to sacred groves. Traditionally forests were protected because it was believed that they were important to life in a more spiritual sense than the way they are currently regarded, which is a more material perspective. Thus, people would not clear forests because they thought they were related to rainmaking and the general good of the environment; and performed their rituals in the forests. With the current change in spiritual thinking of people due to the kind of education that they have received and the prevailing religious teachings, it is difficult to achieve the kind and level of forest protection that was traditionally achieved.

Inadequacy of technical knowledge at the community level: With the erosion of traditional systems of knowledge and management, modernization may help in empowering people. However, Tanzanian villages suffer from low levels of technological knowledge and modern education. Apart from knowing how to read and write, effective forest management would demand knowledge of accounting and bookkeeping to administer the benefits and costs of forest management. When it comes to more advanced technical issues, the villages become even more disadvantaged. The village's ability to assess forest resources and prepare documents that may be used in national and international negotiations is non-existent. This makes the villages dependent on external experts for issues that are of a technical nature. Thus, the destiny of the forests in CBFM is somehow at the mercy of these experts.

Inequality in cost and benefit sharing: There are problems of sharing of costs and benefits of CBFM. These are related to level of education, leadership opportunity, connection with people

from outside and poverty level. People with more education, leadership positions, connection with people from outside and who are better off benefit more from CBFM and at lower cost.

Poor infrastructure: Village offices are poorly furnished, and some are not well sheltered. This makes it difficult to keep records.

Lack of legal documentation of the villages are seen as weaknesses of CBFM: The new Land Act and Village Land Act of 1999 recognize the following land types: reserved land (e.g. protection areas), village land, which declared as being the land falling under the jurisdiction and management of a registered village, and general land, which is neither reserved land nor village land e.g. all urban areas. Although the Land Act and Village Land Act of 1999 allow for villages to survey and demarcate land as village land, very few villages have been surveyed and legally documented. Most villages also do not have documented land use plans. This makes the villages unable to make major decisions with their land until they survey the villages.

Political land grabbing poses a threat to CBFM: CBFM is threatened by lack of political strength within the forest sector to win out over other interests. The local community fostering CBFM are poor and weak over the government decisions. On many occasions where land is required for private investment businesses, the land under CBFM have been grabbed from the local people authority and developed to other land uses which has low return to development, livelihood of the local people and sustainability of forest biodiversity. CBFM is also threatened by the establishment of new plantation of biofuel and cash crops such as Jatropha carcass, which have short-term benefits compared to forest. Also opening of mining in many of the forests which are already under CBFM are the limiting factor over attainment of CBFM goals and objectives.

Mechanisms of increasing capacity building and empowerment on CBFM.

There are various mechanisms that can be used to increase capacity building and empowerment to conservation groups especially with the CBFM approach adoption and implementation.

1. Improvement enforcement to committees responsible for overseeing the CBFM approach implementation through policy support. Enforcement can be done using voluntary monitoring and patrol activities within the forest reserves to ensure that community respect and engage fully in the protection and conservation of the forest resources.

2. Ongoing training to the committees to support them with newly updated knowledge and technical assistance to enable them to function effectively in their appropriate forest reserves.
3. Increase networking and partnership with relevant organizations both public and private sector. It is through networking where technical and financial capacities are reached for upscaling of the CBFM approach to other adjacent village communities.
4. Communities feel empowered and capacities when their voices are heard and considered especially those that related directly with those issues that matter the most to their lives, and in this case, it is the forest resources. Improved governance through increased accountability, respect, transparency and integrity and good leadership can increase capacity and empowerment to conservation groups to partake their roles effectively in the CBFM.

1.6.4 Inspiring Case Studies

In Tanzania, the magnificent success stories are from the three pilots forests on CBFM that led to the scaling up of CBFM initiatives into other areas of the country. The CBFM was first implemented in the Duru-Haitemba Forest in Bahati district in 1992 and later replicated in Mgori forest in Singida district and then Suledo Forest reserve in Kiteti district in 1995. Recently, CBFM forest cover in Tanzania has extended to an area of about 2.2 million hectare, which operate in 1440 villages of mainland Tanzania. The current state of these forests reserves has already been surveyed and zoned based on suitability for land use potential. Under this system, each village constituted a management institution of the part of the forest reserve adjacent to it. The villages around the forest's reserves working under their respective district councils control the forest reserves.

The Duru-Haitemba Forest Reserve

The Duru-Haitemba Forest, is typical dry miombo woodlands located within the Rift valley, about 20 km South of Babati township with an area of 9,000 ha in Babati District. The forest consists of a series of small woodland patches named after the adjacent villages. The woodlands occur along a series of related high ridges of up to 1850 meters above sea level. The ridges undulate, and the peaks along them give an impression of being distinct hills. About 145 species of trees and shrubs including climbers and creepers have been identified in the Duru-Haitemba woodlands. This forest represents the only remaining tract of non-reserved dry miombo forest of any significance in an otherwise well settled and cultivated Babati District.

The Tanzania government had a long-standing idea to gazette the area. Before that, the District Council had put the area under the District Soil and Water Conservation Bylaw, which meant that any use of the woodland had to be with consent of district officials; a situation which led to restricted local use of the forest. This made local communities lose confidence in their own district administration. Through this discontent, an entirely different process emerged which allowed local communities in Duru-Haitemba to conserve and manage the woodlands adjacent to them. This is the basis of the present situation where eight villages are managing the woodland resources.

The forest, which was in a state of acute decline, now has boundaries that are intact, and incursion is limited; flora and fauna are recovering; and the forest is managed and protected effectively at minimum cost. The key factor that has led to the observed success is community participation, in which there has been a marked degree of power sharing to the extent that communities have taken full responsibility and control of the resource.

The Mgori Forest Reserve

Mgori forest reserves is among the good presentative models of CBFM in Tanzania. Mgori Forest Reserve is within the belt of miombo woodlands, which is rich in woody miombo species and has high socio-economic importance values. The Mgori forest is comprised of 44,000-ha of woodland which are managed by five villages, each village is recognized as the common owner of their respective forest reserve. Before 1995, Mgori forest was Government land when the Forestry and Beekeeping Division demarcated the forest, the community demanded that the western part be excluded for their use. This was granted but it was soon realized that neither the Forestry Division nor the Singida District Council could manage the reserve. The government consequently allowed the community (five villages) and the Singida district council to manage the whole forest. Between 1995 and 1997 the forest was managed using a joint management approach (JFM). Thereafter, the Mgori community followed the Duru-Haitemba model in establishing a CBFM system as a village community forest reserve to date.

Suledo Forest Reserve

In the year 1993, the Government of Tanzania designated the Suledo Forest as a Central Government Forest Reserve, to stem out the overexploitation of forest resources in this 167,400-ha stretch of miombo woodland.

Note: *The experience with Suledo Community Forest illustrates how difficult it may be for the central and local authorities to agree to devolve authority to communities when valuable resources are involved*.

This resulted into disenfranchisement of nine neighboring forest-dependent Maasai villages because the establishment of a forest reserve would have made grazing illegal, thereby threatening the livelihood of the local Maa

sai pastoralists. These communities resisted the new arrangement, after heavy lobbying in 1995. The government was prompted to begin a process of devolution of forest use rights to the local level through Village Environmental Committees, where local communities were transferred responsibilities for formulating forest management plans and crafting by-laws to enforce them. Eventually, Suledo Forest was granted the legal status of a Village Land Forest Reserve, formally establishing local management authority, and allowing for the sustainable commercial harvesting of forest resources for the benefit of the Maasai. By the year 2007, Suledo was officially gazetted as Village Land Forest Reserve through support from the Swedish assistance through the Land Management Plan.

2.6.5 Coverage of CBFM Approach across Tanzania mainland

Several ad hoc surveys were carried out during the late 1990s and early 2000s to attempt to establish the overall adoption of PFM across mainland Tanzania. Many of these surveys were incomplete and had substantial gaps in data. In the year 2006, a fresh attempt was made by FBD to obtain a more complete assessment of how PFM had spread by soliciting data from a range of sources – from NGOs and donor funded projects, from district councils who were known to be active in PFM, and from central government records and reports. Findings in the table below show that coverage comparison between the two forms of PFM, that is JFM and CBFM shows that although the area of forest under the two management approaches was evenly matched. However, given the growing interest in CBFM coupled with some of the administrative obstacles associated with the formalisation and benefit sharing in JFM, *CBFM has now overtaken JFM in terms of forest coverage*. The three pilots, Duru-Haitemba, Mgori Forest reserves and Suledo Forest reserves under the CBFM approach were a success leading to increased adoption and up scaling to other villages as shown in the map below. Moreover, success stories from the CBFM initiatives informed the formulation of the National Forest Policy of 1998, and the Forest Act 2002.

Table 1.3: Comparative coverage of CBFM and JFM as PFM approaches from 1992 - 2008

Joint Forest Management		Community Based Forest Management	
Area of forest under JFM	1.77 million ha	Area of forest under CBFM	2.35 million ha
Number of Forest Reserves under JFM	246	Number of declared or gazetted village land forest reserves	395
Number of villages engaged in JFM	863	Number of villages engaged in CBFM	1,460
Number of villages with signed JMAs	155	Percentage of villages on mainland Tanzania engaged in CBFM	14%
Number of districts engaged in JFM	58	Number of districts engaged in CBFM	63
Most common forest type under this management regime	Montane forest and mangroves	Most common forest type under this management regime	Miombo, acacia and coastal woodlands
% of forest reserved by central or local government under JFM	13%	% of unreserved forests now under CBFM	12%

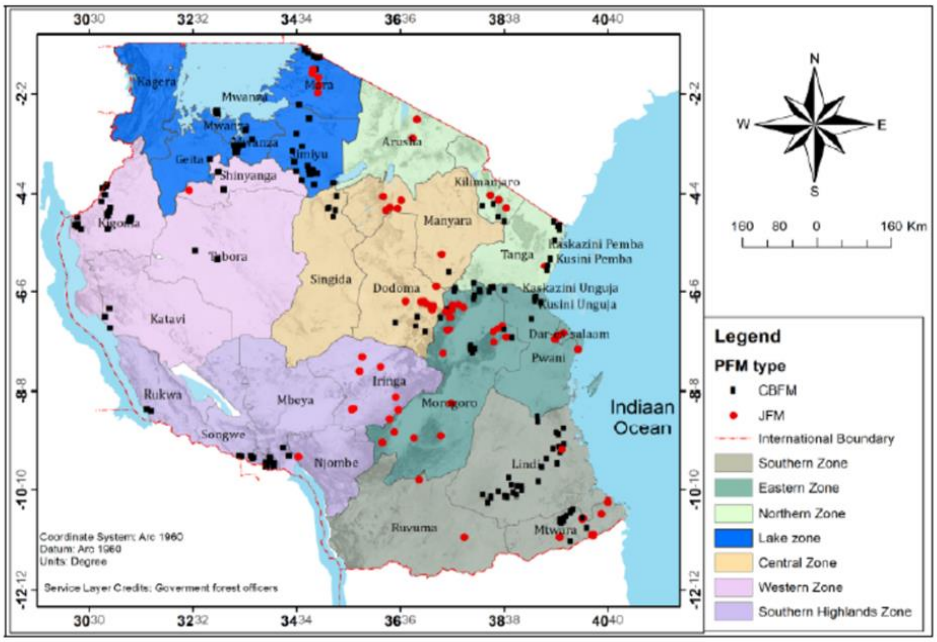


Figure 1.3: Map of Tanzania showing CBFM coverage spread across the region after the two first CBFM pilot in 1992 and 1995.

2.6.6 Lessons Learned from CBFM Approach

In Tanzania, experiences from the pilots to the upscaling of the CBFM approach practices indicates the following lessons learnt;

- It is possible to incentivize people and parties to take actions that can stimulate positive policies at various levels to facilitate adaptation and mitigation actions.
- Provision of low-cost energy sources is key for enhancing the contribution of the forest sector to mitigation.
- International financing is of paramount importance in strengthening national actions toward support of CBFM approach implementation at the community level.
- Community based forest management supported women participation in conservation through the village natural resources committees where women are chosen to be members, hence actively involved in activities which were previously marked to be typically of men.
- Community based forest management has contributed to sustainable livelihoods of the poor and marginalized adjacent forest communities. The resources on the village land available to local communities through CBFM is an exciting investment opportunity with the potential to generate sustainable flow of income in areas where other forms of economically productive activities may be severely limited.
- CBFM has promoted good governance whereby the village natural resource committees practiced inclusive governance with the local people managing the forest activities with support from various stakeholders who provided financial and technical support.
- The approach clearly demonstrated fair benefit sharing of the revenues accrued from the forest resources ensuring equity among various stakeholders along with increased access to markets for forest products while sustainably managing the forest resources.

Challenges related to CBFM approach implementation

1. Costs and benefits shared between forest adjacent villages. It has been a failure for most of the forests shared by two adjacent villages to approve the benefit sharing guideline among communities. This has remained an obstacle to the progress of CBFM in the country.
2. Inadequate Capacity of villages and Local Government Authorities to fund the CBFM processes. Most of the activities are funded by either local or international organizations. In most cases, forestry has been ranked lower in terms of priority sectors in Local Government

Authorities and even the central government, resulting in failure to set aside some reasonable budget for initiation of the CBFM.

3. Weak conflict resolution of villages and District councils to deal with conflicts. It is well known that villages have limited capacity to manage conflicts particularly when there are armed offenders. It has remained even more difficult where the districts capacity to manage forests and deal with such higher-level conflicts is minimal in terms of finance and equipment (vehicles and other equipment). In such situations, many villages and LGAs have decided to abandon the forests to be degraded or surrender them to TFS who have more resources.
4. There is also a general mistrust between the stakeholders in CBFM particularly between villagers and the professional foresters. The professionals consider the forest adjacent community as dependent on the forest resources that they are the major source of forest degradation. On the other hand, in some cases, communities have low trust on professionals, foresters are perceived as corrupt and people who do not have the same understanding and feelings about community livelihoods.
5. It is confusing on how the general land and village land is defined in the Forest Act no. 14 of 2002 and the Village Land Act no 5 of 1999. Based on the Village Land Act, it is not possible to find a general land in a village land, but within the Forest Act; any unmanaged forests within a village are considered as a general land and villagers lose power to accrue direct benefits from such forest resources and are not allowed to process sales of the products from such forests. This tendency demoralizes villagers and limits expansion of CBFM.

The way forward with CBFM in Tanzania

In general, to secure the future of CBFM in Tanzania, the government needs to address the weaknesses and threats of CBFM. The current efforts of the government to increase access to formal education at primary and secondary level is a good move in improving the technological understanding of villagers. However, because the education is general and does not cater for specifics of forest management, issues related to forest management have to be more emphasized in the curriculum. Furthermore, the government must make efforts to reduce dependence on forest resources for livelihoods, which results in overexploitation of forests and depletion of forest resources. Villages must be surveyed and documented and facilitated to prepare land use plans.

Community Based Forest Management (CBFM) is one of the participatory forest management (PFM) approaches which emphasizes on the critical role of local communities in managing and conserving forest resources, transitioning from state control to community-based approaches. It ensures that the local community have the authority and capacity to manage forest resources effectively, promoting sustainable practices and reducing deforestation.

Links to Case Studies on PFM

Community Forest Associations Partnering With Communities To Conserve Forests: https://youtu.be/JiKt0k-lunQ?si=AkKuRmE4yp2CJCJX

Gathiuru Community Forest Association: https://youtu.be/D2KIWiNrN_8?si=6UmpAfWbzOby3ywS

Gazi Community Reaping Big From Carbon Credit Trading: https://youtu.be/taMI00dfKTU?si=a3y2f3QUow1-rF5X

Geta Community Forest Association: https://youtu.be/SfErDd_rPlM?si=Nr3LZsZFGgTyYKHA

SAVING OLOLUA FOREST | Local community helping in the conservation of the Ololua forest: https://youtu.be/xlShDQWUKfo?si=7806sJpTn52C7wjA

MODULE: GOVERNANCE, MANAGEMENT AND GENDER MAINSTREAMING STRUCTURES IN PFM: A CASE OF COMMUNITY FOREST ASSOCIATIONS (CFAs) IN KENYA

3.0 Introduction to the Module

Community Forest Associations (CFAs) are important for managing forests sustainably, and to be successful, they need strong governance and management structures.

In this module, participants will acquire practical skills and knowledge to establish and maintain effective governance and management within CFAs. Areas to covered include legal frameworks for CFAs, the roles and responsibilities of members, gender inclusion, group dynamics, fundraising, and building partnerships.

By the end of this module, participants will understand how CFAs are formed and governed, empowering them to actively participate in forest conservation and management.

Module Summary and Facilitators guides

	Topics	Audience	Duration	Instructional Methodology/ Facilitation	Learning Objective	Learning Outcomes	Inputs needed
3.1	Legal Framework for CFAs, including development of a constitution and by-laws	Conservation group trainees (Both male and female participants)	60 Mins	Lecture, role plays, discussions, exchange visit, power walks	To build the capacity of the participants on the legal framework for a CFA	- To be able to list the legal frameworks governing CFAs - Participants (conservation groups) understand the CFA legal frameworks	Training guide Flip charts Marker pens Venue and logistics

						and their requirements as per the law and their implications Participants are able to develop their constitution and bylaws	
3.2	Roles and Responsibilities of CFA Members	Conservation group trainees (Both male and female participants)	30 Mins	Lecture, role plays, discussions, power walks	To inform the participants of the roles and responsibilities of CFA members	Participants understand obligations of CFA members as stipulated in the forest conservation and management Act 2016 and they are able to differentiate their obligations from user rights	Training guide Flip charts Marker pens Venue and logistics
3.3	Gender mainstreaming within CFA structures	Conservation group trainees (Both male and female participants)	120 Mins	Lecture, role plays, discussions, exchange visit, power walk, 24-hour gender	To create an understanding of the roles of both men and	Participants understand and embrace the roles of both men and women (including	Training guide Flipcharts Marker pens Venue and Logistics

				clock/daily activity clock	women in leadership Provide concepts and tools for the mainstreaming of gender in the CFA	young women) in leadership and the importance of having gender and age balance in decision making and CFA structures	Gender calendar
3.4	Group Dynamics (conflict resolution, leadership, communication, cohesion, etc. within CFAs)	Conservation group trainees (Both male and female participants)	30 Mins	Lecture, discussions, Role plays	To create an understanding of the group dynamics within the context of a CFA	Participants are aware of the various groups dynamics and are able to apply the knowledge in addressing their dynamics (conflict resolution, leadership, communication, cohesion, etc. within CFAs)	Training guide Flip charts Marker pens Venue and logistics
3.5	Resource Mobilization i.e., For development and implementation of Participator	Conservation group trainees (Both male and female participants)	30 Mins	Group work/ Practical	To inculcate proposal development and funds lobbying skills	Participants are able to develop proposals for various components of the PFMPs and	Training guide Flip charts group Marker pens

	y Forest Managemen t Plans (PFMPs)					are able to lobby for funds from various potential donors	Venue and logistics
3.6	Partnerships and Collaboratio n and Networking (engaging with Government and Non-Government al Organizatio ns, Networking and Learning from Other CFAs and user groups)	Conservati on group trainees (Both male and female participa nts)	30 Mins	Group work/ Practical Lecture, role plays, discussions,	To equip participant s with skills to engage with governmen t and civil society organizatio ns including other CFAs in various activities in their area of interest	Participants demonstrate knowledge on various partners and networks and other potential stakeholders relevant to their work.	Training guide Flip charts group Marker pens Venue and logistics

3.1 Establishment of CFAs

For communities to effectively participate in the conservation and management of public forests in Kenya, they have to be organized into Community Forest Associations (CFAs) and be registered by the Registrar of Societies. A Community Forest Association (CFA) is an association of community members who live near a forest. In Kenya, a CFA brings together community members who live within a five-kilometre buffer zone around a forest. The role of the CFA is to participate in conserving and managing forests and related resources in their surroundings.

3.2 Legal Framework for CFAs

The formation and activities of the CFA are made possible by laws that support public involvement in environmental protection and forest management. These laws include the Constitution of Kenya 2010, The Forest Conservation and Management Act No. 34 of 2016 and the Societies Act Cap 108.

a). Constitution of Kenya, 2010: Article 69(1)(d) emphasizes the importance of public participation in environmental management. This means communities can form CFAs to help manage forests sustainably

b). Forest Conservation and Management Act No 34 of 2016: In

- **Section 48 (**1), the law provides that any member of a forest community can team up with others in the area to register a CFA.
- **Section 48 (2)** requires that the CFA applies to the KFS for permission to participate in the conservation and management of a public forest.
- **Section 49 (1)** lists the roles/responsibilities of the CFA.
- The FCMA makes CFAs the only legal way for communities to get involved in managing public forests.

c). Societies Act Cap 108: handles the registration and rules for various types of societies, including CFAs.

3.2.1 Steps in CFA Formation Process

Step I: Identification and negotiation stage

The facilitator helping the community to form a CFA will have to do the following:

- Understand the Community by learning about it to identify existing groups and key stakeholders.

Participatory Guide: Ask participants to list some of the existing groups in the community

- Gather information from local government officers and NGO field officers for insights.
- Assess existing groups to understand their status and acceptance in the community. If multiple groups are existing, the facilitator should consider merging them. If there are no existing groups, the facilitator will identify entry points.
- The facilitator will then form a local committee involving chiefs and other opinion leaders to lead the process of forming a CFA. All interest groups in the community must be represented in this committee. Public meeting must be conducted to ensure broad community involvement.
  - Once the above steps have been concluded, the facilitator will then help the community through the process of the CFA under the Societies Act Cap 108.

Step 2: Scope of activities for the CFA

The facilitator will assess the activities of individual groups that form the CFA to ensure they align with the Forest Conservation Management Act (FCMA) of 2016)

Participatory Guide: Let participants list some of the activities that their respective groups forming the CFA undertake. Write them down on a flip chart and confirm from the FCMA which ones are allowed by law. Separate the compliant from the non-compliant ones. Keep in mind the following during CFA formation:

- The facilitator must ensure gender, age, cultural, and religious diversity for a well-rounded group.
- If there are any conflicts existing among groups/community members, the facilitator will have to find creative ways to help them resolve the conflicts in a participatory manner.

Step 3: Establish CFA rules and regulations

The facilitator will educate CFA members on important provisions of the FCMA concerning ParticiptorybForest Management (PFM) and CFA and other laws then help them to develop a constitution and by-laws. Thereafter, the facilitator will help the CFA to conduct fair elections.

Participatory Guide: Let participants go through a sample CFA constitution and bylaws and ask them to propose some other constitutional provisions and bylaws that they deem would be necessary for their CFA.

Step 4: Organize and facilitate transparent and fair elections for CFA

This step satisfies the requirements by the Registrar of Societies and KFS. It follows the following steps:

Intent to form a CFA -For a CFA that is being newly formed, the election of officials begins with announcing to community members the intent to form the CFA. This is done through area chiefs and their assistants requesting them to convene public meetings (barazas).

Village awareness meetings - Each of the villages surrounding the forest holds their baraza on a chosen date and the forest manager accompanying the chief educates members of the public about CFAs and PFM.

User groups identification and delegate election- Community members will then be asked to identify with specific forest user groups and separately but simultaneously elect one user group representative (grass roots leader/kiongozi mashinani). These are similar to delegates.

Management Committee formation - Once all villages have elected their delegates, another meeting to elect the CFA management committee is convened at an appropriate date and place. All elected delegates for each of the forest user groups elect one person to represent them in the management committee.

NB: Assuming 5 public barazas are held and in each village there are 9 forest user groups. This makes the total number of elected delegates 45. During the election of the management committee, the delegates will elect only 9 members, each representing a user group, to form the management committee. The void left in the leadership of the user group at the grassroots level

is filled by either fronting the person who was the runners up or through another election at the community level.

Executive Committee formation - The nine elected members of the management committee will convene to elect an executive committee comprising the Chairperson, Vice chairperson, the Secretary, Assistant secretary and the Treasurer. If any member of the management committee is elected as a member of the executive committee, the void is filled by electing a member from the grassroots delegates.

Once the management and executive committees are in place, together with relevant stakeholders, they complete the constitution of the management committee which should have between 9 and 21 members. The other members are co-opted to represent different interest groups within the community. The forest manager and the area chief are automatic members of the management committee.

NB: The election of CFA officials must ensure the following:

- ✓ Equity in age and gender representation
- ✓ Elections are conducted by a neutral party
- ✓ Candidates have a recommended minimum O level education and can read, write and interpret documents written in official languages
- ✓ Discourage nepotism
- ✓ Minutes of elections are kept. This will be required for registration with the Registrar of societies. .

Registration with the Registrar

- ➢ The elected executive committee should begin the process of registration with Registrar. Prepare these documents – the CFA's membership roll, Constitution and the Minutes of the CFA elections
- ➢ Have registration fee as stipulated.
- ➢ Once you have the above submit the documents through the E-citizen online platform, filling prescribed form therein.

- When the Registrar is satisfied that the registration process has been satisfactorily complied with, a registration certificate is issued and can be printed from the E-citizen platform.
- Once the CFA is legally registered, it can now apply to KFS to participate in PFM by developing a Participatory Forest Management Plan (PFMP) and signing an Forest Management Agreement (FMA)

Step 5: Capacity Building for the CFA and Forest Committee

- The facilitator conducts capacity assessment to pinpoint areas requiring capacity building within the CFA.
- Basic training needs for CFAs include entrepreneurship, resource mobilization, bookkeeping, participatory monitoring and evaluation, leadership, governance, advocacy, conflict management, and negotiation skills, among others.

Step 6: Form a forest level management committee

The facilitator will help the CFA to establish a Forest Level Management Committee (FLMC). The FLMC ensures that the CFA is properly governed and complies with the provisions in the PFMP.

The FLMC provides technical support to the CFA, monitors its operations, resolves conflicts, and assists in developing and implementing CFA work plans.

The committee consists of key stakeholders such as the Forest manager, KWS Warden, CFA Chairperson, and other local stakeholders such as licensees or NGAO representative.

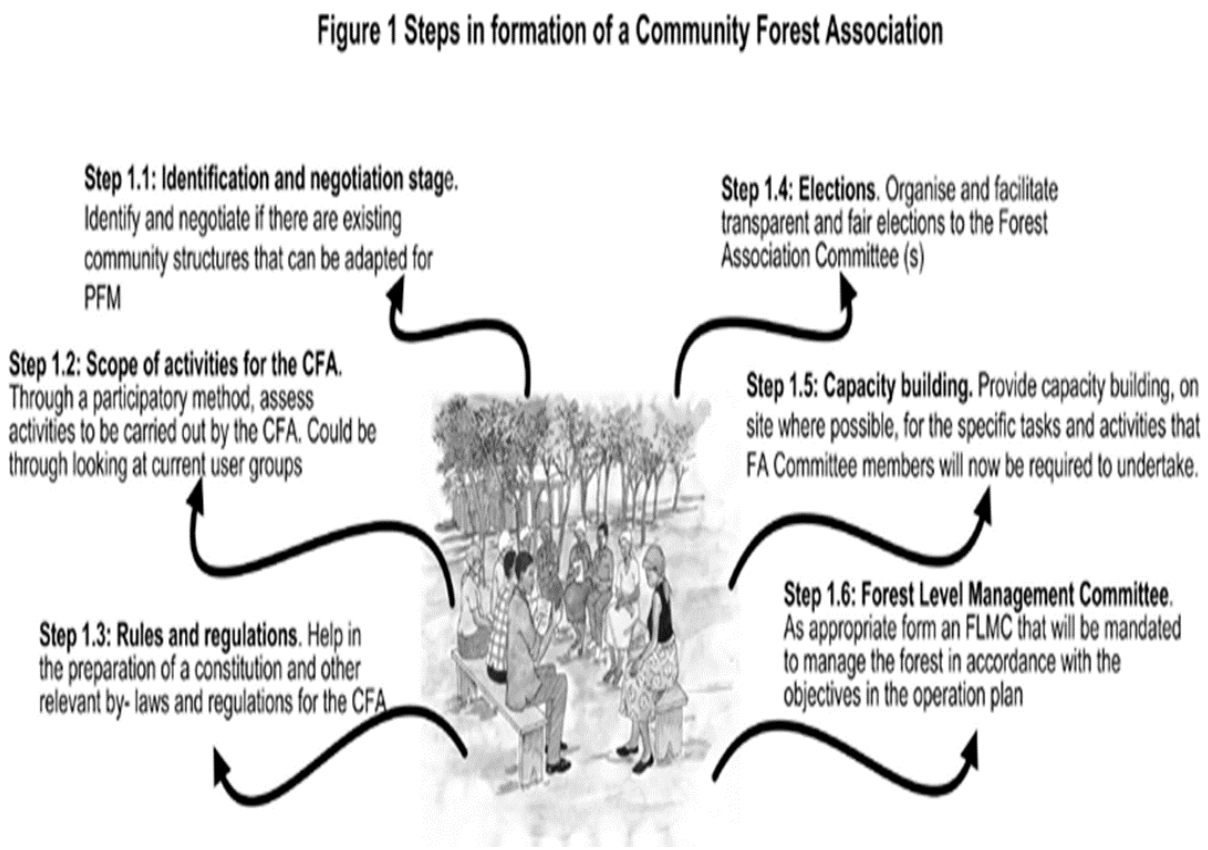


Figure 2.1: Steps in CFA formation

3.2.2 Development of a CFA constitution and by-laws

a. Development of a CFA constitution

Participatory Guide: The Community Based Trainer (CBT) asks participants to define a constitution and state the process that should be followed in developing a CFA constitution

Trainer Notes

Constitution-Is a rulebook that guides how things work in a group towards an agreed goal.

To develop a CFA constitution, the following steps may be followed;

- The executive committee conducts community meetings and consultations to allow members to voice their opinions, concerns, and aspirations regarding the management of the CFA.

- A drafting committee is formed to oversee the process of developing the constitution. Members of the committee may include CFA leadership, representatives from different user groups, and individuals with certain expertise.
- Based on the inputs gathered from community meetings and consultations, the drafting committee begins the process of drafting the constitution guided by the requirements of the law.
- After preparing the first draft constitution, CFA members are given time to go through it and provide feedback for review. This ensures that the final document reflects aspirations and interests of the community.

Participatory Guide: Trainer to take members through a specimen constitution in Annex 1.

b. Development of the CFA by-laws

Participatory Guide: Trainer to ask participants to define by laws and distinguish them from a constitution.

Training Notes

- **By laws-**a set of rules and obligations that bind members in carrying out the agreed tasks for the achievement of their objectives.
- Once the CFA constitution has been prepared, the CFA management develops by-laws to guide individual user rights.
- By-laws define criteria for membership in user groups and the management of activities within user groups.

3.2.3 Roles and Responsibilities of CFA Members

Participatory Guide: Trainer to ask participants to state the roles and responsibilities of CFAs they are aware of.

Training Notes

FCMA lists the following as the main responsibilities of CFAs

a. Protect, conserve and manage the forest or part of the forest in accordance with an approved management agreement entered into with the Service and the provisions of the management plan for the forest;
b. Formulate and implement sustainable forest programmes that shall be consistent with the traditional forest user rights of the relevant forest community;
c. Protect sacred groves and protected trees;
d. Assist the Service or any other relevant authority in enforcing the provisions of this Act including in relation to illegal harvesting of forest products;
e. With the approval of the Service enter into partnerships with other persons for the purposes of ensuring the efficient and sustainable conservation and management of the forest;
f. Inform the Service of any developments, changes and occurrences within the forest which are critical for the conservation of biodiversity;
g. Help in firefighting; and
h. Do any other act necessary for efficient conservation and management of the forests.

3.3 Structures for CFA Governance

The Management Committee.

This is the highest decision-making committee of the CFA. It brings together community representatives from diverse backgrounds and interests in the local forest resource making sure there is equitable representation of gender, and special interest groups such as minority groups and People Living with Disabilities (PLWDs).

Duties and responsibilities; -

a. Participates in the formation and registration of the CFA
b. Determines the development agenda of the CFA by developing the annual action plans for all CFA activities.
c. Monitors the duty performance of the CFA executive committee and CFA employees.
d. Develops both the long-term and short-term CFA strategy and sets targets for attainment of the same.
e. Receive, consider, and ratify the various proposals from the user groups and after approval they forward the same to the CFA executive for implementation.

The Executive Committee

This committee is composed of five persons elected by the management committee, the five includes; -

i. The Chairperson
ii. The Vice Chairperson
iii. The Secretary
iv. The Vice Secretary
v. The Treasurer

Duties and responsibilities; -

a. Oversee the duty performance of CFA employees and implement the resolutions of the management committee of the CFA
b. Works closely with the CFA employees to ensure implementation of CFA action plans.
c. Coordinates activities of the user groups within the CFA to ensure their activities are in line with their by-laws.
d. Ensures all monies and benefits accruing to the CFA are collected accordingly and proper records are kept on the same.
e. Prepares reports both financial and management reports and tables the same to the CFA management committee.
f. Works closely with the Service to ensure that the FCMA 2016 is not contravened upon by the CFA members nor its agents.

Inform the Service of any developments, changes and occurrences within the forest which are critical for the conservation of biodiversity.

Forest level management committee (FLMC)

FLMC guides the CFA in governance-related matters. It also helps ensure compliance in implementing the Forest Management Agreement (FMA) between the Service and the CFA. FLMC is composed of the stakeholders and CFA representation.

Roles and responsibilities; -

a. Provide technical support for sound management and operation of CFA

b. Act as watchdog for effective service delivery by higher bodies as Forest Conservation Committee (FCC).
c. Monitor and evaluate operations of CFA
d. Assist to resolve and manage conflicts among CFAs working within the same area.
e. Assist to develop work plans and offer guidance to ensure adherence to the same

Plate 2: Leaders of Gede and Sokoke CFAs in collaboration with KFS and KEFRI discussing the role of CFAs in Participatory Forest Management to ToTs (Photo credit: COSME Project/KEFRI)

3.4 Gender mainstreaming within CFA structures

Participatory Guide: Participants to say what they understand by gender mainstreaming and state ways how it can be achieved in CFAs**.**

Training Notes

Gender mainstreaming in CFA means incorporating gender perspectives into all activities, policies, and decisions of the CFA. Its goal is to consider and address the needs, priorities, and interests of both men and women equitably.

3.4.1 How to integrate gender in CFA

The following are some of the practical ways in which gender equality can be promoted in CFAs**:**

1. Ensure gender balance in leadership and decision-making positions within the association.
2. Conduct gender-sensitive assessments to understand the specific needs and constraints of men and women regarding forest resources.
3. Design and implement projects and programs that consider and address the diverse needs and priorities of both men and women.
4. Provide equal access to resources, information, and opportunities for participation and benefits sharing.
5. Build the capacity of both men and women in sustainable forest management practices.
6. Encourage active participation of women in community forest activities and decision-making processes

An area where gender mainstreaming may be achieved in the CFA is during the development of a Participatory Forest Management Plan (PFMP). One way to attain gender equality is for the facilitator of the process to include a gender expert in the PFMP development team. Including a gender expert in this team is essential to ensure that the whole PFMP process integrates gender aspects at all stages from data gathering to development of management programs and developing the plan.

3.4.2 Gender in the PFMP Process

Participatory Guide: Group participants into groups of five, preferably into seven groups. In the groups, let participants discuss and write down the different ways they think gender equality can be achieved in each of the PFMP process steps. Assign one step to each group. Let group leaders present their findings to the plenary

Training Notes

Step 1: Identifying the community and resources

Feasibility assessment

During this step, the facilitator may do the following:

- Record the types of forest products used/removed by both men and women and where they are found
- When conducting an overview of the forest area, consider how men and women are benefiting from the forest resources
- When identifying the community, determine the priorities of men and women and who benefits from the different resources accessed from the forest
- Assess problems and priorities for men and women
- Determine whether and how existing cultural and gender norms can affect the process.

Formation of local planning team

- Ensure men and women are represented on the local planning team, and in the distribution of roles
- Reserve some leadership and decision-making roles for women to enhance participation.

Step 2: Facilitate formation and strengthening of CFA

The facilitator can undertake to:

- Represent both men and women in the membership recruitment criteria
- Ensure equal participation of men and women in the process of developing the constitution and by-laws of CFA
- When preparing the community for elections, sensitize community members on the importance of representation from both men and women in the CFA Committee and in the user groups

- Under capacity building for the committee members, include modules on gender roles in forest management
- Consider having separate training sessions for men and women and others that are combined.

Step 3: Assessing the forest area

The following can be done in this step to achieve gender equality:

- **Awareness creation:** Use different methods to disseminate information ensure different groups are considered, including women. Dissemination meetings such as barazas, should ensure equal representation of men and women and should be conducted at times and at locations that can be accessed by both men and women.
- **Undertaking the socioeconomic surveys:** When compiling the list of households, it should include both households headed by men and those headed by women, and ensure equal proportions of these households are selected in the sample. Include men and women enumerators in the data collection team, so that participants in the survey are comfortable. Conduct gender disaggregated focus group discussions with members of different user groups to complement the socioeconomic survey.
- **Participatory resource assessment:** Assess the products and services, the different interests and priorities of men and women in these products and services, and the challenges for men and women
- Include the different rights men and women have to different resources in the information to be collected.
- **Analysis and write-up of findings:** Disaggregate the results of the socioeconomic survey by gender; for example, when talking about tenure, how does this compare between men and women? Seek ideas from men and women and their priorities when seeking community ideas on how to address protection and conservation needs.

Step 4: Preparation and approval of PFMP

In this step, the facilitator can:

- Collect additional data through gender disaggregated focus group discussions with members of forest user groups. Indicate the target group for each management program, and include priority activities for both men and women.

Validation of PFMP

- Select a presentation and validation method that will ensure participation of all. For instance, have copies of the draft PFMP being distributed to community members for review and comments before the PFMP validation meeting.
- Have small groups of men and women review the draft and present their comments during the validation meeting
- Use a language that is locally understood during the validation meeting.

Distribution of copies of the PFMP

- Develop a summary version of the management programs and translate the summary into the local language
- Make and distribute copies of the summary to the community.

Step 5: Negotiating and signing the Forest Management Agreement

- Ensure equal representation of community members in the public meetings discussing the draft agreement
- Hold meetings at locations and times convenient for men and women.

Step 6: Implementation of the plan

- Ensure equal representation in the forest level management committee constituted to implement the plan.

Step 7: Impact monitoring of participatory forest management

- Assessment of impact on livelihoods and rural development should be gender disaggregated

3.5 Group Dynamics: Conflict resolution, leadership, communication, cohesion, within CFAs

Concepts and definitions

Participatory Guide: Ask participants to define a group, group dynamics and state why they think people join groups

Training Notes

What is a group?

A group is simply a collection of people who feel connected to each other in some way. They gather because they share a common interest, goal, identity, or activity.

Characteristics of a group are:

- A collection of two or more individuals who perceive themselves as the members of group.
- Members have common motives.
- Members are interacting (either directly or indirectly) and interdependent.
- Members influence each other. Members' behavior is governed by certain rules, roles assigned to them in the group and their status in the group.

Groups within a community are important because they foster social connections, provide support networks, and organize collective action.

What are group dynamics?

Group dynamics is all about how people interact in groups. It refers to how people talk, work together, and make decisions as a group. It affects how well everyone gets along and how much work they can do together.

Why do people join groups?

People join or form groups for various reasons such as: -

- Safety- Being in a group feels safer than being alone.
- Status-Being part of an important group makes you feel respected.
- Confidence-Groups can boost your self-esteem.
- Power-Some people like being in charge or influencing others.
- Getting things easily- Groups can pool skills and resources to achieve goals.

- Support-Groups can help with emotional and social issues, giving hope and dignity.

Stages of Group Formation

Participatory Guide: Ask participants to share their experiences with group formation stages in their community and compare their sentiments with the features of group formation stages.

- **Forming:** At the start, the group is like strangers meeting for the first time. Everyone is unsure about the purpose and goals of the group, and how things will work.
- **Storming:** Next, conflicts arise about who should do what and how to reach the goals. After some clashes, roles become clearer and the group starts to figure out how to work together better.
- **Norming:** Now, the group agrees on rules for how they will behave and divide up tasks. They also set up ways to track their progress. By the end, they start feeling like a real team.
- Performing: This is when the group really gets down to business. With roles and rules set up, everyone focuses on reaching the goals. For some groups, this stage is the end goal.
- **Adjourning:** Only some groups reach this stage. Once they have achieved their purpose, like finishing a project or solving a problem, they disband. For example, a committee formed to develop a CFA constitution is disbanded after delivering the final constitution.

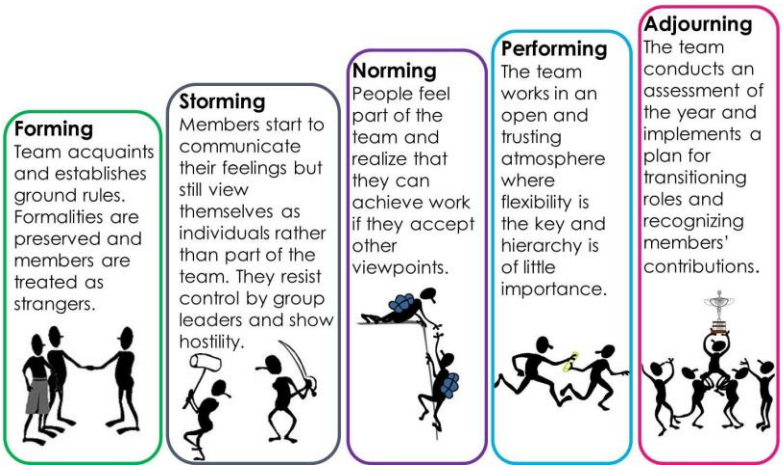


Figure 2.2: Stages of group formation

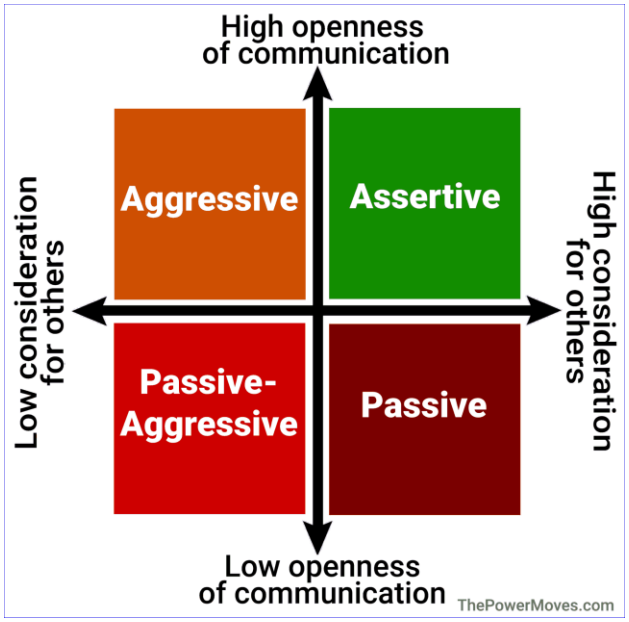
3.6 Elements of Group Dynamics

2.6.1 Communication

Communication is how people share information, ideas, and thoughts. It is like passing a message from one person to another. Forms of communication: Verbal and non-verbal.

- Verbal communication: Oral (spoken word) and written (letters, emails, etc.).
- Non-verbal communication: Includes tone of voice, facial expressions, body language.
- Verbal and non-verbal communication operate simultaneously; non-verbal cues often carry more weight in interpretation when conflicting with verbal messages.

Different people communicate in different ways. Some are shy and do not like to speak up much, while others are louder and might talk over people. There are four main types of communication styles: passive, aggressive, passive-aggressive, and assertive.



- **Passive communication:** People with passive communication tend to go along with others to avoid arguments. They might seem unsure or timid, and they often avoid eye contact. For example, when a CFA is discussing forest management programmes for a PFMP, a passive member might refrain from suggesting alternative approaches out of fear of disagreement.

Plate 3: A Member refraining from contributing to the ongoing group discussions

- **Aggressive communication**: Those who use this style of communication are often very forceful with their opinions and might even shout or use mean gestures to get their point across. For instance, during a discussion about which user group should be prioritized for funding in a CFA, an aggressive member might forcefully argue for their user group without considering the input or concerns of other members, resorting to shouting or aggressive gestures to assert their viewpoint even if it is not the most appropriate.

Plate 4: Expression of an Aggressive communication

- **Passive-aggressive communication:** Those who use this style often do not say what they mean directly; instead, they might use sarcasm or try to manipulate situations to get their way. For example, if a decision is made by the CFA management to implement an ecotourism marketing campaign, a passive-aggressive member might make sarcastic remarks about its feasibility or subtly undermine its progress through inaction or non-cooperation, without openly expressing their reservations or concerns.
- **Assertive communication:** This is the healthiest style. People who are assertive speak up for themselves but also listen to others and respect their opinions. For instance, if there is a disagreement about which user group to prioritize for funding in a CFA, an assertive member would calmly present their reasoning for their preferred user group, while also considering and acknowledging the perspectives of others. They would advocate for their viewpoint without dominating the conversation or disregarding the contributions of others members, promoting a collaborative and respectful atmosphere within the CFA.

Plate 5: Members have an equal opportunity to contribute to ideas

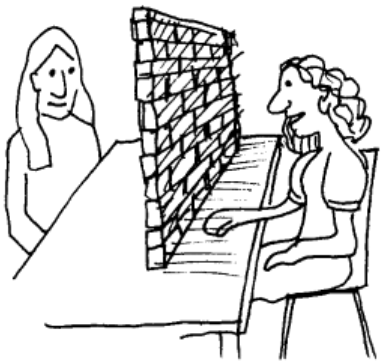
3.6.2 Barriers to effective communication

Participatory Guide: Let participants list some of the things that could hinder effective communication.

Trainer Notes

Anything that filters, blocks, or distorts the message or the information between the sender and the receiver is considered as barriers of communication. Barriers of communication can be broadly be classified into two types:

- Physical-environmental barriers: Environmental and physical barriers of communication pertain to the physical-environmental components of the communication process. These may include noise in the communication channel, an improper time of communication, and significant distance between sender and receiver.
- Psychological barriers: these are created due to poor listening skills, biases, prejudices, mistrust, negative attitude, fear of failure, evaluation anxiety, public embarrassment, obsessive thoughts of being judged negatively by others, inferiority complex, etc.



Leadership

Leadership is about who has the power and influence in a group. Sometimes, leaders are chosen officially, like the chairperson of a CFA. Other times, someone might become a leader just because people trust and listen to them. It is important for leaders to share their power and let everyone have a say in decisions. When everyone gets to be a leader sometimes, it makes the group stronger and more united.

Participatory Guide: In plenary, let participants discuss the different types of leadership styles

CBT Notes

Authoritarian Leadership-The leader makes decisions without considering other people's views. They set the goals and tasks, and others follow. While this can lead to quick decision-making, it discourages participation or creativity from group members. In a CFA for example, an authoritarian leader might dictate which projects the association should undertake without considering the input of members. This can lead to resentment and disengagement.

Democratic Leadership- It is where decisions are made collectively. The leader solicits views from all members and considers them before making a decision. This promotes a sense of belonging and ownership among group members. Consider a CFA chairperson who holds regular meetings where everyone has a chance to voice their thoughts on how to manage the forest sustainably. This approach promotes inclusivity and cooperation.

Laissez-faire Leadership-This is more hands-off, where the leader gives the group members freedom to make decisions on their own. While this can empower individuals within the group, it may also lead to confusion or lack of direction if there is not enough guidance from the leader. In a CFA for example, a laissez-faire leader might provide resources and support but allow members to decide how to manage them without much intervention. This can work well if group members are knowledgeable and motivated, but it may lead to inconsistency if there is no coordination.

Transformational Leadership-The leader inspires and motivates group members to achieve common goals. The leader sets a vision for the group and encourages others to work towards it. They lead by example and foster a sense of unity and purpose. In a CFA, a transformational leader might inspire members to see the forest not just as a resource to exploit but as a valuable ecosystem to protect for future generations. This can lead to greater dedication and passion among group members.

Servant Leadership-The serves the needs of others first. They prioritize the well-being and development of group members, promoting a supportive and nurturing environment. In a CFA, a

servant leader might focus on seeking funds to empower members by supporting their IGAs to reduce dependence on the forest. This approach builds trust and loyalty among group members.

Decision Making

Consider the following

- ✓ Introduce various decision-making approaches, such as consensus-based and democratic decision-making.
- ✓ Discuss the importance of involving all members in the decision-making process to ensure inclusivity and ownership.
- ✓ Provide strategies for reaching consensus and resolving conflicts during decision-making.

Conflict Resolution

Conflict is when people disagree or have a problem with each other. It is normal, but it is important to solve conflicts peacefully. That means listening to each other, talking calmly, and finding a solution that works for everyone. Sometimes, we might need someone else to help us find a solution, like a mediator. It is also important to try to prevent conflicts by being clear about group rules and talking about problems before they get out of hand.

Tip:

- ✓ Acknowledge that conflicts are inevitable within groups and can arise from differing opinions, values, or interests.
- ✓ Provide techniques for constructive conflict resolution, such as active listening, finding common ground, and seeking win-win solutions.
- ✓ Encourage openness and transparency in addressing conflicts to prevent escalation and promote group cohesion.

Building Cohesion

The degree of unity, solidarity, and emotional bond among members of the group. Higher levels of cohesion typically lead to greater cooperation and support within the group.

Tip:

- ✓ Highlight the importance of fostering a sense of belonging and solidarity within groups/CFAs.

- ✓ Encourage team-building activities and social events to strengthen relationships among members.
- ✓ Emphasize the shared goals and values that unite the CFA members and promote a sense of community.

Factors Influencing the Success and Failure of Groups

Participatory Guide: In plenary, let participants discuss the factors that influence the success and failure of groups.

Training Notes

Table 2.1: Factors influencing the success and failure of groups

Success factors	**Failure factors**
Effective leadership	Poor leadership
Clear vision/objectives	Unclear vision/ objectives
Cohesiveness	Poor interpersonal relationship
Effective communication	Poor communication
Clear definition of tasks	Undefined tasks
A good and comprehensive constitution/by-laws	A weak constitution /by laws
Adherence to constitution/by laws	Non-adherence to constitution
Clear mechanisms on sharing benefits and liabilities	Lack of mechanisms on sharing benefits
Effective participation/inclusivity	Poor participation/segregation
Strong conflict resolution and transformation mechanism	Weak conflict resolution and transformation mechanism
Continuous acquisition of new skills	Unwillingness to acquire new skills
Strong interpersonal skills for team building	Weak interpersonal skills for team building

3.7 Resource Mobilization for development and implementation of Participatory Forest Management Plans (PFMPs)

Training Notes

Resource mobilization is the process of pooling together financial, human, and material resources to facilitate the implementation of PFM activities such as community capacity building, IGAs, and infrastructure development. Without adequate resources, a CFA will find it difficult to implement its activities. Resource mobilization involves putting in place ways to get funding, engage stakeholders, and leverage existing resources to support the implementation of forest management plans.

- Resource mobilization is important for PFMPs because it:
  - ensures adequate funding and support
  - supports activities like stakeholder engagement, capacity building, and sustainable forest management
- Securing resources supports communities to be involved in decision-making by:
  - Resulting in more effective conservation efforts
  - Promoting equitable distribution of benefits
  - Ensuring long-term environmental sustainability
- In the absence of resources:
  - ineffective management practices
  - degradation of forest ecosystems

To facilitate participants' understanding of resource mobilization and why it is needed, interactively facilitate a discussion on:

1. **Stakeholder identification and engagement**
   - Discuss the various stakeholders involved in forest management, including community members, government agencies, NGOs, and private sector entities.
   - Stress the importance of building partnerships and collaboration among these stakeholders for successful resource mobilization and implementation of PFM plans.

2. **Assessment of available resources:**
   - Conduct a thorough assessment of available resources within the community and their forest resource, including timber, non-timber forest products (NTFPs), water, and biodiversity.
   - Encourage participants to identify both tangible and intangible resources that can be leveraged for the development and implementation of PFM plans.
3. **Development of sustainable financing mechanisms:**
   - Lead participants in exploring various financing options for PFM, such as government grants, community contributions, eco-tourism revenue, carbon credits, corporate social responsibility funds, and partnerships with private sector organizations.
   - Facilitate discussions on the advantages and disadvantages of different financing mechanisms and help participants to identify the most suitable options for their community.

Participatory Guide: In plenary, let participants discuss the advantages and disadvantages of various PFM financing mechanisms they are aware of,

Training Notes

i. **Government Grants and Subsidies**

Advantages

- Provides direct free financial support to PFM activities.
- Can facilitate capacity building and training programs for the CFA.

Disadvantages

- Government funding may be unavailable leading to inconveniences in implementing PFM activities.
- Delays in fund disbursement can hinder timely implementation of PFM activities.

ii. **International Aid and Donor Funding**

Advantages

- Offers significant financial resources for PFM projects, supplementing government funding and expanding the scope of activities.

- May come with technical assistance and expertise from international organizations, enhancing the effectiveness of PFM initiatives.

Disadvantages

- Donor priorities may not always align with the needs and aspirations of local communities, leading to mismatches in project objectives.
- Dependency on external funding sources can create vulnerabilities, especially if funding is inconsistent or withdrawn.

iii. Community-Based Financing Mechanisms

Advantages

- Empowers the CFA thus enabling it to generate revenue from forest resources sustainably, such as through ecotourism, non-timber forest products, or carbon credits.
- Fosters ownership and stewardship of forests among local communities, leading to better conservation outcomes.

Disadvantages

- Initial investment may be high above the capacity of the local community
- Unpredictable market conditions may result in fluctuating revenue generation.

4. **Promotion of Sustainable Livelihoods**

- Stress the importance of integrating sustainable livelihood activities into PFM plans to ensure the long-term viability of forest resources.
- Discuss income-generating activities such as agroforestry, beekeeping, eco-tourism, and sustainable harvesting of NTFPs, and help participants identify opportunities for livelihood diversification.

5. **Fostering Community Ownership and Empowerment**

- Encourage active participation and decision-making by community members throughout the planning and implementation process.
- Emphasize the need for transparent governance structures and mechanisms to ensure accountability and inclusivity.

6. **Monitoring and Evaluation:**
   - Stress the importance of regular monitoring and evaluation to assess the effectiveness of PFM plans and make necessary adjustments.
   - Provide guidance on developing monitoring indicators, collecting data, and analyzing results to measure progress towards predetermined goals.

3.8 Partnerships, Collaboration and Networking

Training Notes

2.8.1 Engaging with Government, Non-Governmental Organizations and other CFAs/user groups)

Importance of Partnerships and Collaboration

- CFAs thrive on partnerships with various stakeholders such as government agencies, non-profit organizations, local businesses, and community members.
- Collaboration enables sharing of resources, knowledge, and expertise, leading to more effective and sustainable forest management practices.
- Strong partnerships foster trust, mutual respect, and shared goals among stakeholders, laying the foundation for successful initiatives and projects.

Strategies for Building Partnerships

- Identify potential partners who share common interests and goals related to forest conservation.
- Establish clear communication channels and engage stakeholders early in the decision-making processes.
- Foster a collaborative environment by encouraging open dialogue, active participation, and consensus building.
- Develop formal agreements or memoranda of understanding (MOUs) outlining roles, responsibilities, and expectations of each partner.

- Maintain regular communication and feedback mechanisms to ensure ongoing collaboration and address any challenges or conflicts that may arise.

Networking Techniques

- Networking is essential for expanding the reach and influence of the CFA.
- Attend conferences, workshops, and community events related to forestry, conservation, and sustainable development to connect with potential partners and supporters.
- Utilize online platforms and social media to share information, showcase accomplishments, and engage with a broader audience.
- Cultivate relationships with government officials, policymakers, and other key decision-makers to advocate for policies and initiatives that support community-based forest management.

Robust governance and management structures are vital for the success and sustainability of CFAs, fostering both environmental conservation and community development. However, continuous training and capacity building are essential to empower CFA members, address CFA challenges, and enable them effectively manage forest resources

MODULE: GENDER EQUALITY AND SOCIAL INCLUSION IN PARTICIPATORY FOREST MANAGEMENT (PFM)

4.0 Introduction to the Module

This module provides trainees with information for understanding and integrating gender roles and dynamics in PFM, focusing on promoting gender equality and inclusion. The content emphasizes the importance of recognizing and challenging traditional gender roles through interactive activities like role-plays and discussions, alongside practical exercises to visualize daily gender-based activities and responsibilities. Additionally, the module highlights necessary tools like workshops and facilitated group discussions to brainstorm solutions for increasing gender equality in PFM, and recommends case studies and/or exchange visits to communities with exemplary gender inclusion practices.

Module Summary and Facilitators guides

Module 3: Gender Equality and Social Inclusion in PFM							
	Topics	**Audience**	**Duration**	**Instructional Methodology**	**Learning objectives**	**Learning Outcomes**	**Inputs needed**
4.1	Understanding Gender Roles and Dynamics in Forest Management	All gender trainees from conservation groups/individuals	120 mins	Lecture, role plays, discussions, exchange visit, power walk, 24-hour gender clock/daily activity clock	To understand different gender roles in forest management. -To mainstream gender roles and dynamics in forest management	-The participants will have understood different gender roles in forest conservation -participants will be in a position to articulate various	Flip charts, video clips,

						gender imbalances	
4.2	Promoting Gender Equality and Inclusion in Forest Management activities	All gender trainees from conservation groups/individuals	120 minutes	Lecture, FGDs, exchange visit	-To address barriers to women's participation in PFM -To enhance inclusive participation and decision making in PFM	- Participants are able to identify barriers to women participation in PFM- Participants are able to suggest possible solutions to mitigate the barriers.	Flip charts, logistics

Training Notes

4.1 Understanding Gender Roles and Dynamics in Forest Management

Learning Objective: The learner should strive to understand the historical context of gender roles, societal norms and barriers associated with forest management to be able to apply the relevant strategies for integration of gender considerations.

Historically, gender roles in forest management in Kenya have been distinctly divided, with men typically assuming leadership roles within CFAs, such as chairpersons or vice-chairpersons. Women, on the other hand, have been relegated to less authoritative roles like treasurers or secretaries, which, although important, do not typically hold the same decision-making power as the former positions. This division reflects broader societal norms where men are expected to be the financial providers and women to take care of family members and adhere to the decisions made by men without question.

These traditional roles underscore the necessity of integrating gender considerations into forest management programs from their inception to ensure equitable participation and benefit.

This gendered division of roles is not only a reflection of professional or community structures but is deeply rooted in the cultural fabric of the society, where women are traditionally expected to focus on domestic responsibilities and care for family members. Their roles have been shaped by a societal expectation to support and adhere to the decisions made by men, often without a platform to voice their opinions or concerns effectively. This dynamic has significant implications for forest management, where the integration of diverse perspectives and inclusive decision-making can enhance the sustainability and effectiveness of conservation efforts.

Recognizing the critical role that women play in forest management and conservation, there is an increasing acknowledgment of the need to integrate gender considerations from the outset. Awareness creation should utilize differentiated methods to ensure inclusivity, with information dissemination sessions like barazas being conducted at times and locations accessible to both men and women.

It is essential to challenge and redefine traditional gender roles within CFAs and broader forest management practices to ensure that women are not only participants but also leaders in shaping sustainable forestry practices. This involves ensuring that gender aspects are integrated at all stages, from data gathering to the development of management programs. Initial assessments should record the types of forest products used by both men and women, considering how each gender benefits from forest resources, and identifying community priorities while assessing cultural and gender norms' impact on the process.

KEY MESSAGE

Achieving sustainable community-based forest management requires proactive integration of gender equality and social inclusion, challenging traditional roles, and ensuring equitable participation and leadership opportunities for all community members

Further, in facilitating the formation and strengthening of CFAs, creating avenues for women to assume leadership roles and participate actively in decision-making processes ensures that forest management programs are inclusive, equitable, and reflective of the diverse perspectives within the community. By doing so, it is possible to harness the unique contributions of all members of the community, leading to more resilient and effective forest management strategies.

Interactive Activities:

- Role-plays and discussions to explore and challenge traditional gender roles in forest management.

Plate 6: A member of Ufanisi Conservation Group, a herbal medicine user group within Gede CFA, explaining gender roles within the group (Photo credit: KEFRI/COSME Project).

Training notes

4.1.1 The Web of Gender Injustice

Learning objectives: To understand the barriers to women's rights and how this negatively impacts wellbeing.

Key message:

- **An invisible web of inequality and injustice that is powerful and connected to all parts of life binds up women and girls. Gender inequality is not a one-off event, but an experience that women and girls face in every aspect of life, their whole lives.**

Facilitation Tip: Time (45 minutes)

This activity discusses sensitive topics that may be uncomfortable or triggering for some of the participants – particularly any girls or women experiencing gender-based violence. Be sure to have GBV referral resources ready, should anyone experience distress and need support.

Key points/questions for discussion concerning young women and girls

1. Why young girls do not study beyond primary school?
2. Why are they taken out of school?
3. Why do they doubt their own abilities?
4. Why do they marry at a young age?
5. Why are they not allowed to plant fruit trees near their homes?
6. Why are they the only one taking care of the children and household chores?
7. Why are they experiencing emotional and physical violence?
8. Why are they unable to save money?

Facilitator Notes:

- Everywhere we work, though the nature, extent of gender inequality may be different for different populations, gender inequality, and exclusion affects women and girls across their life course, creating large barriers blocking them from realizing their fundamental rights and reaching their full potential.
- The web of inequality and injustice, though invisible, is powerful, and connected. Gender inequality is not a one-off event, but a continuous experience that women and girls face in every aspect of life.
- If these barriers and rights violations are not challenged head-on, with women, girls, and their communities in the lead, the entire households and communities life will be held back.
- In a project focused on nature-based solutions, sustainable livelihoods, and adaptation to a changing climate, it is difficult to imagine how communities can succeed in these challenges and new ways of living, while an invisible web of inequality and injustice holds half of the population (the female half) back.
- There is no way that women and girls can achieve their full potential when they are so held back. There is no way that communities can either.

Summary of the key Messages

- Women and girls are bound up by an invisible web of inequality and injustice, which is powerful, and connected to all parts of her life. Gender inequality is not a one-off event, but an experience that women and girls face in every aspect of life, their whole lives.
- No one can truly be free while an entire group of the community (e.g. women and girls) is not. Men and boys cannot truly be free if their freedom rests on the unequal treatment and violence towards women and girls.

4.1.2 Gender Norms and Stereotypes

Learning objectives: To understand that gender is constructed by society and is changeable, and the implications this has for bringing about positive social change and gender equality.

Key message:

- **Sex and gender are fundamentally different.** Although they are often seen as the same thing, they have different meanings. Sexual characteristics are biologically determined and are constant across societies. Gender attributes are social and change over time - different people and cultures have different ideas and beliefs about gender roles and responsibilities.
- **Gender is not as rigid as we think it is, and that is a good thing.** Understanding that gender can change and evolve means that we do not have to be confined by rigid social expectations based on our sex or gender.
- **Rigid gender categories that say there is only one way to be a man or a woman,** cause harm to individuals and create inequality within gender relations and society.

Facilitation Tip: Time (1 hour)

Discussion: Explore the beliefs that people hold about women and men, especially as it relates to forest management. Let the participants read or discuss the statements relating to sex and gender, one at a time. After each statement let them disagree, agree, or are unsure/think it depends,

If participants disagree, facilitate some discussion to explore the different perspectives:

- What are the reasons for agreeing with this statement?
- What are the reasons for disagreeing with this statement?

Key points/questions for discussion on Gender Stereotypes and Norms

Activity Statements: Detecting Gender Stereotypes

1st Reading: Do you agree or disagree? (Do not read whether it is "sex" or "gender".)
2nd Reading: Is it sex or gender?

- Men are better at business than women. (gender)
- Women can give birth. (sex)
- Men are natural leaders – women just do not have the same inborn capacity to command. (gender)
- Men can grow beards. (sex)
- Women are natural caregivers; men are born hard. (gender)
- Men are better at making money than women. (gender)
- Women and girls menstruate. (sex)
- Women are better at planting because their hands are more sensitive, and they can deal with the delicate seeds and seedlings – men are not good at that. (gender)
- It is a woman's job to carry water and to water seedlings. It would be shameful for a man to do. (gender)
- Men can impregnate. (sex)
- Male bodies are generally larger and stronger than female bodies. (sex)
- Women cannot cut timber – they do not have the strength for it. (gender)
- When it comes to deciding what crops to plant, men take better decisions because they are more knowledgeable about the world and what crops sell. (gender)

Key message: There is need to become aware of our own internalized stereotypes and start to notice and challenge them in our own lives and in the world around us.

Facilitator Notes: Gender Stereotypes and Biases

- **Sex and gender are fundamentally different.** Although they are often seen as the same thing, they have different meanings. Sexual characteristics are biologically determined and are constant across societies. Gender attributes are social and change over time - different people and cultures have different ideas and beliefs about gender roles and responsibilities.

- **Gender evolves over time and can be transformed.** Understanding that gender can change and evolve means that we do not have to be confined by rigid social expectations based on our sex or gender that create barriers to equality.

- **Gender stereotypes** are fixed beliefs about women and men; girls and boys and their capacities, characteristics, behaviours and roles that are solely based on their gender (and that are false).

- **Gender stereotypes are created and reinforced gender norms** - rules about the roles that women and men should play in society. These can lead to biased judgements and discrimination (unfair treatment) against individuals who do not follow these rules.

- **We all have gender stereotypes that become part of our own personal beliefs**, because we live in societies where these false beliefs and assumptions based on people's gender are common. These beliefs shape our immediate reactions, what we think is normal, and what we expect from women and men; adults and children. Sometimes we do not realize we hold these false beliefs, and we may not even really agree with them when they are brought to our attention, but they shape our thoughts and our actions.

- **Sometimes there is truth to stereotypes, but this is because of socialization, not because of biology (being born female or male).** For example, maybe the men in a community are better at displaying leadership qualities, like speaking up in meetings with confidence and using a strong voice, and women are more likely to be quiet in meetings. But this is not because men are born leaders, or because women are born followers; it is because of socialization. Similarly, maybe women are better at taking care of nurseries; but this is not because of smaller hands as much as it is that they have been taught from childhood that it is their role as women to care for plants, people and creatures, in contrast to men who have maybe been taught to use hands for more forceful tasks, and who have been raised to expect women to do this work.

- **Socialization is the way we learn our gender roles.** We learn by the things we hear and see from our parents, our peers, our teachers, religious leaders, the media and everyone around us. When you are told you do something well, and you are encouraged and supported to do it, then probably you will learn to do this thing better than someone who was told their whole life that they can not do this thing, and they will be punished for even trying.

- **Gender stereotypes and norms create barriers to equality and block the potential** of women and communities. If women are held back from decision-making processes because they believe it is not their place to speak up, and because men do not support them in doing this, then the whole community loses her valuable perspective. Women are often the first to identify environmental issues because of their interrelation with nature, but when they are excluded, their concerns and priorities go unseen and unheard. Similarly, if work is distributed based only on gender norms about work that is appropriate for women and men, this is not an effective division of labour and their impact is diminished.

4.1.3 Gender Roles in Participatory Forest Management

Learning objectives: To understand that the activities that women and men tend to do in forest management come from their gender roles, and that these roles also shape their priorities and preferences when it comes to managing forests.

Key messages:

- **Gender roles shape the activities, priorities and concerns of women and men in forest management.** Due to their different gender roles, women and men have different forest priorities and concerns, such as preferences around the types of trees to plant and protect.
- **Increasing women's participation in forest decision-making bodies improves forest sustainability**. Because of their traditional assigned caregiving roles, women have an interest in maintaining the forest biodiversity that provides sustenance for their families.

What you need:

- Flipchart paper and markers, to make the game boards.
- Tape, scissors, and a small colored paper for each group.

Activity Instructions: Time (1 hour)

What? Participants get into teams and have discussion follows on gender roles in forest management. The discussion should be more of fun and team building through friendly competition, while at the same time uncovering issues around how gender roles shape activities, priorities and concerns in forest management.

Activity Cards: Activities in Participatory Forest Management?

Processing medicinal plants	Deciding what trees to cut for lumber
Harvesting honey	Deciding what trees to cut for domestic uses
Picking medicinal plants	Processing timber for sale
Harvesting fuelwood	Cutting down timber
Harvesting honey	Meeting Officials to discuss forest business
Watering transplanted seedlings	Choosing where to plant new trees
Planting seeds	Choosing what trees to plant
Transplanting seedlings	Protecting and patrolling forests
Gathering mushrooms	Climbing trees

Discuss the activity

Go back through the activity cards, one-by-one, and ask participants to discuss the gender aspects of these activities, using the following questions:

- Does this activity have a typical gender role? (Who usually does this activity – women, men or both?) If so, why do you think this is the case?
- What do you notice between the roles that women and men play? (e.g. number and diversity of roles, purpose, how it impacts the forest ecosystem)
- How might the gender roles of women and men in the forest impact their priorities, preferences and concerns when it comes to participatory forest management? (e.g. when it comes to planting , protecting or harvesting trees and forest resources and ecosystems)
- Does this activity directly or indirectly help or harm the forest? How?

Facilitator Notes: Gender Roles in Participatory Forest Management?

- **Women and men play different roles in PFM**, not because of biological reasons that prevent them from doing activities, but of the gender roles that society gives them.
- **Gender roles follow women and men into PFM:** Women's traditional role as primary caregivers means their interactions with the forest centre on subsistence – in the food, fodder, fuels, and medicines that healthy forests provide; whereas men tend to play a greater role in extracting timber for commercial purposes and get involved in activities that generate more revenue (e.g. charcoal making, bushmeat hunting, processing timber, harvesting honey). In value chains, women's participation is usually limited to harvesting and small-scale retail trade, while men dominate larger businesses and tend to engage in higher value chains.
- **Gender roles shape the priorities and concerns of women and men in PFM.** Women and men have different household responsibilities due to the gender division of labour which structures their forest priorities and preferences for planting tree species with different characteristics. Men as primary income earners, tend to prefer planting trees that offer higher commercial benefits (e.g. hardwoods, slower to rapid growing), whereas women as primary caregivers tend to favour trees that provide fruit, firewood, fodder and increase soil fertility - that support household subsistence (e.g. preferring fast-growing tree species, which helps to protect forests by avoiding cutting old growth).
- **Increasing women's participation in forest decision-making bodies improves forest sustainability**, because of the interests women have in maintaining forest biodiversity which supports their families and traditional caretaking role.
- **Strict gender roles have created difficulties for women:** Forest degradation has meant that women have had to walk longer distances into forests to source materials, with negative impacts on their time poverty, income and personal safety.

4.1.4: Access and Control in Participatory Forest Management

Learning objectives: To understand how gender, age and other identity factors shape people's access and control over land and the management of forests.

Key messages:

- Gender, age, religion, and civil status (whether married or widowed, in a customary or formal union), economic status, disability, and other identity factors influence access and control over land and the ability to participate on an equal footing in the management of forests.

- Girls and boys, women and men may be different, but this should not lead to inequality. Being born a boy or a girl/woman or man should not make a difference to the way in which you are treated. But in reality, men and boys, women and girls have different access to privileges and have different degrees of restrictions. These restrictions are a violation of their rights and hurt their development and growth.
- Gender inequality compounds other experiences of inequality: There are many forms of social inequality, and being both a woman and part of another excluded group can increase a person's insecurity, leading to inequality and injustice. (e.g. Being a woman and having a disability gives this person a particular experience of exclusion that is different than that experienced by a disabled man, or by a woman without a disability, that neither can completely relate to).

Activity Instructions: Discussion (1 hour)

Discuss how a person's gender, and other factors, such as age, disability, and civil status, impact their access to and control over forest resources and management.

Questions for discussion

1. I feel that I am a valued member of my community.
2. I am invited to participate in community meetings on land use matters.
3. I have an intimate knowledge of the forest and what grows there
4. I have the right to harvest timber from the land I inhabit, and to use it how I see fit.
5. I have the right to harvest fuelwood from the land that I inhabit without asking permission.
6. I have equal rights to inherit the land, and customary law protects my right to inherit land.
7. I have the final decision on what crops to plant on the land that I inhabit.
8. If I believe that planting fruit trees would benefit my family or my business, I can do this without consulting anyone.
9. I get the final say in what crops to plant.
10. I benefit economically from the trees that grow on the land I inhabit, even though I do not have to plant, transplant, or water them myself.

11. I have title to the land.
12. I can access any part of the forest I wish.
13. I am included in discussions and teachings about caring for the land and forest.
14. I feel safe (from humans) in walking to the forest, in the forest, and back from the forest.
15. If I were to join a forest patrol group to discourage illegal logging, I would feel safe with the other members.
16. If I were asked to join a forest patrol group to discourage illegal logging, I would naturally be concerned about the risk of sexual harassment, sexual assault, and reputational damage.
17. My community encourages me to learn about and to become involved in participatory forest management.
18. I can probably participate in forest conservation and restoration work, and I can harvest forest resources sustainably, without worrying about caring for small children at the same time.
19. I do not need to work in the forest every week.
20. If I wanted to be a leader of my CFA, I would receive my family's support in fulfilling this role.
21. If I have a day working in the forest, I need to think about finding and preparing meals for my family and myself.
22. I feel that I have a good sense of the natural hazards and risks in my community, and I discuss preparedness plans that include people like me with my community and government leaders.
23. If water is scarce, I know that I will lose at least one extra hour's sleep.
24. I feel that I have equal say in the management of our local forests, and that my perspective is valued.
25. I am a member of an NbS group.
26. I feel that all my contributions to the NbS group are recognized and valued, and that I benefit equally to any other member.
27. Any forest-based resources that I harvest, process and sell are likely to fetch a fair price.

Facilitation Tip:

Support the women (or girls) in understanding how power operates by making sure that they are able to identify relationships where they are in a position of power and others where they are in a disadvantageous position. It is very important for women (or girls) not to go away from this activity thinking that they are 'disempowered victims', or that they are always is a position of disadvantage.

Participatory Guide: After the exercise, participants to go over the discussion points in the box below on discrimination and its effects.

Facilitator Notes: Power, Identities, and Inequality

- **Power differences are based on people's social identity**, such as sex, gender identity, age, ability, religion, ethnicity, marital status, health status, disability, income/wealth, etc.
- **Power differences result in advantages and privileges** to some groups that are not earned, creating inequality and discrimination. Privileges are an ability to do something that not everyone can do. In the world of forestry, a person's gender, age, civil status, economic status, and disability status, all contribute to the ability to access, control, equitably benefit from forest resources and have a say in their sustainable management.
- **Girls and boys, women and men may be different, but this should not lead to inequality.** Being born a boy or a girl should not make a difference to the way in which you are treated. But in reality, boys and girls have different privileges and have different degrees of restriction. In reality, all men have privileges and freedoms that women, even those of higher status, do not have. These restrictions are a violation of the rights of girls and women and they hurt their development and their ability to realize their potential.
- **Gender inequality makes other experiences of inequality worse:** There are many forms of social inequality, and being both a woman and part of another excluded group can increase a person's insecurity, leading to inequality and injustice. Examples:
- **When two types of identity with less power meet at a crossroads, a person experiences a unique form of exclusion:** Being a woman who has a disability gives this her a particular experience of exclusion that is different than that experienced by a disabled man, or by a woman without a disability, that neither can completely relate to.

- A man with a disability may understand her restrictions, but not relate to her vulnerability to sexual abuse. A woman without a disability may understand her vulnerability to sexual harassment and assault, but will not understand the level of her vulnerability, or the restrictions she faces if she depends upon others for certain types of care or communication. Her experience of exclusion is unique.
- **There can be differences of status and power within the same gender, due to other aspects of a person's identity:** A man with higher power and status has more privilege and advantage in society than a man who has less power because of poverty, ethnicity, and/or disability. Similarly, a woman who holds a position of power in society and who enjoys a higher social status (e.g. a politician) has more privilege and freedom than a poor, less educated woman who was forced to marry as a child.
- **Age, gender, and other factors intersect to compound social exclusion.** A girl who reaches puberty finds that her freedom is restricted and her responsibilities increase, just at the time that her male peers are experiencing more freedom and developing greater confidence. If she has a disability, or is from an ethnic minority, she is likely to face an even greater level of restriction.
- **When one group is considered not to have power, then they are often treated with less respect and discriminated against**, and more powerful groups do not care about what happens to them. This leads to abuse. We combat abuse, discrimination (unequal treatment), and exclusion with inclusion.
- **If men and boys treat women and girls with equal respect**, then the status of women and girls, and their power in the community will increase.

4.1.5 The Gender Balance Aspect

What? A participatory gender analysis that can be applied to groups in low literacy settings in order to analyze inequalities and define actions to rebalance the tree.

Why? This activity is a tool that can help groups to see the gender imbalances that exist within their specific groups that undermine their effectiveness and prompts them to put into place action commitments to balance the tree.

Learning objectives: To apply the gender balance tree analysis in their groups.

Key Message

When there is balance in the home, **the whole household is better off**. When burden and benefits and power are fairly shared between women and men – wives and husbands, women's wellbeing improves, and so does that of the other household members.

Happy groups require balanced households: with fair division of unpaid work, equitable access to paid work opportunities, improving equality of decision-making and asset ownership. Balanced households provide the support that enable women to participate in NbS groups.

Gender balance within groups is important for groups to function effectively. Balancing the tree in groups means making sure that women exercise leadership and are supported to overcome barriers do so, where all women's contributions are recognized and valued, where benefits are shared equitably between group members

What you need/Materials:

Workshop Option: This activity can be done with flipcharts and markers, as well as notebooks and pencils, erasers and colored pens for participants.

Low-resource option: Use natural materials and take the activity outside. You will need for each tree: 2 long, thin, branches for the trunk, 6 long thin branches for the roots, 6 long thin branches for the branches of the tree, and 2 piles of stones of varying sizes, 4-6 small objects like flowers

or petals to show the fruit, 3-5 other small distinctive objects that will stand-in for the forces acting on the tree, and 4-5 green leaves to represent action commitments. *Please avoid cutting trees or branches and practice sustainable and honourable harvesting if you do take from nature!

Activity Instructions: **Time (1 hour)**

Step 1: Introduce the session

Introduce the objective of the session:

The objective of this session is to show how relationships can either contribute to, or undermine, the potential of groups to thrive and succeed. Relationships can support or undermine the resilience of groups (which is the ability of people to recover from shocks related to the environment, the economy, health, or other events that affect communities and that are beyond their control).

Ask people to form groups (or use an energizer to do this). People should group themselves according to sex, and marital status: married in couples, married in polygamous families, single (divorced, widowed, never married).

Step 2: Introduce the Gender Balance Tree Tool

To introduce the Gender Balance Tree tool, familiarize yourself with the narrative in the box below (same as the story told in the first session):

Story: Gender Balance Tree Introduction

"Households are like trees - they need to be properly balanced if they are to bear rich fruit. If the roots are not equally strong on both sides, then the tree will fall over in the first storm. If the fruits on one side are heavier than on the other, then the also tree will fall over and there will be no harvest next year.

Inequalities between women and men in households are a key cause of imbalances and inefficiencies in the household tree which make them fail. Often women and men do not work equally, leading to inefficient division of labour inputs to the tree. Women and men may not benefit equally in the fruits and unproductive expenditures may cause the tree to fall over. The household trunk is often made to bend one way or the other because of inequalities in ownership and because decisions are not shared. This means everyone goes their own way without caring about the other and the whole tree becomes weak.

It is important that the forces acting on each side of the trunk are equal to help it to grow straight and help the flow of goodness from roots to branches. Instead of the tree being blown this way and that by power inequalities - and maybe even uprooted altogether. Even if fertiliser is given to the roots, if this is done on one side only, for example, if training or inputs are only for the men, or if the forces acting on the tree are not made equal, such as in asset ownership, then the tree may grow faster on one side and remain imbalanced and vulnerable to external pressures.

The gender balance tree aims to address these imbalances, so everyone contributes equally, and everyone benefits. Then the household tree can grow straight and strong with strong roots and big fruits and is sustainable**."**

Similarly, gender balance is important within groups to rectify the historic imbalances that have harmed women and devalued their contributions. Balancing the tree in groups means making sure that women exercise leadership and are supported to overcome barriers do so, where all women's contributions are recognized and valued, where benefits are shared equitably between group members. "Groups thrive if members have a very clear idea of their benefits from and contributions to the group, so they see the incentive to play their part without feeling exploited."

ADAPTED FROM P. 43, LINDA MAYOUX, MAY 2014, GENDER ACTION LEARNING SYSTEM (GALS) MANUAL, ROCKY ROAD TO DIAMOND DREAMS: VISIONING AND CATALYSING A GENDER JUSTICE MOVEMENT

Plate 7: Deliberate balancing of men and women in forestry activities (Source: KEFRI)

Facilitation Notes

The instructions are provided for drawing the gender balance tree, as well as for producing the image using natural materials. If using natural materials, the analysis might be done for "the average household" rather than for each participant's household. Choose the option that suits your objectives, participants, and resources.

If doing drawings, each participant will do the drawing for themselves in their notebook. As a rule, the facilitator should never hold the pen for a participant. If needed, give everyone 15 minutes to practice holding the pen and drawing. Explain that everything is just a series of straight and curvy lines, short and long, big and small. Practice making lines and circles before attempting to reproduce the drawings.

If using natural materials, the facilitator will need to frequently check the meaning of objects and symbols, making sure that people agree and remember what they represent.

Steps for doing the Gender Balance Trees (45 minutes)

Step 3: Explain the process

Based on whether you will be drawing or making trees with natural materials, distribute notebooks and pens or materials, and explain:

A. Drawing: Ask participants to start by turning to the next double-page spread, and turning their notebooks sideways, so that they can use both pages to draw the full tree with its roots. Remember, the facilitator should never hold the pen.

B. Natural Materials: Ask participants to head outside and to gather near a clear space – ideally where they can draw images into the dirt with a stick. Explain that they should think of "an average household" in their community based on the most common experiences.

Explain:

We will be drawing trees to show how work and resources are shared in our groups between women and men members. We will begin by drawing the trunk, then the roots and branches. For each of these, we will identify who are the partners in the household, and:

- who contributes the most work to the group,
- who spends the most for the group,
- who benefits the most from group income and benefits
- To identify inequalities in access and decision-making
- To decide whether the NbS tree is balanced

- To decide priority areas for improving gender balance of the tree so that it can stand up straight and bear richer fruit equally for all of its members
- To see which groups ready to step out of confining gender boxes and to bring about positive transformation, healthy relationships and teamwork

Basic Steps for NbS Gender Balance Trees

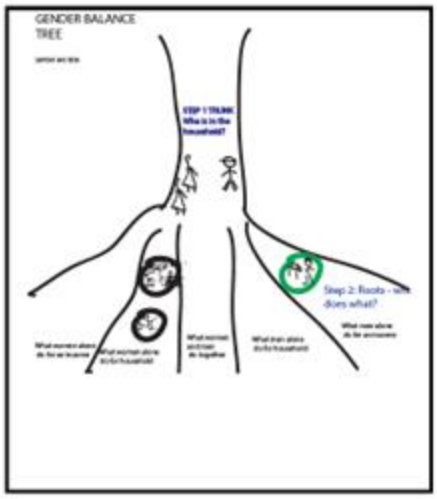
Step 4: Initiate the drawing/tree arrangement together

1. Trunk: Who is in the group?

Draw two lines in the middle of the paper for the trunk.

Next, put symbols for each household member on either side of the trunk. Women members should go on the left side of the trunk in one colour (e.g. green). Members who are men go on the other side of the trunk in another colour (e.g. blue). Dependents are in the middle, towards the side of their respective sex, in the respective colour.

Natural Materials Method: Lay 2 sticks on the ground in parallel to make the trunk. Assign objects or draw images in the dirt to represent the group members. Before moving on, check that everyone agrees and remembers what the objects represent.



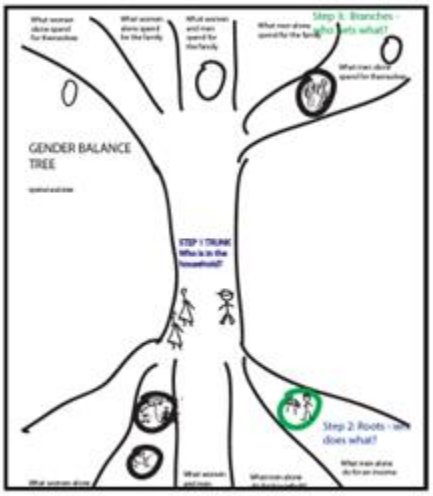
2. Roots: Who contributes what work?

- Draw two roots for women and two roots for men on the respective side of the trunk in their respective colour (the roots are the spaces between the lines). The central root is for joint activities but the line is in the colour for women/men.
- On the outside root on each side put the activities which people of that sex performs alone for themselves. **The work that takes the most time should be drawn bigger. Ring those which earn the group most income with a black ring, thickness indicating relative** amount of income.
- On the inside roots put the activities which people of that sex perform alone for the group. For example, planting. This should follow the same size and ring convention.
- In the central root put those activities which both women and men do, putting the symbol on the side of the sex who does most. Again, using the same size and ring convention.

Natural Materials Method: Arrange 6 sticks on the ground to make the roots. Place stones to represent different types of work that are contributed by women and by men. Use bigger rocks to represent work that takes more time. Place a green leaf beside work that generates more profit for the group, with bigger leaves representing more income spent. Before moving on, check that everyone agrees and remembers what the objects represent.

Facilitation Tip:

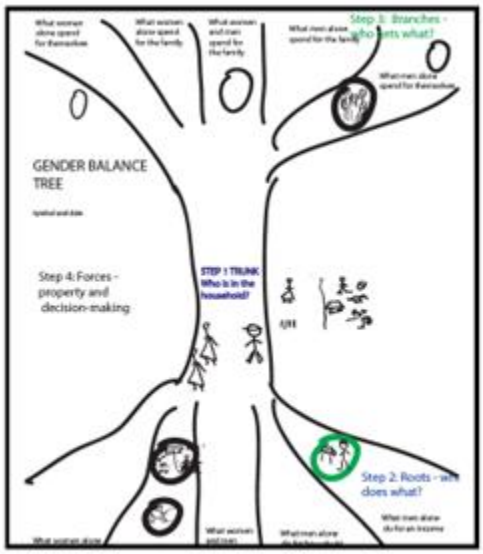
Beware of invisible care work! Make sure that group members explore all the associated types of work that are done for the benefit of the group and its members. For example – carrying drinking water or food to hydrate and nourish group members at a work site.



3. Branches: Who gets what fruit?

- What are the fruits that emerge? How are group profits managed? Draw four branches corresponding to each root, women, men and central trunk for joint group benefits (financial, material or other) that are distributed after group expenditures or savings are set aside.
- On the outside branch on each side, draw symbols for personal benefits that each sex derives for themselves alone. **Ring the largest personal benefits in black with thickest line for largest benefits.**
- Benefits that are only given to women or men should be on the outside branch on each side. Ring the largest benefits in black, with thickest line for largest expenses.
- Put symbols for joint benefits in the middle top branch - putting the symbol to the side of the sex who gains the most. Ring the largest benefits in black.

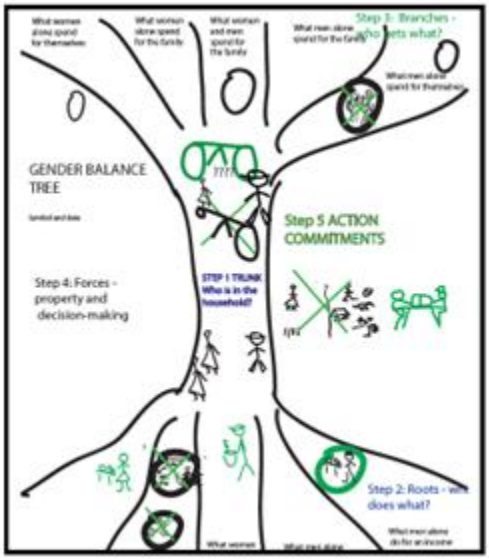
Natural Materials Method: Arrange 6 sticks on the ground to make the branches. Use a different object to represent different types of fruit of the group that are enjoyed by women and by men (e.g. petals or flowers). Use larger flowers or petals (or other object) to show the largest benefits and remember what these are. Before moving on, check that everyone agrees and remembers what the objects represent.



4. What is pushing the tree?

- Discuss key assets of the group, such as productive assets, and property ownership, access and user rights.
- On their respective side of the trunk put symbols for: The property that the group owns. For example: Who owns the land? Who owns the productive assets? Who is allowed to use these? (Place this symbol on the side of the sex that has access and control of the assets)
- The types of decisions which group members take. Do all members have a say in group decisions? Are there decisions that men or women have more influence over? Are there decisions are made by women members only, of by men only, or which are made jointly? Or is one person overall decision-maker or do they always sit down together?

Natural Materials Method: Choose other distinctive objects to represent the forces that are acting on the tree. Before moving on, check that everyone agrees and remembers what the objects represent.



5. Action: What do we want to change?

- Does the tree balance? Are women doing most of the work with men owning most of the property, income and getting most expenditure? Put a symbol representing the degree of gender balance at the top of the trunk.
- Ring in blue (or other agreed colour) the things you like that help the tree to balance. These do not need to change.
- How do you think you can make the tree balance better? For example, Which tasks should be done jointly, which expenditures or benefits that should be cut or better shared, access and control of property or assets that should be shared?
- Identify **5 action commitments** - things you want more of or less of to make the tree balance. These action commitments are now represented as fruits: tuber fruits on the roots, mango fruits on the branches or cocoa fruits on the stem. Mark these in green or cross the original symbol with a black cross and draw a new green symbol in the appropriate place - as unripe fruits which you want to change and turn red.

Natural Materials Method: Use a stick to draw a scale at the top of the trunk, to represent whether there is balance or not in the group. Use different green leaves to represent the action commitments that you want more of or less of to make the tree balance. For behaviours that you want to change, flip the object upside down. Before moving on, check that everyone agrees and remembers what the objects represent.

Step 5: Encourage collaboration and discussion

Drawing Method: Throughout this process, invite people to give examples on the flipchart at the front, as people draw in their individual notebook diaries.

Step 6: Review the steps

At the end of the process, invite participants to draw each step of the drawing in their notebooks, and to include any notes to help them to lead the process.

Explain: It is important to use questions and humour in this process and to allow people to draw their own conclusions, it is not about criticizing other people's trees.

Facilitator Notes: Summarizing Gender Balance Tree observations

Facilitators are encouraged to take notes from the discussion and individual diagrams. For example:

Trunk: household structure, including incidence of polygamy and female headed households. How many households are monogamous/polygamous/single person? What does this imply for gender strategies? E.g. Possibilities to bring co-wives together? Is there a need for widows' groups? Youth groups?

Roots: Which activities are normally done by women? Which activities are normally done by men? Are there any things/exceptions to stereotypes which may be surprising? What are the conclusions on gender balance of work contribution on the roots?

Branches: Which expenditures are normally done by women? Which expenditures are normally done by men? Are there any things/exceptions to stereotypes which may be surprising? What are the conclusions on gender balance of share of expenditure income on the branches?

Forces on the trunk: Do any women own land or other important assets? In which circumstances? (e.g. only widows?) In how many households do women hand all the money to men? In how many households do women or men keep all their own money? In how many households is at least some income shared with joint decision-making?

Change commitments: What are the main types of strategies which women and men see as ways forward to balance the tree? What are the main areas of disagreement between women and men, between people from different backgrounds etc. which need to be taken into account in subsequent sessions? Specific lessons/challenges from youth/single sex and polygamous households

Key Message

- **When there is balance in the home**, **the whole household is better off**. When burden, benefits, and power are fairly shared between women and men – wives and husbands, women's wellbeing improves, and so does that of the other household members. Relationships between wives and husbands can either support or undermine household resilience.
- **Happy groups require balanced households:** with fair division of unpaid work, equitable access to paid work opportunities, improving equality of decision-making and asset ownership. Balanced households provide the support that enable women to participate in NbS groups.
- **Gender balance within groups is important for groups to function effectively**. Groups thrive when there is a clear idea of their benefits from and contributions to the group, so they see the incentive to play their part without feeling exploited." Women's contribution should be recognized and valued, where benefits are shared equitably between group members.

4.2 Promoting Gender Equality and Inclusion in Forest Management activities

Participatory learning guide:

Despite legal frameworks and guidelines designed to promote gender equality, Coastal Kenyan women's participation in PFM remains limited. Cultural barriers, existing gender imbalances, illiteracy, and the lack of time to attend meetings or participate in forest-related activities are significant obstacles. These barriers highlight the need for targeted actions to integrate women effectively into Forest Management, ensuring their contributions are valued and their voices heard.

Training Notes

4.2.1 Barriers impeding women involvement and comprehensive strategies to address and overcome

Cultural Barriers: Traditional societal norms and values in many Kenyan communities often dictate the roles and expectations of women, limiting their engagement in public and community decision-making processes, including those related to environmental and forest management. These cultural norms can discourage women from taking active roles in Forest Management, perpetuating a cycle of underrepresentation in leadership and decision-making positions within these initiatives.

Gender Imbalances: Existing gender imbalances, deeply rooted in societal structures, further exacerbate the challenges faced by women in asserting their roles in PFM. These imbalances manifest in various ways, including unequal access to resources, information, and opportunities, making it difficult for women to participate on equal footing with men in forest management activities.

***Illiteracy*:** The lack of education, particularly among women in some Coastal Kenyan communities, poses a significant barrier to their participation in Forest Management. Illiteracy limits their ability to engage with written materials, understand technical aspects of forest management, and effectively communicate in formal settings, thereby hindering their active involvement and contribution to PFM.

***Lack of Time*:** Women's time is often heavily committed to domestic responsibilities and livelihood activities, leaving little room for involvement in community and environmental initiatives.

The time-intensive nature of forestry activities, including meetings and forest-related work, can be a significant barrier for women whose days are already filled with tasks essential to the well-being of their families.

4.2.2 Overcoming barriers and promoting effective integration of women in forestry

1. ***Community Sensitization and Education*:** Raising awareness about the importance of gender equality and the valuable contributions women can make to forest management can help shift cultural norms and perceptions. Education campaigns can target both men and women, emphasizing the benefits of inclusive participation.
2. **Flexible and Inclusive Meeting Schedules:** Recognizing the time constraints faced by women, forestry initiatives can adopt more flexible scheduling for meetings and activities. Ensuring that timings are convenient for women can increase their ability to participate.
3. **Creating Supportive Networks:** Establishing networks and support groups for women within forestry management can provide a platform for sharing experiences, challenges, and strategies. These networks can also offer mentorship opportunities, fostering a sense of community and solidarity among women involved in forest management.
4. The inclusion of youth voices is also crucial in creating sustainable, long-term solutions for forest management and conservation. Young people bring fresh perspectives, innovative ideas, and a strong sense of urgency regarding environmental issues, making their involvement in Forestry Management pivotal.

In many Kenyan communities, youth, particularly young women, face their own set of challenges in engaging with participatory forest management. These challenges can include limited access to education and resources, societal expectations that prioritize older generations' voices over those of the youth, and a lack of targeted opportunities for young people to engage in environmental conservation efforts. Moreover, young women may encounter a compounded set of barriers due to both their gender and age, which can marginalize their participation even further.

How to address challenges facing the youth, especially young women and harness their potential in forest management:

- *Mentorship and Leadership Opportunities*: Create platforms for youth mentorship, where experienced conservationists guide young individuals, can help bridge the gap between generations. Providing leadership opportunities within CFAs for youth can empower them to take active roles in forest management.
- *Innovative Engagement Strategies:* Leverage technology and social media to engage with youth can make forest conservation more accessible and appealing to younger generations. Initiatives such as environmental digital applications, online campaigns to tap into the interests and skills of young people.

Case Studies: Participants to discuss and visit;

- Successful female-led conservation groups in Kenya, and, how they have navigated through traditional gender roles.
- Male conservation groups that have successfully integrated gender equality into their management.

Plate 8: Promoting women conservation groups in forestry reduces gender disparities (Photo credit: KEFRI)

MODULE FOUR: SUSTAINABLE FOREST USE AND CONSERVATION PRACTICES

5.0 Introduction to the Module

This module aims to provide participants with knowledge and skills on the values and services of biodiversity and implore ways to sustainably manage it through adopting agroforestry and nature-based solutions in holistic value chains and market channels that also promote the use of traditional knowledge and practices.

Module Summary and Facilitators guides

	Topics	Audience	Duration	Methodology/Facilitation	Learning Objectives	Learning Outcomes	Input needed
5.1	Conservation of Biodiversity and Ecosystem Services	Both male and female participants	60 min	Lectures - Presentations from participants	Equip the participants with knowledge on conservation of biodiversity and the benefits derived from a healthy ecosystem	Participants demonstrate knowledge of biodiversity in their forest ecosystems, how it can be conserved and can identify ecosystem services provided by the ecosystem to the community	Training guide, Flip charts, marker Pens, Venue and logistics
5.2	Agroforestry and Sustainable Harvesting	Both male and female participants	120 min	Lecture/ documentaries -Peer to peer learning	To equip participants with knowledge and skills	Participants demonstrate knowledge in agroforestry	Training guide Flip charts

				Presentations from participants	on agroforestry practices and sustainable harvesting techniques.	and sustainable harvesting techniques and are able to put it into practice.	Marker pens Venue and Logistics Projector
5.3	Nature-Based Solutions in Forest Management	Both male and female participants	60 min	Lecture/ documentaries -Peer to peer learning Presentations from participants	To equip participants with knowledge on Nature-Based solutions and how to integrate them in forest management.	Participants are able to: - identify some of the nature-based solutions they can adopt in their forest management Explain how they can integrate the solutions with their forest management practices.	Training guide Flip charts Marker pens Venue and logistics
5.4	Facilitate linkages between groups and government agencies for technical training on NbS/forest based IGAs (beekeeping, tree nurseries)	Both male and female participants	60 min	Group work Group work Lecture/ documentaries -Peer to peer learning Presentations from participants	To equip participants with knowledge of government agencies offering technical training on NbS. Bring the participants	Participants can identify and create linkage with NbS training service providers for relevant training when need arises	Training guide Flip charts Marker pens Venue and logistics

					together with the service providers		
5.5	Accessing Markets and Value Chains	Both male and female participants	60 min	Group work Lecture/ documentaries -Peer to peer learning Presentations from participants	To equip participants with information on value chain and market . Equip participants with market development strategies.	Participants demonstrate knowledge on value chain components and how various actors can fit in. Participants have relevant market information to guide their participation in relevant value chains and are able to develop value chain-based market strategies.	Training guide Flip charts Marker pens Venue and logistics
5.6	Incorporating Traditional Knowledge and Practices (wildfire management)	Both male and female participants	45min	Facilitation Group work Elder guest speaker	Work with the participants to identify traditional knowledge and practices relevant to the CBFM	Participants identify traditional knowledge and practices relevant to the CBFM	Training guide Flip charts Marker pens Venue and logistics

5.1 Conservation of Biodiversity and Ecosystem Services

Participation Guide: Introduce the concept and ask the participants to identify biological resources they interact with in their farms and in the forest.

Training Notes

5.1.1 Definition of terms and concepts

Biological Diversity (Biodiversity): The variety of life forms on Earth. It includes "diversity within species, between species, and of ecosystems." It is all the plants and animals that interact with each other and the physical world around them in areas called ecosystems**..** Biodiversity is described at 3 levels: genetic, species and ecosystems levels.

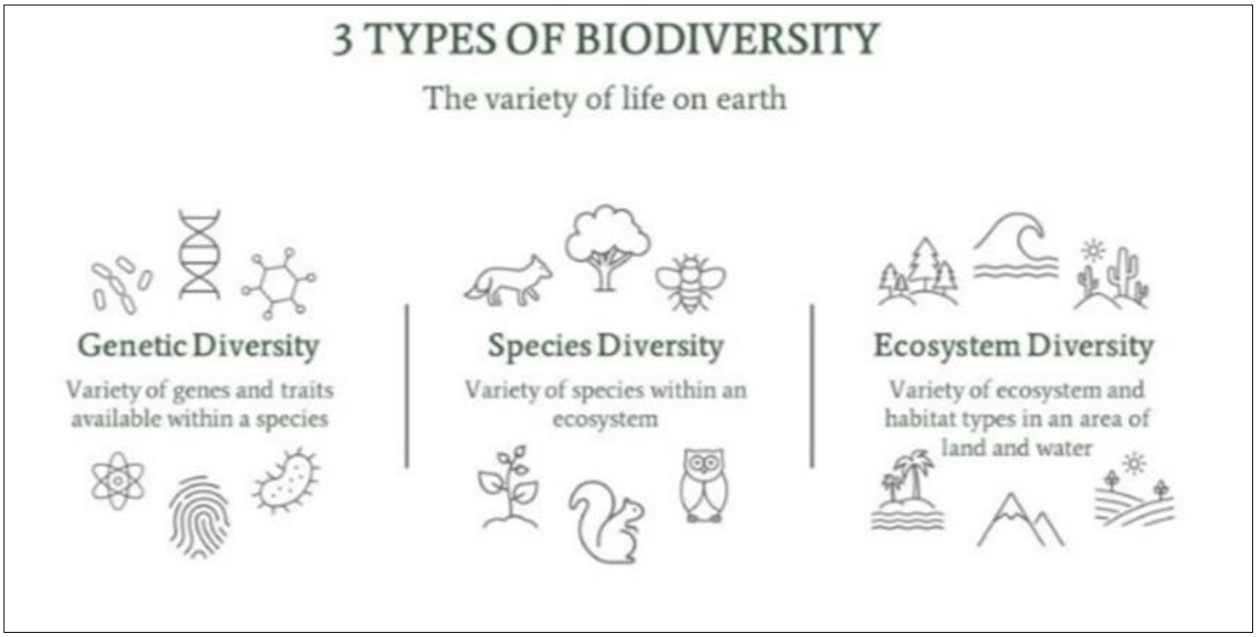


Figure 4.1: Types of Biodiversity

Source: Network for Business Sustainability: https://nbs.net/a-simple-and-visual-definition-of-biodiversity/

Biological Resources: Includes genetic resources, organisms or parts thereof, populations or any other biotic component of ecosystems with actual or potential use or value for humanity.

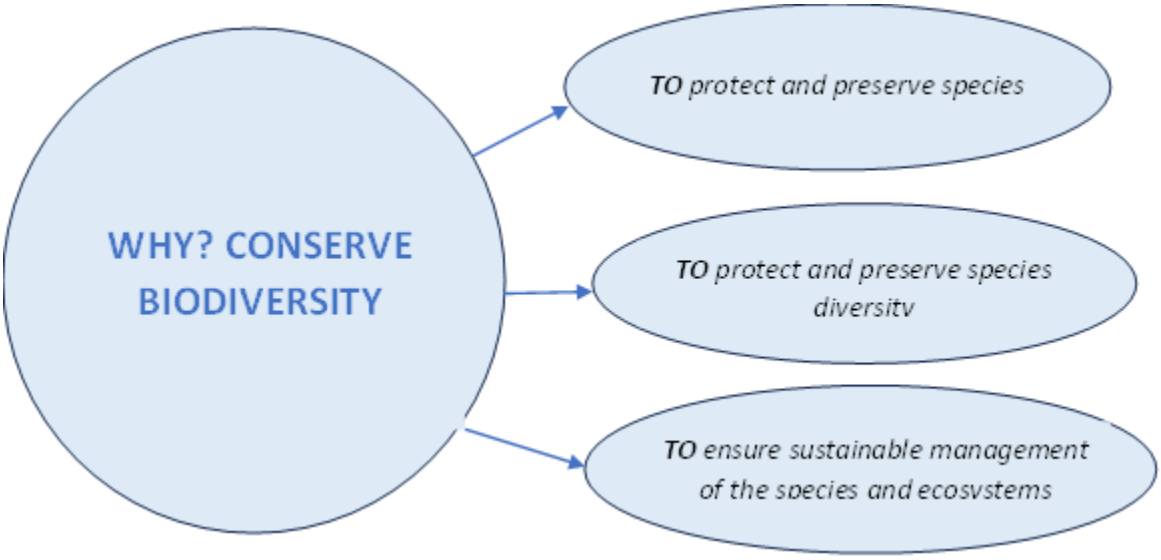
Ecosystem: Is a self-sustaining dynamic complex of plant, animal micro-organism communities and their non-living environment interacting as a functional unit

Ecosystem services: Refers to the benefits that humans freely gain from the natural environment and from proper functioning ecosystems**.**

Conservation of Biodiversity

Biodiversity conservation refers to the protection, preservation, and management of ecosystems and natural habitats and ensuring that they are healthy and functional.

Objectives of Biodiversity Conservation



Benefits of Biodiversity Conservation

Biodiversity conservation plays an important role in the quality of life of all living organisms. Healthy and good biodiversity leads to well functioning ecosystems. Healthy ecosystems provide ecosystem services categorized as provisioning, regulating, supporting, and cultural as summarized in the figure below.

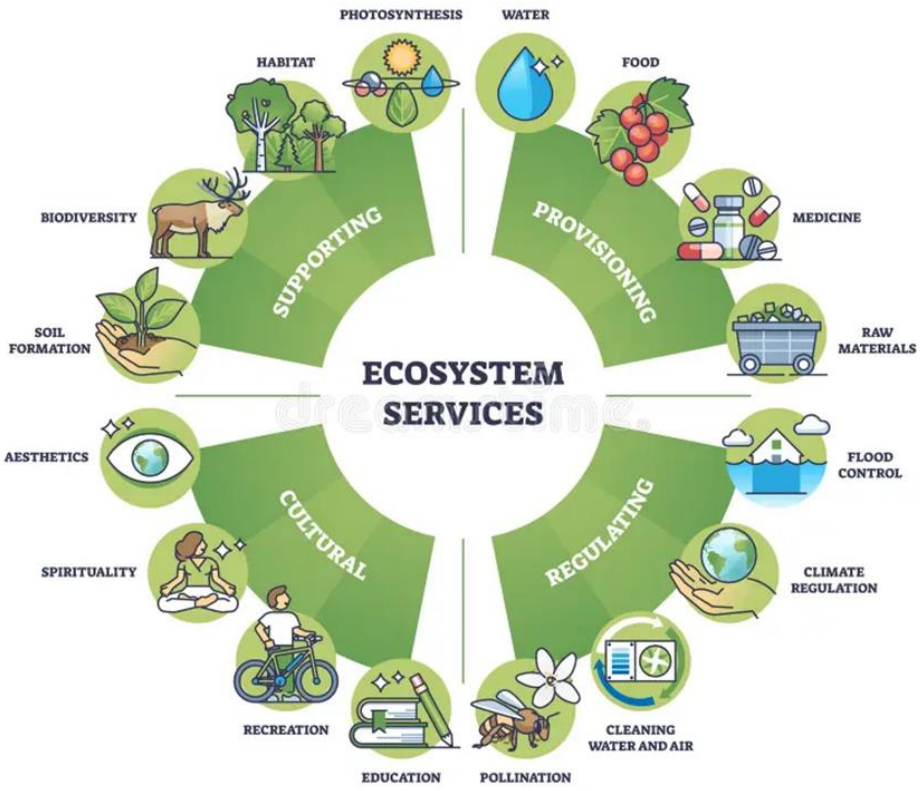


Figure 4.2: Ecosystems services

5.1.2 Causes of Biodiversity loss

Biodiversity loss is the reduction or disappearance of the variety of living beings that inhabit the planet.

Loss of biodiversity has negative impacts on the ecosystem. The loss directly impacts the ecosystem and food chains in it, affects agriculture and weakens the resistance to natural disasters like floods, drought, etc.

➢ Causes of biodiversity loss include:-

- Erosion
- Urbanization
- Industrialization
- Introduction of invasive species
- Over exploitation of plant and animal species
- Pollution of soil, water and atmosphere

- Global climate change
- Population pressure
- Unplanned development
- Economic systems and polices that fail to value the environment and its resources
- Some agricultural and forestry practices (replacing indigenous breeds and crop varieties with cross-breeds and exotics which replaces diversity with uniformity and simplicity).
- Unsustainable natural resource consumption

5.1.3 Biodiversity Conservation Methods

Two types of methods are employed to conserve biodiversity. They are;

- In situ conservation
- Ex-situ conservation.

In situ conservation: Refers to the preservation and protection of species in their natural habitat. It means the conservation of genetic resources in natural populations of plant or animal species. In situ conservation involves the management of biodiversity in the same area where it is found

Examples In-situ Conservation Methods include: national parks, wildlife sanctuaries, forest reserves, and sacred groves.

Ex-situ conservation: Means conservation of life outside their natural habitat or place of occurrence. It is the method in which part of the population or the entire endangered species is taken from its natural habitat which is threatened and breeding and maintaining of these species take place in artificial ecosystems

Examples Ex situ Conservation Methods include: zoos, nurseries, botanical gardens, and gene banks

Strategies for Biodiversity Conservation

Important strategies for biodiversity conservation include:

- Conservation and protection of natural habitats- Gazettement, enforcement, forming laws and policies
- Sustainable and efficient utilization use of biological resources

- Conservation of all food varieties, timber plants, livestock, microbes, and agricultural animals
- Identification and conservation of all the economically important organisms
- Preservation of unique ecosystems
- Prevention of poaching and hunting
- Development of the reserves and protected areas
- Reduction in the levels of pollution
- Strict adherence to environmental laws
- Conservation of useful and endangered species of plants and animals
- Enhancing education and awareness in biodiversity conservation
- Control of alien invasive species
- Domestication/propagation of threatened species
- Enhancing knowledge through research and biodiversity surveys and inventories
- Promoting alternatives to forest based products for communities
- Enhancing Community participation and goodwill for conservation
- Use of traditional knowledge, beliefs and values in conservation

Key Message:

Biodiversity conservation is crucial for maintaining healthy ecosystems that provide essential services and improve quality of life. Conservation efforts must focus on both in-situ and ex-situ methods, along with sustainable utilization, education, and community involvement.

5.2 Agroforestry and Sustainable Harvesting

Participatory Guide: This activity should be carried out in a field setup to allow for demonstration and practical sessions with the participants. Exchange visits and fields should be planned to promote exposure and knowledge sharing.

Training Notes

5.2.1 Definition of Agroforestry

- The practice of deliberately integrating woody vegetation (trees or shrubs) with crop and/or animal systems to benefit from the resulting ecological and economic interactions. The benefits include; improving farm yields, increasing farm incomes, and contributing to soil and water conservation.
- Simply defined as 'farming with trees/Shrubs'.

Any sustainable land-use system that maintains or increases total yield combining food crops (annuals) with tree crops (Perennials) and /or livestock on the same unit of land, either alternatingly or at the same time using management practices that suit the social and cultural characteristics of the local people, the economic and ecological conditions of the area.

5.2.2 Types of agroforestry practices

Among the agroforestry systems used worldwide are improved fallows; alley cropping; growing multipurpose trees and shrubs in farmlands; boundary planting; farm woodlots; orchards and tree gardens; tree plantations; shelterbelts; windbreaks; Alley farming or Hedgerow intercropping ,conservation hedges; fodder banks; live fences; silvopastoral systems; and apiculture with trees.

Five main types of agroforestry practices are:

(i) **Agro-silvicultural**: the combination of trees and crops.

(ii) **Silvo pastoral**: the combination of trees and livestock

(iii) **Agro-silvo pastoral**: systems that integrate crops, livestock, and trees;

(iv) **Entomo-silvicultural:** systems that integrate insects and trees (including specialized systems such as apiculture (trees and bees) and sericulture (silkworms and trees) ;

(v) **Aqua-silvicultural**: systems that integrate fish and trees

Intercropping Grevillea and Maize; a common scenario in Taita hills and Shimba hills (Photo credit: Nadir/KEFRI)

Mixed intercropping system with *Grevillea robusta*, bananas, cassava and hay in Wundanyi (Agrisilvopastoral system). Photo: KEFRI	Green gram production under scattered Melia volkensii trees in Kasigau (*Agrisilvicultural system*) Photo: KEFRI

Agroforestry systems in Kwale and Taita

Tree/Shrub Species Selection

- Choose tree species suitable for the local climate, soil type, and market demand.
- Consider the specific needs of crops and livestock when selecting companion species.
- Preferably, use native species to enhance ecological resilience and support local biodiversity
- **Economic Considerations**Conduct cost-benefit analysis to assess the economic viability of agroforestry practices.
- Explore markets for tree products, such as timber, fruits, nuts, and medicinal plants.
- Seek opportunities for value addition through processing and marketing of agroforestry products to enhance profitability.

Benefits of Agroforestry

Economic benefits

- Increases or maintains farming production and productivity
- Reduces agricultural inputs and costs
- Diversifies production using trees or woody perennials
- Opportunities creation for small-scale forest-based enterprises and help reduce rural poverty by increasing on-farm production, household income, and employment opportunities

Social benefits

- Health and nutrition improvement as a result of increase in production, productivity and product diversity.
- The on-farm production of fuel, fodder and other tree products, otherwise collected from off-farm sources, can reduce the time and effort needed to obtain them (often lessening the burden on women) or save money if the products would otherwise be purchased.
- Traditional agroforestry practices can help maintain social bonds established through mutual-help arrangements (e.g. in the case of shifting cultivation).

Environmental benefits

Agroforestry systems can provide a range of environmental services such as;

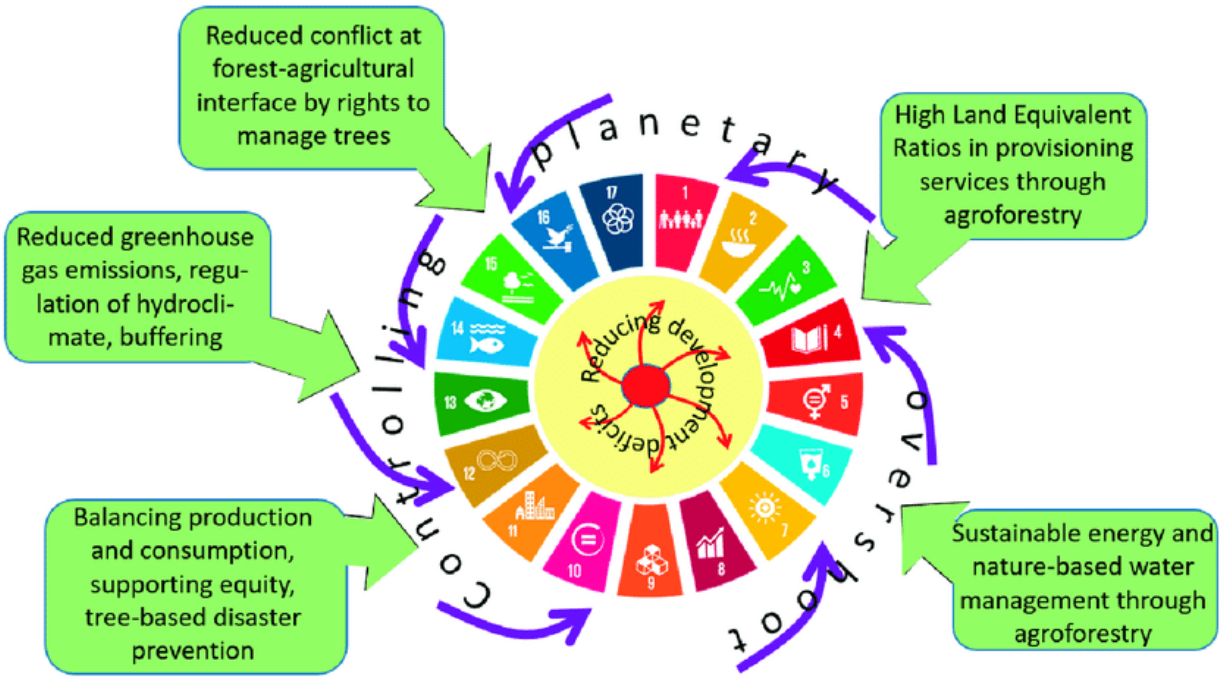
- Improve soil fertility
- Protect crops and livestock from wind
- Restore degraded lands
- Improve water conservation, limit pests and prevent soil erosion.
- Reduction of pressure on public forest resources

If properly designed and managed, agroforestry systems can contribute to biodiversity conservation and climate-change adaptation and mitigation through;

- Provision of ecosystem services.
- Non wood products value chains (livestock fodder; fruits and nuts; gums and resins; medicinal products; and honey).
- Timber and biomass fuels (charcoal and fuelwood).
- Tree establishment systems – seed and seedlings production systems.
- It improves agricultural land use while providing lasting benefits and alleviating adverse environmental effects at local and global levels.
- It reduces emissions from deforestation and forest degradation;
- It promotes sustainable forest management, environmental conservation and sustainability.

Agroforestry and Sustainable Development Goals (SDGs)

Agro-forestry plays a role in contributing to the achievement of Sustainable Development Goals (SDGs). Out of the 15 goals, Agroforestry directly contributes to five including, SDG 1. No Poverty, SDG 2. Zero Hunger, SDG 12. Responsible Consumption and Production, SDG 13. Climate Action, SDG 15. Life on Land.



Source: (Van & Meine., 2021)

5.3 Sustainable Harvesting

Sustainable harvesting is important in agroforestry to allow for the extraction of products from trees and crops in a way that maintains ecosystem health, biodiversity, and productivity over the long term.

To achieve sustainability in agroforestry the following practices should be adopted;

1. **Selective harvesting**: Undertake selective harvesting of trees and crops. This ensures that enough vegetation remains to support soil health, water retention. Selective harvesting techniques include

- **Pruning**-removal of branches from the lower part of the tree crown. Branches cut near the stem. The objective of pruning is reduction of shade for crops near the tree, Improving the quality of the trunk, mainly for timber and poles and early harvest of branch wood for fuel or other use.

- **Lopping**-Lopping is distinguished from pruning in that branches are not cut from the base. Also lopping is not always done starting from the lower part of the tree but can be more haphazard. Lopping is usually done to obtain branches for fodder. This technique allows harvest without killing the tree.
- **Pollarding -** all the branches and the top part of a tree are cut off in order to promote vigorous multi stem regrowth for sustained fodder and fuelwood harvesting.
- **Coppicing**-is the utilization of regeneration after the whole tree has been cut. It Promotes continuous tree-growth for fuel, building materials, food and fodder without the need for frequent and costly replanting.

Table 4.1: Tree management practices

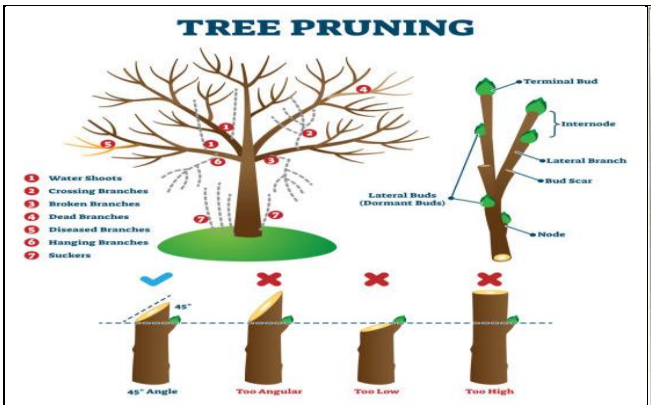


Image A: Illustration of Tree Pruning

Image B: Lopping illustration

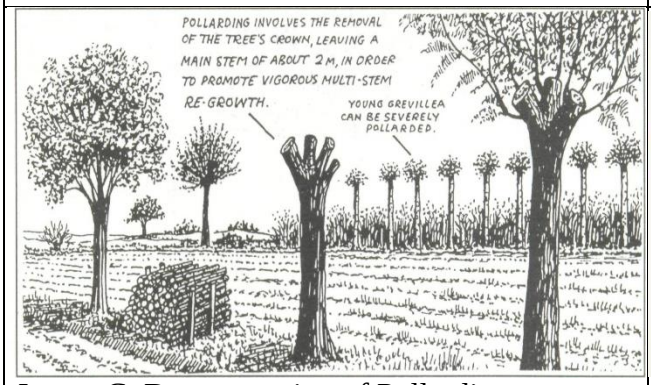


Image C: Demonstration of Pollarding

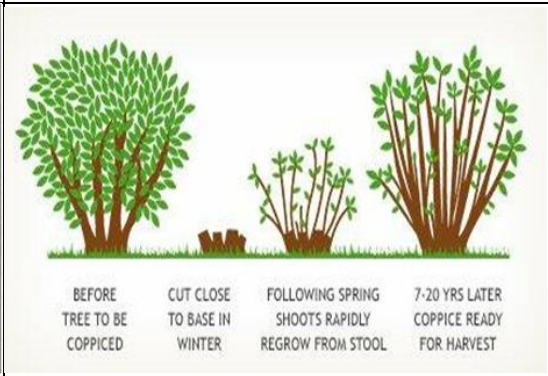


Image D: Regeneration by Coppicing

2. **Rotation and Regeneration**: Implement crop/tree rotation cycles for harvesting to ensure that certain areas are not continuously exploited. This allows time for natural regeneration of trees and replenishment of nutrients in the soil.

3. **Integrated Pest Management**: Utilize natural pest control methods such as intercropping with pest-repellent plants or encourage natural predators to help minimize the need for chemical pesticides, promoting long-term ecosystem balance.

4. **Value Addition and Economic Diversification**: Explore value-added processing of harvested products to reduce the dependency on primary raw materials. Encourage economic diversification to reduce pressure on specific crop/tree species.

Key Message: Agroforestry integrates trees with crops and livestock to create sustainable land-use systems that improve yields, enhance biodiversity, and provide economic, social, and environmental benefits. Sustainable harvesting ensures long-term productivity and ecosystem health.

5.4 Nature-Based Solutions in Forest Management

Participatory guide: Introduce the concept and put the participants into groups to identify the NbS practices adopted in their localities. Each group to make a presentation.

Training Notes

5.4.1 Definition of Concepts

- **Nature-based solutions (NbS)** is environmental and nature conservation concept, which uses ecosystems and ecosystem services to address social, economic, and environmental challenges effectively and adaptively.
- The concept addresses the challenges simultaneously with provision for human well-being, ecosystem services, resilience and biodiversity benefits.

- Societal challenges include climate change, food insecurity, water insecurity, natural disasters, risks for human health, economic and social regression and decline, disaster risk, ecosystem degradation, and biodiversity loss.

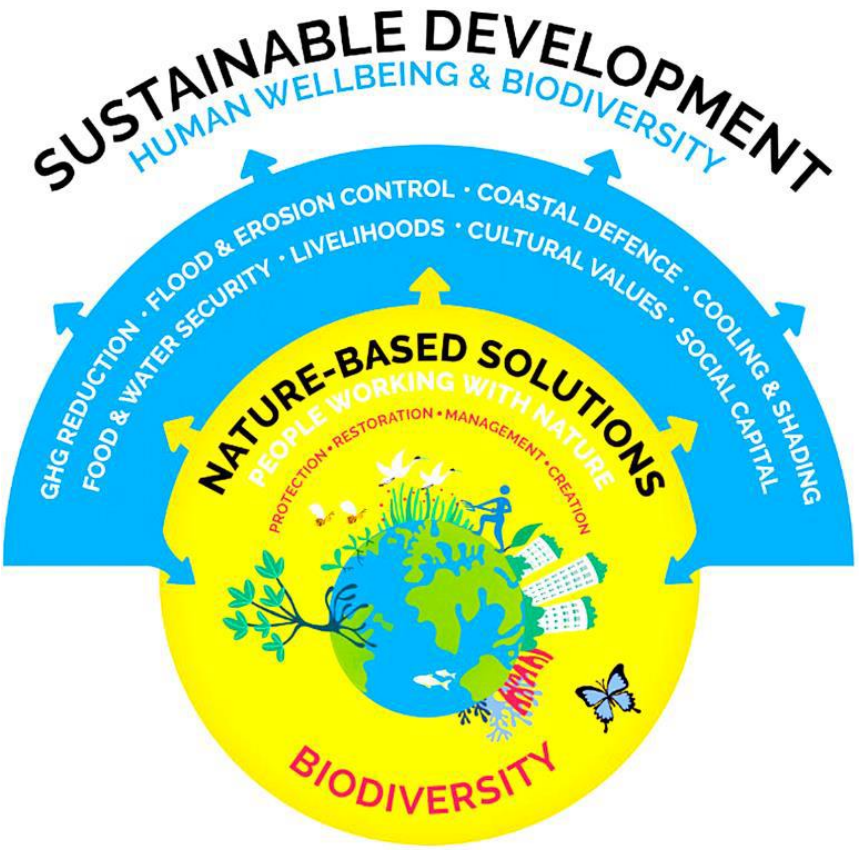


Figure 4.3: The concept of Nature-based Solutions

- A central feature of NbS is that they can deliver a range of positive outcomes or "co-benefits" alongside their intended outcomes. For example, terraces of trees and fodder crops intended to control soil erosion over steep hillsides also build resilience to landslides, sequester carbon and help increase agricultural productivity.

- A subset of nature-based solutions, called ***"natural climate solutions,"*** are expressly aimed at addressing climate change, either by avoiding or reducing emissions or by removing and storing carbon from the atmosphere. One example would be a forest restoration project that improves the soil quality and tree cover to increase greenhouse gas sequestration.

Natural climate solutions can also provide adaptation benefits given their focus on conservation, restoration and improved land management; however, their primary focus historically has been on mitigation.

- These solutions prioritize the restoration and conservation of natural habitats, such as forests, wetlands, and grasslands, to achieve multiple benefits for both people and the environment.

5.4.2 Principles of NbS in Forest Management

- **Ecosystem-based Approach**: Emphasizes the interconnectedness of natural systems and promotes management strategies that mimic natural processes.
- **Biodiversity Conservation**: Prioritizes the protection and enhancement of biodiversity within forest ecosystems, recognizing its essential value and role in ecosystem functioning.
- **Climate Resilience**: Focuses on enhancing the ability of forests to withstand and adapt to climate change impacts through measures such as diverse species composition and habitat restoration.
- **Carbon Sequestration**: Recognizes the crucial role of forests in sequestering carbon dioxide from the atmosphere and aims to maximize carbon storage through sustainable management practices.
- **Water Resource Management**: Highlights the importance of forests in regulating water cycles, maintaining water quality, and reducing the risk of floods and droughts.
- **Community Engagement**: Involves local communities in decision-making processes, ensuring that forest management strategies align with their needs and priorities while fostering stewardship and sustainable livelihoods.
- **Adaptive Management**: Emphasizes flexibility and learning, allowing for adjustments in management practices based on monitoring, research, and changing environmental conditions.
- **Land-Use Planning**: Integrates forest management objectives with broader land-use planning processes to minimize conflicts and optimize the delivery of ecosystem services.

- **Respect for Indigenous Knowledge**: Recognizes the traditional ecological knowledge of Indigenous peoples and incorporates their perspectives and practices into forest management approaches.

5.4.3 Techniques and practices of NbS in Forest Management

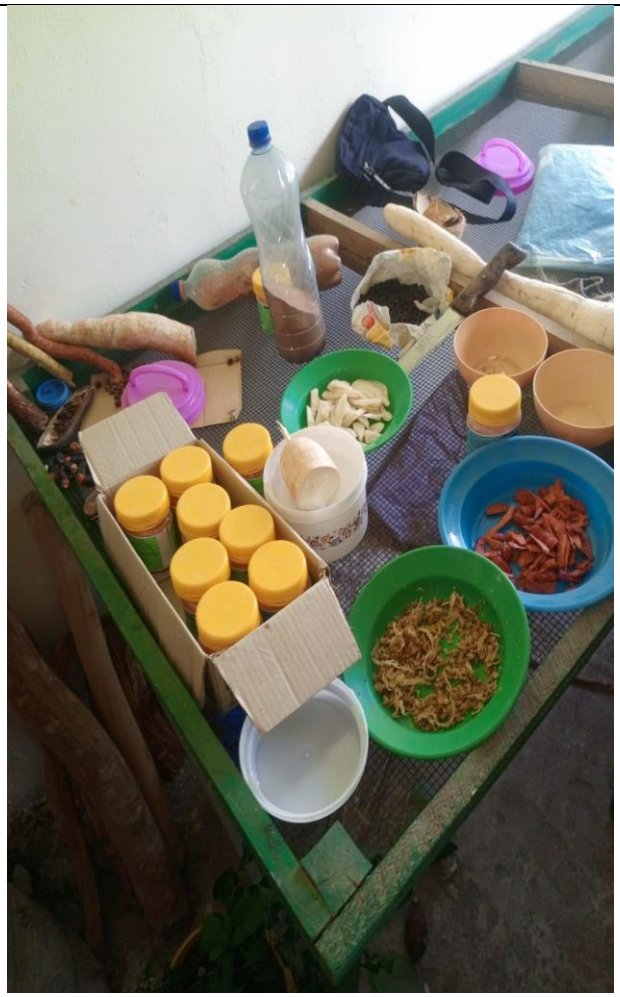
1. **Tree Nurseries:** Cultivating seedlings of suitable species for rehabilitation of degraded areas and for sale.
2. **Agroforestry**: Integrating trees and other woody plants into agricultural landscapes to enhance resilience to climate change, improve soil health, and provide additional income sources for farmers.
3. **Payment for Ecosystem Services (PES)**: These are schemes where landowner/communities are compensated for conserving forests and providing ecosystem services like carbon sequestration and watershed protection.
4. **Conservation agriculture:** This sustainable farming approach aims to protect and improve the environment while maintaining or increasing crop yields. It involves three main principles: ***minimal tillage, permanent soil cover, and diversified crop rotations or intercropping.*** By reducing tillage, using cover crops, and rotating crops, conservation agriculture promotes soil health, enhances water retention, reduces erosion, and minimizes the need for synthetic inputs like pesticides and fertilizers. This approach prioritizes long-term soil fertility and ecosystem resilience, making it a valuable strategy for sustainable food production in the face of climate change and environmental degradation.
5. **Ecotourism**: Ecotourism involves responsible travel to natural areas that conserve the environment and improve the well-being of local people. By engaging visitors with the beauty and significance of untouched landscapes, it fosters an appreciation for biodiversity and the need for its preservation. Through carefully managed activities, ecotourism not only supports local economies but also ensures the protection of fragile ecosystems, making it a vital nature-based solution for sustainable development.
6. **Permaculture:** It is an approach to designing agricultural systems that mimic natural ecosystems, emphasizing principles such as working with nature rather than against it, observing and learning from natural patterns, and promoting biodiversity and sustainability.

Permaculture aims to create resilient and regenerative systems that provide for human needs while enhancing the health of the environment.

7. **Biogas:** Biogas is produced through the anaerobic digestion of organic matter such as agricultural waste, animal manure, sewage, and food scraps. This process relies on naturally occurring bacteria to break down the organic material and produce methane gas, which can be captured and used as a renewable energy source.
8. Biogas use is a NbS because it reduces greenhouse gas emissions by capturing methane, which is a potent greenhouse gas, and displaces fossil fuels when used for heating, electricity generation, or transportation. Additionally, the digestion process produces nutrient-rich digestate, which can be used as a fertilizer, thus closing nutrient cycles in agricultural systems. It therefore represents a nature-based solution that can contribute to mitigating climate change, improving resource efficiency, and promoting sustainable development.
9. **Beekeeping**: It involves managing and maintaining colonies of honeybees for various purposes, such as pollination, honey production, and other hive products like beeswax and royal jelly. Beekeeping supports biodiversity by aiding in the pollination of plants, which is crucial for the reproduction of many flowering crops and wild plants. It also promotes environmental conservation by providing habitat for bees and encouraging the preservation of natural ecosystems. Beekeeping can contribute to sustainable agriculture and rural livelihoods, making it a multifaceted nature-based solution with numerous benefits for both ecosystems and communities.
10. **Harvesting Non-timber Forest Products**: harvesting NTFPs in a sustainable manner, can provide livelihood opportunities for local communities, promote biodiversity conservation, and contribute to ecosystem resilience. However, it is essential to ensure that NTFP harvesting practices are carried out sustainably to avoid negative impacts on ecosystems

Key Message: Nature-based Solutions (NbS) in forest management leverage natural processes and ecosystems to address environmental and societal challenges, providing co-benefits such as biodiversity conservation, climate resilience, and improved livelihoods. Sustainable practices like agroforestry, Payments for Ecosystem Survives (PES), and conservation agriculture enhance ecosystem health and productivity.

Table 4.2: Examples of Nature-based solutions (NbS)/activities in coastal Kenya

 Butterfly farming/Silk worm harvesting	 Herbal products from forests/trees
 Commercial tree nursery	

5.4.4 Facilitate linkages between groups and government agencies for technical training on NbS/forest based IGAs

Participatory Guide: In an open forum discussion before the training session, let the participants discuss government and Non-government agencies they have worked with previously and the level of interaction with regards to NbS.

Training Notes

Linkages between community and government agencies help the community organizations keep up with advances in nature-based solutions, and give access to wide-ranging sources of up-to-date information within each area of NbS adopted.

Table 4.3: Sources of technical information on Nature based activities in Kenya

Nature based Solution	Possible agencies to offer technical training
Tree nursery	KFS, KEFRI, County Government
Agroforestry	KEFRI, KFS, County Government
Payment for Ecosystem Services (PES)	KFS, KEFRI, WRA, NEMA, NETFUND, County Government
Conservation agriculture	KALRO, Agricultural Information Resource Center, County government
Ecotourism	KWS, KFS, Kenya Tourism Board (KTB), Tourism Finance Corporation (TFC), Tourism Fund, The Brand Kenya Board, Tourism Research Institute.
Permaculture	Min of Agriculture, KEFRI, NGOs
Use of Biogas	Ministry of Energy
Beekeeping	State Department for Livestock, KALRO, Kenya Beekeepers Association, County Government
Harvesting Non-timber Forest Products	KFS, KEFRI, County Government
Aquaculture	Kenya Fisheries Service(KeFS), KMFRI, County Government
Woodlots	KFS, KEFRI, County Government

5.5 Accessing Markets and Value Chains

Participatory Guide: At the end of the session in a group setup, participants to identify potential market strategies they can adopt.

Training Notes

Definition of terms and concepts

Markets:

- A market refers to the exchange mechanism where buyers and sellers interact to trade goods, services, or resources.
- Markets can be physical locations, such as a marketplace or a shopping mall, or they can be virtual, like online platforms.
- Markets can exist for various types of goods and services, including consumer goods, financial assets, labor, and more.
- In a market, prices are determined through the interaction of supply and demand forces.
- In the context of community, markets are where products from the community, like timber or non-timber forest products, are sold to buyers.
- Understanding markets helps to know who might want to buy products, what they are willing to pay, and how to get the products to them effectively.

Value chains:

- A value chain is the series of activities that undertaken to deliver a product or service from its conception to its final delivery to the customer.
- It encompasses all the processes involved in designing, producing, marketing, and distributing a product or service.
- A value chain includes both primary activities (such as production, marketing, and distribution) and support activities (such as procurement, research and development, and human resource management).
- Each activity in the value chain contributes to the overall value of the final product or service.

Components of a Value Chain

A business's activities can be split into two categories, "primary" and "support," whose sample activities we list below. Specific activities in each category will vary according to the industry.

Primary Activities

Primary activities consist of five components, and all are essential for adding value and creating competitive advantage:

1. **Inbound logistics** include functions like receiving, warehousing, and managing inventory.
2. **Operations** include procedures for converting raw materials into a finished product.
3. **Outbound logistics** include activities to distribute a final product to a consumer.
4. **Marketing and sales** include strategies to enhance visibility and target appropriate customers—such as advertising, promotion, and pricing.
5. **Service** includes programs to maintain products and enhance the consumer experience—like customer service, maintenance, repair, refund, and exchange.

Support Activities

The role of support activities is to help make the primary activities become more efficient. When you increase the efficiency of any of the four support activities, it benefits at least one of the five primary activities. These support activities are generally denoted as overhead costs on a company's income statement:

1) **Procurement** concerns how a company obtains raw materials.
2) **Technological development** is used at a firm's research and development (R&D) stage—like designing and developing manufacturing techniques and automating processes.
3) **Human resources (HR) management** involves hiring and retaining employees who will fulfill the firm's business strategy and help design, market, and sell the product.
4) **Infrastructure** includes company systems and the composition of its management team—such as planning, accounting, finance, and quality control.

What is the interconnection between markets and value chains?

Market signals such as price fluctuations, consumer preferences, and competition directly influence decisions made along the value chain, from sourcing raw materials to distribution and marketing.

Conversely, the efficiency and effectiveness of value chain activities impact market competitiveness, pricing, and ultimately consumer satisfaction.

Significance of accessing markets and value chains for community development and economic growth

1. **Economic Growth-**By connecting local producers and businesses to broader markets and value chains, communities can expand their economic opportunities. This expansion often leads to increased production, sales, and profits, driving overall economic growth.
2. **Income Generation-**Access to markets allows community members, especially small-scale producers and entrepreneurs, to sell their goods and services at fair prices. This generates income that can be reinvested in local businesses, education, healthcare, and infrastructure, thereby lifting people out of poverty.
3. **Diversification-** Participating in value chains enables communities to diversify their economic activities. Rather than relying solely on traditional sectors, such as agriculture or tourism, they can explore new industries and markets. Diversification reduces vulnerability to economic shocks and enhances resilience.
4. **Skill Development:** Engaging with markets and value chains necessitates acquiring new skills and knowledge. This can include product development, marketing strategies, quality control measures, and compliance with international standards. As community members acquire these skills, they become more competitive in the global marketplace.
5. **Technology Transfer:** Accessing markets often involves adopting new technologies and innovations to improve productivity and efficiency. This technology transfer can have spillover effects, benefiting other sectors and industries within the community. For example, advancements in agricultural techniques can enhance food security and increase yields.
6. **Infrastructure Development:** To participate effectively in markets and value chains, communities need adequate infrastructure, such as transportation networks, telecommunications, energy systems, and storage facilities. Investing in such infrastructure not only facilitates market access but also stimulates economic activity and improves living standards.
7. **Social Development:** Access to markets can empower marginalized groups, such as women, youth, and indigenous communities, by providing them with economic opportunities and a

platform to voice their concerns. This can lead to greater social inclusion, reduced inequalities, and enhanced community cohesion.

8. **Environmental Sustainability:** Participating in sustainable value chains can promote environmental stewardship and conservation efforts. By adopting eco-friendly practices and adhering to sustainability standards, communities can mitigate their ecological footprint and preserve natural resources for future generations.

Strategies for accessing markets by the CFA

1. **Direct Selling-**selling products directly to customers, like setting up a stall in a market or going door-to-door.
2. **Online Selling-**Using the internet to sell products through websites or social media platforms. It is like having a virtual shop.
3. **Wholesale**: Selling products in large quantities to retailers who then sell them to customers. It is like selling a bunch of items to a shop instead of one at a time.
4. **Partnerships**: Working with other businesses to sell products together. It is like teaming up with a friend to sell both your products in one place.
5. **Distribution Channels**: Using intermediaries like distributors or agents to sell products. It is like having someone else help you reach customers in different areas.
6. **Advertising and Promotion**: Using ads, flyers, or promotions to let people know about your products. It is like spreading the word so more people want to buy from you.
7. **Market Research**: Learning about what customers want and need, so you can tailor your products and marketing to meet those needs. It is like understanding what people like so you can give it to them.

Value chain analysis

Value chain analysis is a strategic management tool used to identify and analyze the activities within an organization that add value to its final product or service. The value chain consists of primary activities, which are directly involved in the creation and delivery of the product or service, and support activities, which facilitate the efficiency and effectiveness of the primary activities. Value chain analysis helps an organization to understand where it can create a competitive advantage and improve efficiency by optimizing these activities. It also provides insights into cost

drivers and opportunities for cost reduction, as well as areas where differentiation can be achieved to create value for customers.

In the context of community industries, the following steps can be followed to undertake value chain analysis

- Identify stakeholders-Recognize all individuals, organizations, and entities involved in a particular activity.
- Map the value chain-Outline the sequence of activities and interactions that occur within the community, from resource acquisition to final consumption.
- Assess activities-Evaluate each step in the value chain to determine its efficiency, effectiveness, and contribution to overall value creation.
- Identify strengths and weaknesses-Identify areas where the community excels and where it faces challenges or inefficiencies.
- Seek opportunities for improvement-Look for ways to optimize processes, reduce costs, enhance quality, and increase value for community members.
- Foster collaboration-Encourage cooperation and collaboration among community members to improve the overall value chain.
- Promote innovation-Explore new technologies, practices, or approaches to enhance value creation and sustainability within the community.
- Monitor and adapt-Continuously monitor the value chain, gather feedback, and make adjustments to ensure ongoing improvement and adaptation to changing circumstances.

Building Sustainable Partnerships within Value Chains

Building sustainable partnerships within value chains is crucial for businesses aiming to create long-term economic, social, and environmental value. Some key points to consider here include:

Collaboration: Encouraging collaboration among different stakeholders within the value chain, including suppliers, manufacturers, distributors, and retailers, fosters innovation and efficiency.

Shared Goals and Values: Aligning partners around shared goals and values, such as environmental stewardship, fair labor practices, and community engagement, helps build trust and commitment.

Transparency and Communication: Open communication and transparency regarding processes, performance, and challenges are essential for building strong partnerships and addressing issues effectively.

Risk Management: Collaborating closely with partners can help identify and mitigate risks throughout the value chain, such as supply chain disruptions, regulatory changes, and reputational risks.

Innovation and Continuous Improvement: Partn ering with stakeholders can drive innovation and continuous improvement by sharing knowledge, expertise, and resources to develop more sustainable products, processes, and business models.

Value Sharing: Ensuring that value created within the chain is fairly distributed among all partners encourages mutual benefit and long-term commitment to the partnership.

Adaptability: Recognizing the dynamic nature of value chains and being adaptable to changing market conditions, consumer preferences, and regulatory requirements is essential for maintaining sustainable partnerships.

Measurement and Evaluation: Establishing key performance indicators (KPIs), regularly measuring, and evaluating the impact of partnership activities on economic, social, and environmental outcomes helps track progress and identify areas for improvement.

Engagement with Stakeholders: Engaging with a wide range of stakeholders, including local communities, NGOs, governments, and industry associations, can help build support for sustainable partnerships and address broader societal challenges.

Key Message: Accessing markets and integrating into value chains are crucial for community development, economic growth, and sustainability. Effective strategies include direct selling, online selling, and building sustainable partnerships. Value chain analysis helps optimize activities and improve market competitiveness.

5.6 Wildfire Management: Incorporating Traditional Knowledge and Practices

Participatory Guide: Introduce the concept and ask participants of their previous involvement in wildfire management practices.

Training Notes

Definition of concepts

1 Traditional knowledge- implies established and respected social processes of learning and sharing knowledge that is unique to each indigenous culture. Traditional knowledge/ indigenous knowledge/ folk knowledge refers to what local people know about the natural environment

2 Scientific knowledge refers to information derived from research

3 Traditional people/ indigenous people refers to residents of a defined region who have gained their ecological knowledge from empirical observation of nature and from communication with other people of their culture

4 Traditional resources- are tangible and intangible assets and attributes deemed to be of value to indigenous and local communities including spiritual, aesthetic, cultural and economic assets.

5 Wildfire/ bush fire/ forest fire/ wildland fire – is unplanned, uncontrolled and unpredictable fire in an area of combustible vegetation.

Causes of wildfires

- Natural occurrences such as a lightning strike or human activities such as arson, honey harvesting, burning to promote fodder grass growth and debris burning..
- The intensity of wildfires depend on weather conditions such as wind, high temperatures, little rainfall and on topography.

Traditional control of wildfires

There are different measures of control of wild fires:

Preventive measures include:

- Ritual prayers during drought and drier periods,
- Enhancing early warning and detection signals by allocating lands close to the wildfire prone areas to trusted community members so they can also keep watch and patrol,

- Having a firebreak or corridor around grass thatched houses in forested dwellings like in the kayas and farmlands
- Starting small controlled fires and extinguishing them,
- Prohibition of slush and burn practices
- Prohibition of use of petroleum based fuels such as kerosene, petrol in sensitive vegetation areas

Fire control measures

- Mobilizing communities to help put extinguish the fire
- Use of water, soil, green branches to put off the fire
- Evacuating animals, people and property from risky shelters

Benefits of traditional wildfire prevention methods

- Proven effectiveness- traditional wildfire prevention methods have been used for decades and have demonstrated their effectiveness in reducing the occurrence and severity of wildfires
- Simplicity and ease of implementation – many traditional wildfire prevention techniques such as creating firebreaks or conducting controlled burns are relatively simple to implement and do not require advanced technology or specialized expertise
- Low tech solutions- traditional methods often rely on low tech solutions that may be accessible and affordable for communities and organizations with limited resources
- Ecological benefits- some traditional methods like controlled burns can have ecological benefits such as promoting the growth of native plant species and maintaining healthy ecosystems.

MODULE FIVE: TREE NURSERY OPERATIONS

6.0 Introduction to the Module

The purpose of this module is to empower trainees with the knowledge and skills necessary to establish and manage tree nurseries effectively. This module aims to educate participants on techniques for propagating, caring for, and maintaining tree seedlings. By providing training on nursery operations, communities can enhance their capacity for tree planting initiatives, promote environmental conservation, livelihood enhancement, and contribute to sustainable development goals such as reforestation, biodiversity conservation, and climate change mitigation.

Module Summary and Facilitators guides

	Activity	Audience	Duration	Methodology /Facilitation	Learning Objectives	Learning Outcomes	Input needed
6.1	Tree nursery background	Both male and female participants	30 min	Lecture/ -Peer to peer learning	To enable the participants to understand a nursery and clearly define factors to consider when sitting in a tree nursery.	Participants will define a tree nursery, identify and describe types of tree nurseries, enumerate factors affecting nursery siting, and tree nursery tools and equipment	Training guide, Flip charts, marker Pens, Venue and logistics
6.2	Tree nursery establishment	Both male and female participants	90 min	Practical Lecture/ -Peer to peer learning	To equip learners with the knowledge and technical capacity to	Participants will understand site preparation techniques, the	Training guide Flip charts Marker pens

					establish sustainable tree nurseries.	development of a nursery calendar, different tree nursery designs, and methods for seedbed preparation. n	Venue and Logistics Projector
6.3	Tree nursery management	Both male and female participants	90 min	Lecture/ Presentations from participants	To enable participants to develop a deeper understanding of standard operating procedures (SOPs) and best practices in tree nursery management	Participants will have an understanding of appropriate procedures for handling seeds, various methods for seed pretreatment, techniques for sowing, pricking out, and shading.	Training guide Flip charts Marker pens Venue and logistics
6.4	Tending of seedlings	Both male and female participants	90 min	Group work -Presentations from participants	To equip the participants with the right knowledge of different nursery operations	Participants will acquire knowledge about various nursery tending operations, encompassing	Training guide Flip charts Marker pens Venue and logistics

					leading to high-quality seedling production	watering, weeding, root pruning, hardening off, and seedling protection.	
6.5	Vegetative propagation	Both male and female participants	30 min	Group work Lecture/ Presentations from participants	To help the learners	Participants will acquire knowledge about vegetative propagation technologies that can be applicable in their locality	Training guide Flip charts Marker pens Venue and logistics
6.6	Tree nursery records	Both male and female participants	45 min	Lecture/ Discussions	To help the participants understand and appreciate the importance of records-keeping in nursery establishment and management	Participants will acquire knowledge about nursery records and comprehend their importance in effectively managing nurseries	Training guide Flip charts Marker pens Venue and logistics

Participatory Guide: Trainees to acquire practical knowledge and skills necessary to establish and manage tree nurseries effectively

Training Notes

6.1 What is a tree nursery?

A tree nursery is a facility where trees are grown from seeds or young saplings for various purposes such as reforestation, landscaping, conservation, or commercial sale. These nurseries provide an environment suitable to the initial growth and development of trees before they are planted out in the field.

Importance of tree nurseries

Participatory guide: Ask participants to state the importance of tree nurseries

CBT Notes

- Provide a consistent supply of seedlings
- Aid in ecosystem restoration projects and reforestation efforts
- Improve the quality of seedlings/germplasm produced for commercial forestry
- Contribute to biodiversity conservation
- Facilitate research and development in forestry
- Flexibility in raising seedlings of desired tree species and in required numbers
- Serves as a NbS Income generation Activity.
- Versatility in selecting the timing for planting.

6.1.1 Types of tree nurseries

i. Temporary tree nurseries: These are designed for short-term use, typically lasting a season or two, or perhaps up to a year or two.

ii. Permanent tree nurseries: These are intended for long-term service, sustaining operations over extended periods. They nurture seedlings continuously from one year to the next.

Factors to consider when deciding on the type of nursery

- The quantity of plants needed
- The duration over which the demand is expected to persist
- Land ownership or Agreement
- The accessibility of market and transportation options

Table 5.1: Types/examples of tree nurseries

A private commercial nursey	Research and Commercial tree nursery
Bamboo propagation	Community tree nursey

Typical examples of tree nurseries in Coastal Kenya

6.1.2 Tree nursery tools/equipment

Participatory guide: Form three groups and let them discuss nursery tools and equipment. Each group to present their findings

CBT Notes

a. **Tools for Nursery Preparation:**
   - Panga/Machete: Used for cutting and clearing nursery area.
   - Jembe/Hoes: Essential for digging soil.
   - Garden Fork: Needed to mix soil effectively.
   - Rake: Utilized for leveling soil and removing light debris.

Table 5.2: Tree nursery equipment/tools

Panga/Machete	Jembe/Hoe
Garden fork	Rake

b. Tools for Nursery Maintenance:

- Wheelbarrow: Used for internal transport.
- Watering Can: Essential for watering seedlings.
- Basins/Tins: Used for seed sowing.
- Knife (Pruning, Grafting): Employed for cutting and pruning roots.

Wheelbarrow	Watering can
Knife	Basins/trays

c. Tools for Potting and Planting:

- Trowel: Necessary for filling pots.
- Winnowers: Utilized for seed cleaning.
- Sieve: Used for separating seeds and other particles and for sieving soil/sand.
- Secateurs: Ideal for root pruning.
- Measuring Tape: Needed for taking measurements.
- Dibbler: Essential for making planting holes in beds and pots.

Trowel	Winnower basket	Sieve
Secateurs	Measuring tape	Dibbler

d. Irrigation and Watering Tools:

- Hose Pipes: Flexible pipes for water delivery.
- Sprayers: Containers for precise delivery of chemicals.
- Buckets: Containers for water or seed collection.

Hose pipe	Sprayer

Buckets	

e. Other Tools:

- Ropes/Strings: Used for aligning beds and edges.
- Weighing Balances: For taking measurements of solids.
- Measuring Cylinder (Syringe): Used for measuring liquids accurately.

Rope/string/twine	Weighing balance
Syringe	Graduated measuring cup

6.2 Tree Nursery Establishment

Training Notes

Site selection

Nursery site selection is an important step for nursery establishment. It determines the success and sustainability of the project. In selecting the right site for nursery establishment, the following factors must be considered;

- Reliable supply of fresh Water
- Topography or the slop of the site
- Site accessibility,
- Nearness to good soil media (Fertile and Well-drained soils are ideal),
- Market and labor availability.
- Site Security; site should be protected threats such as livestock, theft, strong winds etc.

It is recommended that the tree nursery be surrounded by a live fence/hedge as a windbreak.

Tree Nursery design and Layout: To ensure optimum seedling growth and ease of site maintenance, developing a well-designed tree nursery layout is a key consideration. A nursery layout should be simple and designed so that a series of sowing and seedling beds have existing pathways between them. Pathways between the beds should be carefully planned to facilitate ease of operations within the nursery. Some of the key considerations in designing and constructing a tree nursery include;

- Seedbed width: 1m, length varies by nursery size.
- For polythene pots/tubes: arrange 10 x 10 widthwise for easy counting and records keeping.
- Leave 0.5m width between both seedbeds and seedling beds for paths and movement.
- Orient the beds East-West for optimal shade, avoiding direct sunlight during seedling growth.

Below is an example of a well-designed nursery Layout with key facilities required.

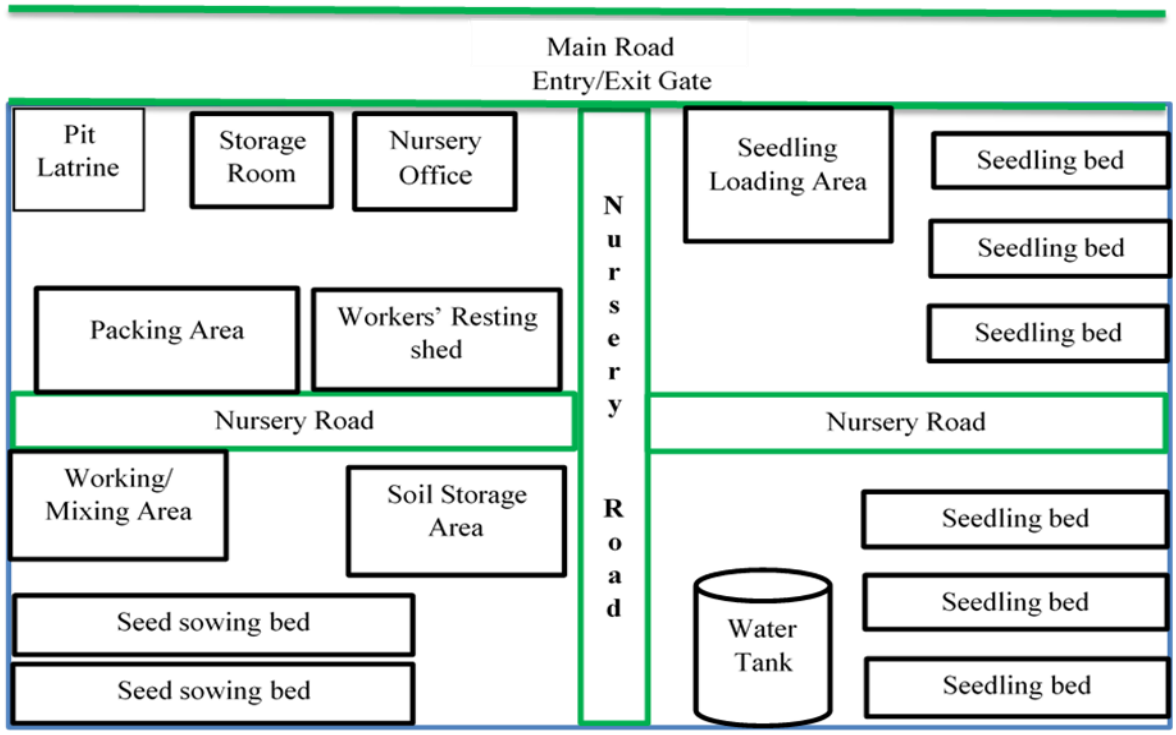


Figure 5.1: An ideal Nursery layout

Site preparation

The proposed nursery site is prepared for seedlings production using the above tools/equipment. Nonetheless, nursery operators are advised to use as much as possible locally available materials to reduce on the costs.

First, clear away all unwanted natural vegetation and eliminate stumps, while preserving select trees for shade. If the terrain is uneven, dig terraces. In the absence of a natural windbreak, plant trees to provide shade in the future. Optionally, enclose the nursery area with a fence. Once ready, do the following;

- Prepare the bed area by leveling and compacting the soil.
- Outline the beds according to desired dimensions and shapes.
- Build the beds using durable poles.
- Make the shade using locally available materials (grass, poles, ropes)
- Surround the beds with rivets made of sawn timber or poles.

Nursery calendar

Nursery calendar is an important planning tool for Nursery establishment and management. It defines all the potential activities to be undertaken at the Nursery. The nursery calendar is majorly informed by the rainfall pattern of an area. Despite this fact, different tree species may have deferring calendars as a result of differences in their germination and growth characteristics, tree species may have different production calendars. Calendar helps nursery operators in;

- Matching nursery production work with the planting out time
- Allow enough time for seedlings to reach plantable size (20-30 cm)
- Labor planning; Consideration of labor engagement with the right time of production.

The nursery calendar should provide a guide for:

a. Soil collection time (allow for 1-3 months to cure)
b. Manure collection time (allow 1-3 months to mature)
c. Soil/manure mixing time (allow 1 month before use)
d. The time seeds can be planted fresh
e. Seed procurement time
f. Timing for seedlings to reach plantable size

Table 5.3: Tree nursery calendar

Activity	**Months**											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seed sourcing												
Soil preparation												
Sowing & Pricking out												
Seedling management												
Weeding												
Inventory and sales												
Transplanting												

Soil collection and preparation

- Ideal soil for the nursery should be fertile and well-drained.
- Source soil from designated areas, such as under trees or forest soil.
- Collection Process:
  1. Choose a suitable spot as mentioned above.
  2. Clear the area of plants and debris before digging.
  3. Use a hoe/jembe to dig out the topsoil, and then sieve to get rid of unwanted material.
  4. Transport the soil to the nursery and have it stored for about two to three weeks before use. This gives room for germination of majority of the weeds carried along with the soil.
  5. Weed out all the germinated weeds
  6. Mix the sieved soil with river sand and manure at a ratio of 2:1:1.

Seedbed preparation

A seed bed is a place where seeds are sown for germination. In most occasions, seedbeds are used for raising tree species with smaller seeds such as that of Eucalyptus species. They also used to propagate seedlings that exhibits difficulties in germination. As opposed to seedling beds, seedbed are meant for sowing of seeds and tending young seedling upto the pricking out period. Depending on sites location and type of seedlings raised, some seedbeds can as well be used as seedling beds later on. Below is a brief procedure on how to prepare a seedbed;

- Dig a trench: 1m wide, 0.5m deep
- Length depends on seed quantity and available space
- Bed width: 1m for easy access
- Layering: place large stones (18-24cm) at the base, followed by small stones (15cm), then river sand
- Level the bed with a plank or rake
- Place concrete blocks, wood planks, or logs at the edge of the bed to control erosion and water flow.

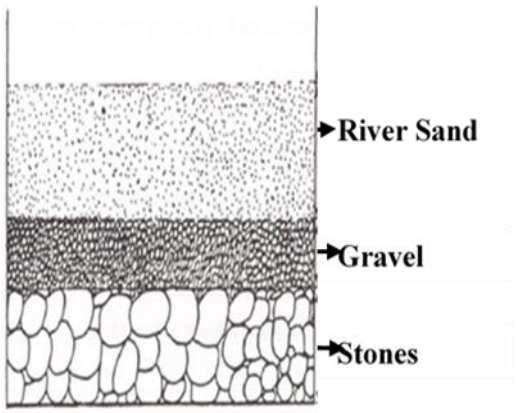


Figure 1: Layering (arrangement) of materials in a seedbed

Types of seedbeds

i. **Sunken bed-** basin like excavation of about 1 m wide by 12 cm deep in which potted seedlings are arranged. Such a structure holds the seedlings together. Sunken beds are commonly used in dry areas. They help conserve moisture.

ii. **Raised bed-** a raised structure of soil, in which the soil is held in place using materials such as poles, banana stems or timber. The width of a raised bed is 1 m by any convenient length. Such a bed can be used for raising bare root seedlings. It is mostly used in high rainfall areas.

Potting

This involves filling of polythene bags/tubes with soil for growing seedlings. It is best done under shade near a heap of mature soil. The soil should be adequately moist to flow smoothly into the pots/tubes and be easily firmed up to form the bottom of the pot/tube. Polythene tubes are ideal for raising seedlings near the final planting site, while pots are better suited for long-distance transportation.

The procedure for potting is as below;

- The pot sizes for use vary depending on the target seedling sizes, but generally, pot/tube sizes of 4*6 and 4*7 are common.
- Fill the pot/tube with soil but leave a small space at the top to avoid water pouring out without infiltrating when it is filled to the brim.

- When filling the pots/tubes with soil, ensure that the first ¾ volume has enough compaction while the last ¼ volume should only be slightly compacted.
- Ensure the soil is moist but not wet to make ball

6.3 Tree Nursery Management

Training Notes

Seed handling

Seeds at the nursery should be handled with care; otherwise, they may record a poor germination rate. Seeds are collected, cleaned, and stored in optimal conditions to maintain viability. Pre-treatment such as scarification or boiling may be necessary to break dormancy. Careful monitoring of moisture, temperature, and pests ensures healthy germination and robust seedlings.

Sources of tree seeds

- Seeds can be collected locally from healthy selected trees
- Seeds can also be acquired from institutions such as KEFRI, ICRAF, Kenya Forest Service, and authorized seed vendors operating in the locality.

Seed pre-treatment

This is done for seeds that do not germinate easily i.e. high dormancy seeds. It may involve soaking in cold or hot water overnight, slitting the seed coat, and burning depending on the seed type. The process improves the uptake of water which lessens germination period.

Table 5.4: Seed pre-treatment methods

Pretreatment method	**Examples of tree species**
Soaking in hot water	Mkelekele (*Erythrophloem suaveolens*)
Soaking in cold water	Mrihi (*Brachystegia speciformis*)
Depulping/Cracking/Slitting/Nipping/Soaking	Mkaabure (*Melia volkensii*)
Alternate soaking in cold water and sun drying for 21 days	Majani mapana/Mtiki (*Tectona grandis*)
Scarification	Mnyanza (*Gigasiphon macrosiphon*)

Practical Guide: Get different seed varieties and demonstrate the above seed pre-treatment methods.

Seed sowing

Seed sowing is the process of planting seeds. For tree seeds, a careful procedure needs to be followed to realize optimum germination and healthy seedling growth. Below are several sowing methods can be used at a tree nursery;

Broadcasting: Seeds are spread evenly onto the prepared seedbed either by hand or using a mechanical broadcaster, especially for small-sized seeds like Eucalyptus and Casuarina. To prevent overcrowding and damping off, fine seeds should be evenly mixed with sand and distributed thinly on the seedbed, ensuring proper germination by avoiding burying the seeds deep into the soil.

Drill sowing: Small seeds like cypress, eucalypts, and casuarinas are planted by creating furrows/drills in the soil mix, dropping the seeds in, and lightly covering them with the same soil mixture.

Table 5.5: Sowing seeds in the tree nursery

Image A: Seed broadcasting	Image B: Drill sowing
Image C: Practical Direct Sowing ongoing at the nursery	

Direct sowing: Large-sized seeds like Mnyanza (*Gigasiphon macrosiphon*), Mbambakofi (*Afzelia quanzensis*) etc. can be planted directly into containers, saving time and resources by bypassing the need for seedbed preparation and transplanting.

Practical Guide: Obtain some seeds suitable for different sowing methods and some polythene tubes. Get participants outside and demonstrate the above sowing methods as below;

1. Broadcasting: Hold the seeds in one hand and use your other hand to scatter the seeds evenly over the selected demonstration site. Try to spread them as uniformly as possible to avoid overcrowding or sparse patches.

2. Direct sowing: Fill a polythene tube with soil, leaving about an inch or two from the top to allow for watering. Make a small hole in the soil of the tube using your finger or a small wooden stick. Place a seed in the hole and cover it lightly with soil.
3. Drill sowing: Use a straight stick with a straight edge to mark straight rows on the hypothetical seedbed. Using the same stick, press it into the soil along the marked rows. This will create furrows where the seeds will be sown. Spread seeds into the furrows at regular intervals then cover lightly with soil.

Pricking out/in

This process involves removing young and tender seedlings from seedbeds and transplanting them into pots/tubes. The following steps are followed;

1. Prepare by watering both the seedbed and pots/tubes (seedling beds) adequately, and ensure there is enough shade.
2. Fill a container with water to ¾ full, then gently remove seedlings from the seedbed, taking care not to damage them.
3. Make a hole at the center of the pot/tube using a dibbler and plant the seedling, taking care not to handle the stems directly. Handle the seedlings gently by the leaves.
4. If the roots are too long make sure to clip them before planting them.
5. Firm the soil around the seedlings to eliminate air pockets by holding the dibbler tilted and inserting it in the soil about one centimeter away from the seedling to the same depth as the hole then pushing the soil towards the seedling to hold tightly.
6. Water the pots/tubes adequately after planting.

Shading

Place pricked-out seedlings under shade to shield them from direct sunlight for a period of two to three weeks. Use readily available materials like grass, mats, or coconut leaves for making the shade. The shade should be a minimum of 1.5 meters high.

Image A: Pricking Out

Image B: Pricking In

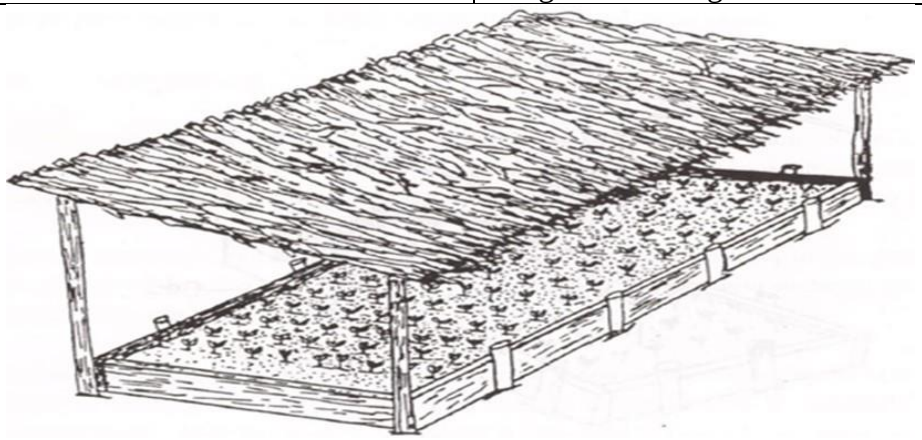


Image C: Shading pricked out seedlings

6.4 Tending of Seedlings

Training Notes

Watering

Water seedlings twice daily, in the morning and late afternoon when the sun is not too hot. Adjust watering during rainy seasons to prevent over-watering or under-watering. Use 20 liters of water for every 1000 seedlings and avoid direct use of hosepipes but instead use fine watering hoses or sprinklers (NB: This does not apply to all tree species)

Weeding

Weeds pose a danger to the growth of seedlings as they compete with them for nutrients, water, and light. Thus, ensure to eliminate them. Use your hands to gently uproot any undesired plant and this should be carried out promptly upon observing any weeds.

Root pruning

Root pruning is the trimming of seedling roots to manage their growth so they do not outgrow the pots/tubes. Follow the procedure below:

1. Ensure adequate watering of the seedling before root pruning.
2. With a sharp knife (or piano wire for beds), trim long roots beneath the pot/tube. Alternatively, lift the pots/tubes to trim overgrown roots.
3. After root pruning, thoroughly water the seedlings to help them cope with moisture stress.
4. Conduct root pruning early in the morning or late afternoon when temperatures are cooler.
5. Conduct regular root pruning, ideally every 2-3 weeks.

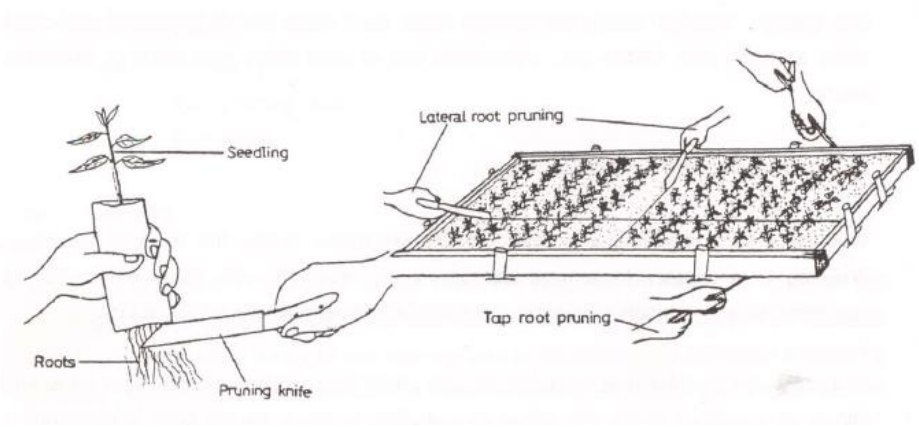


Fig. Illustrating root pruning

Hardening off

This is the process of gradually acclimating seedlings to field conditions by reducing watering and increasing exposure to sunlight. Hardening off should be done 2-3 weeks prior to out planting to ensure better field survival.

Protecting Seedlings

Seedlings are vulnerable to pests, diseases, and adverse weather, which can weaken or kill them. Prompt action is necessary to address any damage. Threats fall into several categories:

- **Weather Extremes**: Damage caused by harsh weather can be mitigated by adjusting watering or providing shade.
- **Human Interference:** Theft or intentional damage by humans can be prevented with fencing and security measures.
- **Animal damage**: Livestock and wildlife may browse, graze, or trample seedlings. This is mitigated by fencing.
- **Insect pests and diseases**: Insect pests and disease outbreaks can damage seedlings leading to huge losses. Nursery operators need to be vigilant and report any cases of such attacks to the nearest forest extension officers for assistance.

Vegetative Propagation

This technology involves use of parts of a selected growing plant for multiplication. It mainly involves use of cuttings, budding, grafting and tissue culture. These techniques always require additional infrastructure to be attached to the nursery e.g. shade nets with various percentage light penetration, green house, mist propagation unit and tissue culture units.

Plate 9: A well-sited and maintained tree nursery (Source: KEFRI)

6.5 Tree Nursery Records

Training Notes

To effectively manage a nursery, it is essential to maintain up to date records. Key documents include:

1. **Worker Register/Muster Roll:** Tracks worker attendance and daily activities, managed by the supervisor to determine payment.
2. **Equipment Inventory Register/Asset Register**: Records all nursery equipment and assets along with their condition, passed between supervisors.

Table 5.6: Tree nursery records

Equipment/Material	Date of acquisition	Quantity	Cost	Condition	Remarks

3. Worker's Diary: Records daily tasks, accomplishments, field observations, and notes.
4. Weekly Reports: Highlights completed tasks, achievements, attendance, and incidents.
5. Seed Inventory Book: Catalogs seeds entering the nursery, noting details like species, batch number, quantity, and germination rate.

Species	Date received	Quantity Received	Date collected	Provenance (source)	Remarks

6. **Seedling book:** Records Seed code number, Species name, Pretreatment, Sowing date, Germination date, Germination percentage etc.

Species name	Date sowed	Quantity sowed	Quantity pricked out	Date of root pruning	No. Dead	sold	Issued	Total plantable	Remarks

7. **Nursery delivery register**: This documents the allocation of seedlings, noting recipients' names, addresses, contact information, and the number planted locally.
8. **Invoice**: Accompanying goods (seeds/seedlings) to the buyer, this document outlines details and pricing, necessary for payment processing and is accompanied by a delivery note.
9. **Delivery Note**: Issued with delivered goods, this document details the contents and must be signed by the recipient to confirm goods' condition, facilitating payment arrangements.
10. **Cash Sale Receipt:** Confirmation of received payment, typically exchanged with cash.
11. **Visitor's Book:** A record of all nursery visitors, including buyers, noting visit dates, contact information, and remarks for management purposes.

MODULE: CLIMATE CHANGE ADAPTATION AND MITIGATION IN FOREST MANAGEMENT

7.0 Introduction to the Module

This module aims to equip trainees with knowledge trainee on how climate change affects forests and the measures to implement in mitigating the impacts. The module explores impacts of climate change on forest ecosystems, climate –smart practices in PFM, adaptation to climate change, role of forests in Payment for Ecosystem Services (PES) schemes, carbon credit and trading as well as the opportunities and challenges.

At the end of the module, the trainees will acquire knowledge on how to deal with climate change related challenges in forest management.

Module Summary and Facilitators guides

Module 6: Climate Change Adaptation and Mitigation in Forest Management (# hours)							
	Topics	**Audience**	**Duration**	**Instructional Methodology**	**Learning objectives**	**Learning Outcomes**	**Inputs needed**
7.1	Understanding the Impacts of Climate Change on Forest Ecosystems	For both male and Female Participants	60 Minutes	-Lecture, -Group activity	To equip trainees with knowledge on climate change challenges	- Participants have knowledge on basics of climate change - Participants to demonstrate accuracy in articulating climate-related issues on forest ecosystems	-Trainers' guides -Audio-visuals -Projector -Laptops -Flipcharts, markers - Venue/logistics -Masking tapes

						to enhance awareness creation at household and community level - Participants to be able to identify possible direct and indirect climate change impacts to forests, most likely to be associated with climate risks	
7.2	Climate-Smart Practices in CBFM	Male and female participants	30 Minutes + 1 day field visits	-Lecture - Educational field visit	To understand Climate-Smart practices /technologies	- Participants able to identify various climate smart forestry practices that could be implemented in their respective areas/localities	-Trainers' guides -Audio-visuals -Projector -Laptops -Flipcharts, markers - Venue/logistics -Masking tapes -Transport

7.3	The role of CBFM in building Community Climate Change Resilience	Male and Female participants	60 mins	-Lecture -Group work	To understand Climate Change Resilience and develop action plans	-Participants able to undertake climate vulnerability assessment and develop community action plans.	-Trainers' guides -Audio-visuals -Projector -Laptops -Flipcharts, markers -Venue/logistics -Masking tapes
7.4	Adapting to Climate Change: Strategies and Actions for CFAs	Male and Female participants	60 mins	-Lecture -Group work	To understand and develop Strategies and Action Plans for CFAs	Participants to come up with locally viable adaptation mechanisms based on the action plan	-Trainers' guides -Audio-Visual -Projector -laptops -Flip chart -Masking Tapes -Marker Pen -Venue/logistics.

7.5	The Role of Forests in PES; Introduction to Carbon Credits and Trading Opportunities for CFAs in the Carbon Market. Challenges and Considerations for CFAs in Engaging with Carbon Markets	Male and Female participants	120 mins	-Lecture -Group work -Field work	To inform trainees on Carbon Credits Markets and the Opportunities available	-Participants able to understand the concept of Carbon and Biodiversity Markets -Participants to be able to identify opportunities in the carbon and biodiversity market for communities -Participants to understand the challenges and possible solutions associated with carbon and biodiversity markets	-Trainers' guides -Audio-visuals -Projector -Laptops -Flipcharts, markers -Venue/logistics -Masking tapes

7.1 Understanding the Impacts of Climate Change on Forest Ecosystems

Participatory Guide: Ask participants to define climate change and state how it affects forest ecosystems

Training Notes

Introduction

The world's climate is changing, thus changes in the climate are likely to affect strongly forest ecosystems by changing how forests grow, the mortality of forest organisms, and reproduction of trees.

Definition of Climate Change

Climate change describes a change in the average conditions, such as temperature and rainfall in a region over a long period i.e. 35-40 years. It is caused by natural variability or because of human activity.

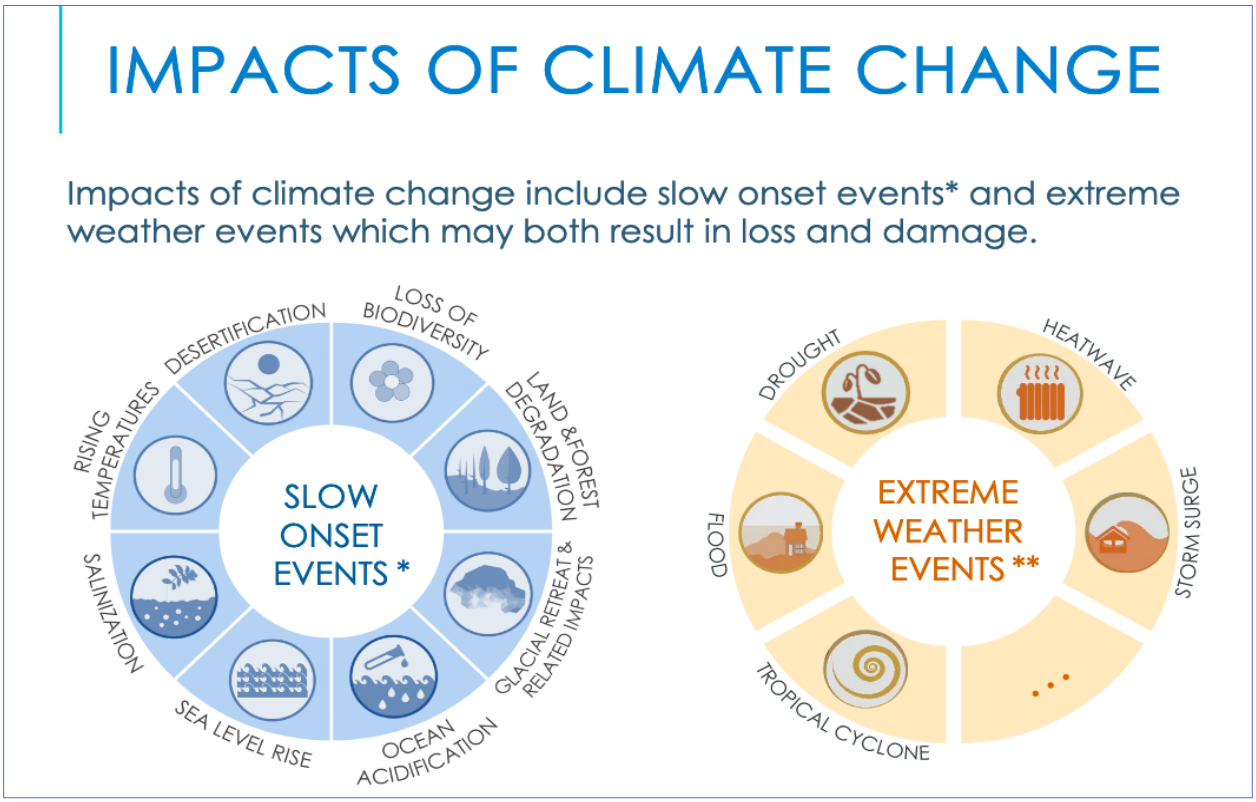


Figure 6.1: Impacts of climate change

Impacts of climate change on forest ecosystems

- Climate change causes forest disturbances resulting in forest fires and storms that can wipe out forest ecosystems. A drier climate results in water stressed forests grow.
- Prolonged drier conditions increase the likelihood of forest fires. These fires can destroy large tracts of forests, leading to habitat loss and changes in ecosystem composition.
- Climate change creates favorable conditions for invasive species to grow and spread. The invasive plants and animals are not indigenous or native to the ecosystem under consideration. They grow and tend to colonize the ecosystem, endangering native organisms, and causing environmental and economic harm.
- Climate change affects forest health by increasing the risk of pests and disease outbreak. These affect growth of forests and can wipe them away if not managed.
- Climate change can harm forest biodiversity by altering how species interact and changing their habitats causing adaptability or extinction.

7.2 Climate-Smart Practices (CSA) in Participatory Forest Management (PFM)

Definition of Climate–Smart Practices

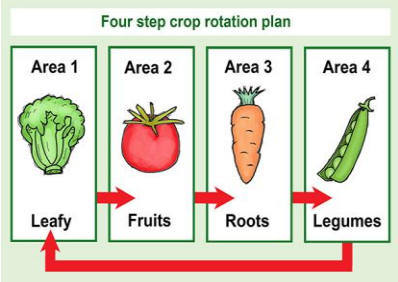
Climate-smart practices are methods or approaches or technologies, which help human beings, adapt to and mitigate the effects of climate change while promoting sustainability.

Role of Climate Smart Approaches (CSA)

Figure 6.1: Role of Climate Smart practices

The Kenya Climate Change Action Plan (NCCAP), 2023-2027 recognizes critical CSA practices such as agroforestry, conservation tillage, and limited use of fire in agricultural areas, cultivation of drought-tolerant crops, water harvesting, and integrated soil fertility management, among others. Generally, the following climate smart practices are carried out in Kenya.

Table 6.1: Climate Smart practices related to forestry

No.	Climate Smart Practice	Adaptation	Mitigation	
1.	Crop rotation	Helps maximize soil nutrients for crops. Reduces pest and disease risks. Improves soil fertility	Maintains or improves soil fertility, organic matter content carbon stocks and soil. Controls buildup of pests and diseases	
2.	Water-efficient irrigation techniques	Increases productivity through increase water use efficiency. Reduces water wastages.	Alternate Wetting and Drying (AWD) can reduce methane emissions.	
3.	Mulching	Promotes soil and water conservation. Increases soil nutrients upon decomposition. Prevents erosion.	Maintains or improves soil carbon stocks and soil organic matter content.	
4.	Manure composting and application	Improves soil nutrients and yields per unit area. Reduces soil salinity, and improves soil water retention.	Reduces methane emissions. Reduced inorganic fertilizers use	

5.	Intercropping	Improves soil health and quality. Increases efficiency in water and soil use.	Nitrogen fixation by legumes reduces inorganic nitrogen fertilizer requirements. Contributes to soil organic matter, maintaining soil carbon stock.	

7.3 The role of PFM in building Community Resilience to Climate Change

Community resilience to climate change refers to how well a community can handle and recover from the adverse effects of climate change while maintaining their livelihoods and well-being.

Enhancing community climate resilience is necessary for reducing vulnerability to the impacts of change and ensuring sustainable development.

Participatory Guide: In plenary, let participants, discuss how PFM can help build community resilience to climate change impacts.

Training Notes

PFM will enhance climate resilience at community level through enhancing /facilitating the following interventions;

1. **Ecosystem Services:** PFM promotes sustainable management of forests thereby preserving important ecosystem services like carbon sequestration, watershed protection, and biodiversity conservation. These services contribute to climate resilience by maintaining ecological balance and mitigating the impacts of extreme weather events.

2. **Livelihood Diversification:** Engaging communities in forest management provides alternative livelihood options such as income from IGAs including eco-tourism, bee keeping, and sale of non-timber forest products.

3. **Local Knowledge and Adaptive Capacity:** Indigenous and traditional knowledge systems in CFAs contribute to communities' ability to adapt to climate change. The growing of crop varieties that are well suited to the local climate conditions, use of small-

scale irrigation systems, preservation of sacred groves (e.g. Kayas) and use of customary laws for biodiversity conservation are some of the local knowledge employed by communities to adapt to climate change impacts.

4. **Social Cohesion and Governance:** PFM fosters participatory decision-making processes and strengthens social cohesion within communities. By promoting inclusive governance structures, PFM enables collective action for climate adaptation, enhancing community resilience through shared responsibilities and collaborative efforts.

5. **Disaster Risk Reduction:** Well-managed forests act as natural buffers against climate-related hazards such as floods, landslides, and storms. PFM initiatives that prioritize forest conservation and restoration contribute to reducing disaster risks and enhancing community resilience to climate-induced disasters.

7.4 Adapting to Climate Change by communities: Strategies and Actions for CFAs

Participatory Guide: In plenary, participants to be asked to discuss strategies and actions that CFAs can implement to adapt to climate change.

Training Notes

CFAs and other FACs can adapt to climate change as they participate in sustainable forest resource management. The following strategies are important for CFAs to cope with climate change; -

a. Diversifying livelihoods sources: CFAs should diversify income sources beyond forest resources, such as ecotourism, beekeeping, and non-timber forest products (NTFPs).
b. Adopt climate smart agricultural practices, like developing small drip irrigated kitchen gardens for subsistence production of vegetables and sale of surplus produce.
c. Planting traditional drought-tolerant crops, such as millet, sorghum, cowpeas, cassavas, and green grams. These crops have short maturation periods and thrive even in regions experiencing reduced rainfall.
d. Practice agroforestry: CFAs can promote agroforestry practices within communities to diversify income sources and increase resilience to climate change. Planting trees alongside

crops can help regulate microclimates, improve soil fertility, and provide additional income through the sale of fruits, nuts, and timber.

e. Collaborate with government agencies, NGOs, research institutions, and other stakeholders to access technical expertise, funding, and resources for climate change adaptation initiatives.
f. Conserve water: CFAs should encourage water-efficient agricultural practices to sustain both forest ecosystems and community agriculture.

7.5 The Role of Forests in Payment for Ecosystem Services (PES) Schemes

Training Notes

6.5.1 Introduction to Carbon Credits and Trading

Definitions

Carbon offsetting - Refers to a mechanism that enables entities like governments or organizations compensate for their greenhouse emissions by investing in projects that reduce or remove an equivalent amount of those emissions elsewhere.

Carbon credit - tradeable certificates representing the reduction or removal of one metric tonne of carbon dioxide equivalent. A credit exists until it is retired.

Carbon finance - trade of carbon credits, which represent a reduction or removal of greenhouse gas emissions.

Carbon trading – the process of generating financial returns from reduction or removal of carbon equivalent emissions.

6.5.2 Methods of carbon credit sale

1. **Purchasing after issuance**

The process of a buyer purchasing already certified carbon and issues credit. The buyer must however finance the whole project cycle.

2. **Forward Contracts**

Contracts that give access to finance before the credits are issued. The buyer will pay for future delivery of the credits at an agreed price. A buyer would typically sign an Emissions Reduction Purchase Agreement (ERPA).

3. **Forward Purchase**

The Emission Reduction Purchase Agreement (ERPA) - A legally binding contract that allows one party to deliver carbon credits that the buyer commits to buy.

6.5.3 Sources of financing

- Government tenders or Government carbon funds -
- Multilateral financiers - WB, IFC, UNDP, Development banks, Green bonds
- Climate Fund
- Private sector project developers/private carbon funds e.g. ClimateCare, SouthPole Asset Management, Kawisafi (locally).
- Non-profit organizations - Nexus, Care, GVEP International.
- For forward financing - credit buyers, big corporations.

6.5.4 Determinants of carbon credit prices

- The investment required by the project - Project Costs.
- Demand of certain types of credits.
- How well the projects are perceived to fight against climate change?
- Age of the Vintage - the older the vintage the cheaper the price.
- Volume
- Developer quality and reputation
- Location of the site geographically.
- Co-benefits - where projects meet some SDGs, the value of a credit will be higher.
- The nature of the underlying project is one of the main factors affecting the price of credits. Avoidance projects like renewable energy normally have lower prices compared to removal projects like carbon capture technology fetch higher prices.

7.5.5 Opportunities for CFAs in the Carbon Market

1. **Policies and regulations on carbon markets in Kenya**

In Kenya, recent legislative developments aimed at regulating carbon markets have led to some concerns and ongoing dialogue between stakeholders and the government:

The **Enactment of the Climate Change (Amendment) Act, 2023;** which has amended the Climate Change Act, 2016, to regulate carbon markets in Kenya. It represents a significant step towards fostering the growth of these markets. The Amendment Act introduces an 'annual social contribution' for both land based and non-land based carbon projects aiming at sharing of annual benefits accruing from carbon projects.

Climate Change (Carbon Markets) Regulations, 2024: Published (Kenya Gazette Supplement No. 105, May 2024) by the Ministry of Environment, Climate Change, and Forestry, these regulations aim to support the amended Act. The objective of the regulations is to collaboratively regulate and coordinate implementation of the carbon market sector.

2. **Types of carbon projects**

- Plastic Credits
- Forest credits
- Energy credits

Challenges and Considerations for CFAs in Engaging with Carbon Markets

- Limited local demand across the credit ecosystem
- Distrust of projects based on REDD+ opportunities
- High capital intensity for project development
- Fragmented ownership of/access to credit generating projects
- High reliance on relationship brokers and traders to bring supply to markets

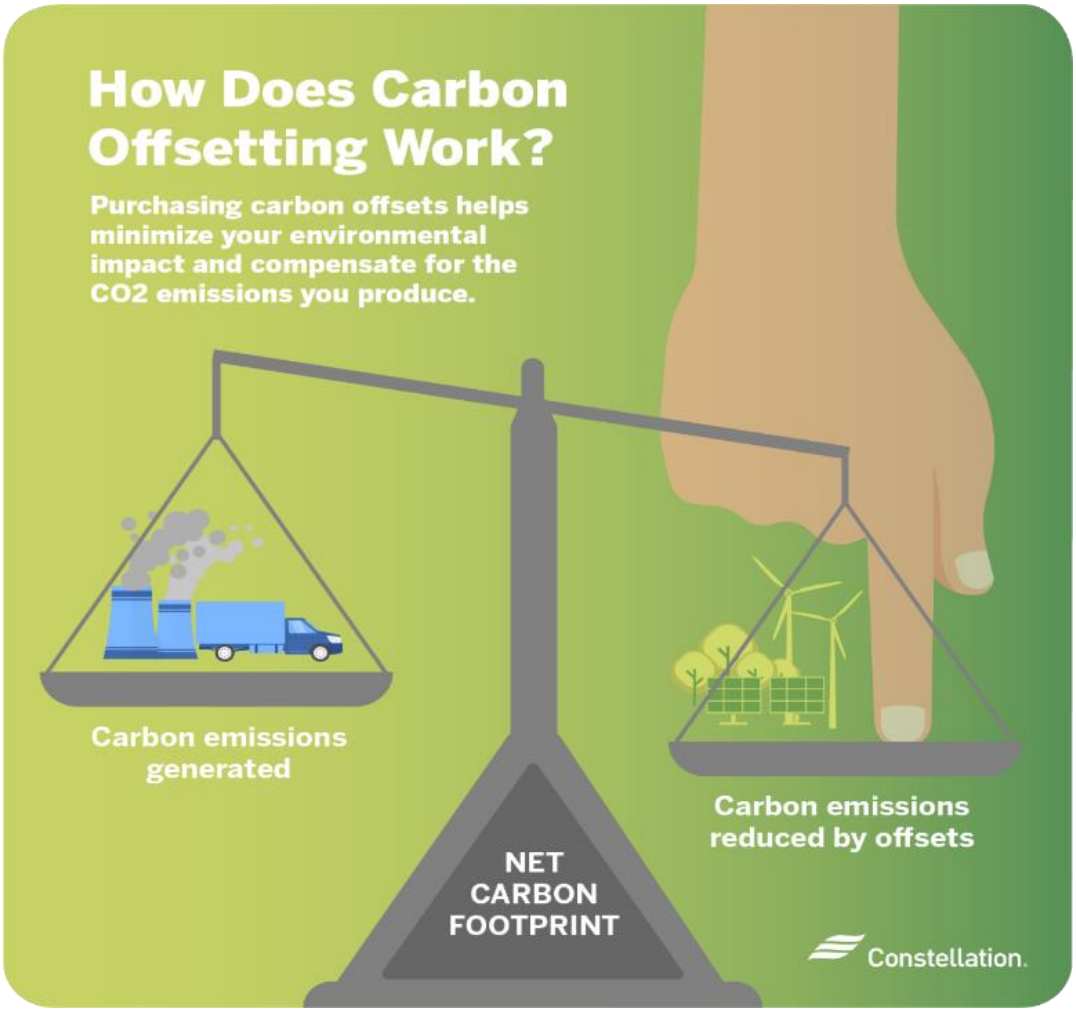


Figure 6.3: Carbon offsetting balancing
Source: https://www.constellation.com/energy

MODULE: FACILITATION SKILLS AND ADULT LEARNING

8.0 Introduction to the Module

This module aims to equip trainees with knowledge and skills on how facilitate and deliver training to adult learners. The module explores;

- Qualities of a facilitator and skills for adulating learning
- Adult learning
- Facilitation techniques and mechanism for adult learning

Module Summary and Facilitators guides

Module 7: Facilitation Skills in Adult learning (# hours)							
	Topics	**Audience**	**Duration**	**Instructional Methodology**	**Learning objectives**	**Learning Outcomes**	**Inputs needed**
8.1	Qualities of a facilitator required for adulating learning	For both male and Female Participants	60 Minutes	-Lecture, -Group activity and presentations -Focused discussions	To equip trainees with knowledge on facilitation in adult learning	Participants to understand the difference between a facilitator and a trainer. - Participants to acquire knowledge on qualities and skills of facilitating adult learning.	-Trainers' guides -Audio-visuals -Projector -Laptops -Flipcharts, markers - Venue/logistics -Masking tapes
8.2	Adult learning	Male and female	120 mins	-Lecture - Lecture,	To understand Adult	- Participants to have	-Trainers' guides

		participa nts		-Group activity -Focused discussions	learning, its Principles and Challenges	knowledge and understandi ng on Adult learning, its Principles and Challenges	-Audio-visuals -Projector -Laptops -Flipcharts, markers - Venue/logisti cs
8.3	Facilitation techniques and mechanism for Adult learning	Male and Female participa nts	120 mins	-Lecture -Group work and presentatio ns	To acquire knowledge on best techniques and various mechanism s on how to facilitate and deliver adult learning	- Participants able to list and apply various techniques and forms of facilitating training to adult learners. undertake	-Trainers' guides -Audio-visuals -Projector -Laptops -Flipcharts, markers - Venue/logisti cs -Masking tapes

Participatory guide/Instructions

At the end of the module, the trainees will be able to understand the difference between a facilitator and a trainer. In addition, participants will have acquired knowledge on qualities and skills of facilitating adult learning. Lastly, participants will have knowledge and understanding on adult learning, its Principles and Challenges.

Training Notes

8.1 Introduction to facilitation skills

The facilitator is the person in charge of steering the group. A skilled facilitator has the power to bring out the best of people and the group, and to make a discussion or session successful and rewarding for everyone involved.

8.1.1 Why do we need Facilitation skills?

- Facilitation skills enhance the learning process by guiding the participants to understand and perform certain tasks and responsibilities.
- It helps participants to learn and take increased responsibility for their own learning.
- It is a process of self- development through experiences, which enables all involved to change behavior and attitudes about themselves and others, modify institutional work contexts and initiate more participatory processes and procedures in activities.
- Facilitation can be seen as part of the Bottom Up approach to development, which promotes active participation amongst the participants.
- Facilitation is an act or a process that helps a group of people to understand their common objectives and assist them to plan how to achieve these objectives. Facilitation is not teaching and a facilitator does not take a particular position in a discussion.

8.1.2 Qualities of a Good facilitator

- Good listener- communicates interest and attentiveness.
- Respects opinions-encourages participation; believes in everyone's knowledge, expressions, strengths and ideas.
- Provides feedback-responds to issues raised without judgment.

- Poses questions-through probing to elicit the thoughts/ideas of participants.
- Recognizes body language-through observation of participants' behavioural changes.
- Good sense of humour-ability to catch participants' interest on the subject.
- Sense of time-observes punctuality and manages sessions well.
- Tactful-handles participants without hurting their feelings.
- Sensitive to people's feelings- recognizes body language.
- Conversant with subject area-understands the topic under discussion and the scope of the subject.
- Resourceful and creative-thinks on his feet, able to adapt to different situations.
- Takes responsibility of any situation that may arise during training

What makes good facilitator?

1. **The facilitator is not an expert, she or he is not the hero of the story. The facilitator is a guide.**
2. **A good facilitator is humble enough to recognize that they do not have all the answers, and that everyone holds valuable knowledge and is the expert of their own experience, and that people take their own journey of transformation, if they choose to, through self-reflection.**
3. **A good facilitator takes a seat as a member of the circle, as an equal, and elevates those around them who need it.**

Plate 10: Effective facilitation of knowledge through demonstration (Source: COSME Project)

8.2 Introduction to Adult Learning

- Adult learning is a practice in which adults engage in systematic and sustained self-educating activities in order to gain new forms of knowledge, skills, attitudes, or values.
- Adult learners bring a unique set of experiences, motivations, and challenges to the table.
- Adult learning isn't just about transferring knowledge; it's about equipping adults with skills they can immediately apply to their careers, hobbies, and everyday lives.

8.2.1 Principles of Adult learning

- Adults are self-directed learners.
- Adults have a wealth of experience that can be used to facilitate learning.
- Adults need to know why they are learning something and how it will help them achieve their goals.
- Adults learn best when the learning is relevant to their lives and work.
- Adults learn by doing and prefer hands-on experiences.
- Adults are ready to learn when they perceive a need for new knowledge or skills.
- Adults learn best when the learning is problem-centered and focused on realworld issues.
- Adults learn best when they are intrinsically motivated.

8.2.2 Challenges of Adult Learning

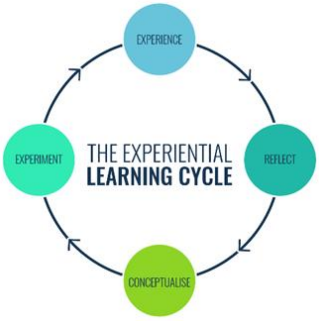
- Time Constraints: Adults often have busy schedules due to work, family responsibilities, and other commitments, which can make it difficult to allocate time for learning.
- Motivation and Relevance: Adult learners need to see the practical relevance of what they're learning. If they can't connect the content to their real-life situations, motivation can wane.
- Strategy: Clearly communicate the practical applications of the learning material. Incorporate case studies, real-world examples, and scenarios that resonate with their experiences.
- •Fear of Technology
- Some adult learners may be uncomfortable with technology, particularly if they haven't had much exposure to digital tools.
- Strategy: Provide user-friendly technology interfaces, offer tech support, and include tutorials to help learners navigate online platforms. Gradually introduce technology to build confidence.
- •Learning Styles and Preferences
- Adults have diverse learning styles and preferences. A one-size-fits-all approach may not effectively engage all learners.
- Strategy: Offer a variety of learning materials and methods, including visual, auditory, and hands-on activities. Allow learners to choose the formats that suit them best.
- •Learning Overload
- Balancing learning with other responsibilities can lead to cognitive overload and hinder effective information retention.
- Strategy: Break down complex topics into smaller, manageable chunks. Use spaced repetition techniques to reinforce learning over time.
- •Limited Study Skills
- Adult learners might not have well-developed study skills or effective learning strategies.
- Strategy: Incorporate study skills and learning techniques into the curriculum. Offer resources on time management, note-taking, and effective reading.

Adult Learning Theory is not just a concept; it is a transformative force that has the potential to revolutionize the way we approach education for adults. It recognizes that the journey of learning does not end with youth; instead, it evolves, adapts, and takes on new dimensions as we mature.

8.3 Facilitation techniques and mechanism for Adult learning

The Experiential learning cycle

People learn best from experience. When they have a space to reflect on their real-life experiences and the beliefs this has created within them, they can stand back and wonder why this might be and create new ways or theories to understand the world around them, and then test out new behaviours in a safe space. Rather than using shame or authority to "convince" people to change how they think, a good facilitator helps to trigger the reflection process. When enough people try on new behaviors and experience positive results, this helps to create and spread new ways of thinking and acting.



8.3.1 Roles of a facilitator

- Guides the discussion but remains neutral
- Prepares facilitation materials
- Keeps the group focused on the content of the discussion

- Monitors how well the participants are communicating with each other (who has spoken and who has not spoken)
- Gives group tasks
- Manages discussions to avoid many interruptions
- Uses questions to help make the discussions more productive
- Reserves adequate time for closing discussion (wrap Up)
- Wraps up on a positive note (concluding talk)
- Provides time for evaluation of the group process

8.3.2 Facilitation Techniques for Adult learning

- Talks and presentations by trainer and other facilitators.
- Discussions should be informal and allow participants to express their opinions freely on a given topic. They should take place in small groups with a discussion leader.
- Each member interprets his/her role as he/she sees fit. It can be used by large or small groups. It focuses attention on the group processes at hand and hence provides good learning opportunities for prospective discussion leaders.
- Use of Community maps and pictures to engage trainees in a creative, self-directed experience. It generates a lot of discussions and even enjoyment.
- Brainstorming
- Buzz groups
- Case studies, Study visits etc.

8.3.3 How to be a good a Facilitator?

1. **Creating a safe, empowering and inclusive space during facilitation**

- Schedule and space**:** Did the participants help to choose the room and time of meeting? Can all members physically access the space? Do they feel safe and unobserved here? Can they speak freely?
- Seating: Seating is an important part of creating a good group dynamic. Avoid blocking people with furniture, or behind other people, which prevents the flow of energy and communication. It is best to set up a circle, or a semi-circle. Avoid standing or sitting in front of everyone, as this sets the facilitator up as an expert rather than a guide.

- Adapting for a low-literacy group: The GJJ contains adaptations for doing certain sessions outside and using natural materials. Test these methods out and see if they could be preferable in some contexts. Using visuals through flipcharts can be more inclusive but avoid writing words down if there are participants who cannot read well. Instead, use drawings and agree symbols, and use participatory drawing where possible (or where there is an opportunity signaled in the GJJ).
- Ground rules: Setting ground rules is important for any new group to feel safe. These should be generated in a participatory way, but make sure that this includes important rules around inclusion:

2. Active Listening during facilitation

Active listening is a key component of effective communication and interpersonal skills. By mastering these active listening techniques, you can become a better listener, improve your relationships, and foster open communication in a variety of scenarios and contexts. The following listening skills are important;

1. Be fully present and attentive
2. Use positive body language and non-verbal cues:
3. Avoid interrupting or judging:
4. Paraphrase and reflect to show understanding
5. Ask clarifying and open-ended questions:
6. Validate the speaker's perspective and emotions:
7. Withhold advice unless asked."
8. Summarize key points and action items

How to frame questions?

- *Tell me (or us) more about that.*
- *Let me see if I have this right…*
- *How did you feel in that situation?*
- *How did others respond to you taking this action?*
- *Can you give us an example?*

3. Promoting inclusive participation during facilitation

- Strategies: There are different approaches you can use to encourage shy people to speak.
    - It is very important that everyone speaks into the space at the beginning of a session, especially in the beginning, as this establishes an "agreement" that they belong to the group and should participate actively. It can be very difficult to encourage people to speak, if they were not engaged and spoke into the circle at the start of a program. A rapid check-in at the start of a session is a good tool for ensuring people stay committed to participating actively.
    - Hold off selecting frequent speakers to make time for more reserved group members to speak up.
    - Give people time to think before they speak. Some individuals are put off speaking because they need time to think and formulate their thoughts first.
- Verbal cues: With just a few words, the facilitator can discourage people from dominating the conversation, and can create a safe space for people who feels shy, to feel safe enough to speak up:
    - *Does anyone else have a different perspective they would like to offer?*
    - *Could we hear from someone else who has not spoken yet?*
    - *Can someone else give an example of this?*
    - *Could we hear from a woman this time?*

- Non-verbal cues: Non-verbal cues can be very effective in encouraging shy people to speak, and in encouraging someone who has spoken enough to stop talking and give someone else a turn.
    - To encourage someone to speak: make eye contact with them, and try extending a flat, open palm towards someone who has something to say. Then, draw your fingers and arm back towards you, as if you were "scooping up the person", as an invitation for the person to speak.
    - To discourage someone from speaking more, look away and continue the process.
    - Avoid: using gestures that are considered rude in the culture (e.g. pointing to someone with the index finger)

4. Focusing discussions during facilitation

- Stacking: When many people want to speak at the same time, you can use a technique called "stacking". Doing this helps everyone to know how turn taking will be managed, so that people don't feel stressed, and can rest and listen to the other speakers, knowing that they will have a turn. You can also use this technique to organize the issues that people will talk about.
- Parking lots: If someone wanders off topic, but is saying something important, you can keep the discussion focused, using words, or using a parking lot. This is a sheet of paper, often posted on the wall (but it can also be in the facilitator's notebook) to write any topics or questions down to be taken up in a future session.
- Adapting sessions: It is very important to stay focused on objectives, and to complete the core activities.

5. Building group cohesion during facilitation

- Balancing perspectives: Either if you sense disagreement in the group, through silence or because someone makes an opposing comment; make sure to invite the other side as well to balance the discussion.
    - *Could we hear other sides of this argument?*
    - *Does anyone else have an opinion or perspective about this?*

- Finding common ground: Invite group members to look for similarities in experiences and feelings. Focus on the similarities first, then discuss differences

6. How to monitor and regulate energy levels during facilitation

- Check-ins: checking-in is an important transition point. It is the moment when participants take stock of what they are bringing into the room with them that day, and commit to leaving these distractions behind, so they can be present for the session.
- Encourage movement
- Acknowledge heavy emotions

7. Reading and using silence situations during facilitation

- Learn to pay attention to the silence and read what it means.
- Silence is important. It is often an indication that people are thinking. It is important to allow people the time they need to think and respond. Low-literacy groups who are less experienced in this kind of activity may need more time for reflection, especially women.
- Tension in the silence is sometimes present when participants are experiencing strong feelings, but do not feel able to speak up or share them.
- Silence can be a powerful communication tool and can help people to reflect upon and process the feelings present in a room.
- Silences need to be regulated by the facilitator. A silence that is left too long, or that is filled with unnamed tension, becomes uncomfortable for everyone. The facilitator is in charge, and needs to help people to interpret the silences, which helps with diffusing tensions, by acknowledge and name any emotions present in the room.

8. Giving and Receiving Feedback during facilitation

Feedback is important for helping facilitators, supervisors, and all the roles associated with delivering a particular training. It can also help to foster greater trust and communication. The following guidelines should be considered when giving or receiving feedback:

- *Choose the right time:* It is also important to give feedback while it is fresh and relevant – so immediately after observation is best.

- *Be clear and specific:* Feedback is only helpful if it is clear and specific. For this reason, we refer to our roles and competencies when assessing, and giving feedback. However, feedback on anything that aligns with the objectives of the project or training.
- *Focus on actions, not traits:* We base our feedback on the observation of someone's practice, and so the focus should be on the actions that we have just witnessed. Always have examples ready. Do not focus on personal traits
- *Encourage self-reflection:* It is important always to start with self-reflection of the person whose performance is under review. So, if someone has just observed your session, you will be expected to start the conversation by talking about how you think the session went, and why; what went well; what was challenging. It is important for this to come first, so that a person's own perception of their performance is not coloured by others' views.
- *Take an empathetic and balanced approach:* Giving feedback should include both positive and constructive comments. Do not only say what you think could have been better; this can be hurtful and demotivating. Instead, try to uplift and encourage the person receiving feedback too, by recognizing what they did well.

KEY MESSAGE

How to be a good a Facilitator

- *Creating a safe, empowering and inclusive space*
- *Active Listening*
- *Promoting inclusive participation*
- *Focusing discussions*
- *Building group cohesion*
- *Monitor and regulate energy levels*
- *Reading and using silence*
- *Giving and Receiving Feedback*

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ANNEXES

Annex 1: SPECIMEN CONSTITUTION OF A CFA

SPECIMEN CONSTITUTION FOR A SOCIETY

CONSTITUTION AND RULES

1. NAME
   The name of the society shall be…….…….. (In this constitution referred to as "the society"

2. OBJECTS
   a)
   b)
   c) Etc
   NOTES:
   i. The objects should be as concise as possible, consistent with clear definition:
   ii. If the society has non-political objects, it should be stated;
   iii. If it is intended that the society should form branches, it should be so stated as one of the objects.

3. MEMBERSHIP
   a) Any ……over the age of eighteen years shall be eligible for membership of the society and shall, subject to approval of the committee, become a member on payment of an entrance fee of Ksh…….
   b) Every member shall pay a monthly subscription of Ksh. …….not later than the 15th day of each month
   c) Any member desiring to resign from the society shall submit his resignation to the secretary, which shall take effect from the date of receipt by the secretary of such notice.
   d) Any member maybe expelled from membership if the committee so recommends and if a general meeting of the society shall resolve by a two-thirds majority of the members present that such a member should be expelled on grounds that his conduct has adversely affected the reputation or dignity of the society, or that he has contravened any of the provisions of the constitution of the society. The committee shall have power to suspend a member from his membership until the next general meeting of the society following such suspension but not withstanding such suspension a member whose expulsion is proposed shall have the right to address the general meeting at which his expulsion is to be considered. Any person who resigns or is removed from membership shall not be entitled to a refund of his subscription or any part thereof or any moneys contributed by him at any time.

e) Any member who falls into arrears with his monthly subscription for more than six months shall automatically cease to be a member of the society and his name shall be struck off the register of members. The committee may, however, as its discretion, reinstate such member of the total amount of subscription outstanding.

4. OFFICE BEARERS

a) The office bearers of the society shall be

i. The Chairman
ii. The Vice-Chairman
iii. The Secretary
iv. The Assistant Secretary
v. The treasurer
vi. The Assistant Treasurer

All of whom shall be fully paid-up members of the society and shall be elected at the annual general meeting to be held in each year. (See also rule 6 (b) below).

b) All office bearers shall hold office from the date of election until the succeeding annual general meeting subject to the conditions contained in sub-paragraphs(c) and (d) of this rule but shall be eligible for re-election.

c) Any office bearer who ceases to be a member of the society shall automatically cease to be an office bearer thereof.

d) Office bearers may be removed from office in the same way as it is laid down for the

expulsion of members in rule 3 (d) and vacancies thus created shall be filled by persons elected at the general meeting resolving the expulsion.

5. DUTIES OF OFFICE BEARERS

a) *Chairman*-the Chairman shall, unless prevented by illness or other sufficient cause, preside over all meetings of the committee and at all general meetings

.

b) *Vice-Chairman*-the Vice-Chairman shall perform any duties of the Chairman in his absence.

c) *Secretary*- the Secretary shall deal with all the correspondence of the society under the general supervision of the committee. In cases of urgent matters where the committee cannot be consulted, he shall consult the Chairman or if he is not available, the Vice –Chairman. The decisions reached shall be subject to ratification or otherwise at the next committee meeting. He shall issue notices convening all meetings of the committee and all general meetings of the society and shall be responsible for keeping for keeping minutes of all such meetings and for the preservation of all records of proceedings of the Society and committee.

d) *Assistant Secretary*- in the absence of the Secretary, the Assistant Secretary shall perform all the duties of the Secretary and such other duties as shall be assigned to him by the Secretary or committee whether the Secretary is present or not.

e) *Treasurer*-The Treasurer shall receive and shall also disburse, under the directions of the committee, all moneys belonging to the society and shall issue receipts for all moneys received by him and preserve vouchers for all moneys paid by him. The treasurer is responsible to the committee and to the members that proper books of account of all moneys received and paid by the society are written up, preserved and available for inspection.

f) Assistant Treasurer- the Assistant Treasurer shall perform such duties as may be specifically assigned to him by the Treasurer or by the committee and in the absence of the Treasurer shall perform the duties of the treasurer.

6. THE COMMITTEE

a) The committee shall consist of all the office bearers of the society and ……Other members elected at the annual general meeting in each year; such committee members shall hold office until the following annual general meeting. The committee shall meet at such times and places as it shall resolve but shall meet not less than once in any three months.
(NOTE. – Where it is the intention of the society to form branches, it may well be that some provision should be made for them to be represented on this committee. In which case the election of these representatives should be by the committee of the branch concerned)

b) Any casual vacancies for members of the committee caused by death or resignation shall be filled by the committee until the next annual general meeting of the society. Vacancies caused by members of the committee removed from office will be dealt with as shown in rule 4(d).

7. DUTIES OF THE COMMITTEE

a) The committee shall be responsible for the management of the society and for that purpose may give directions to the office bearers as to the manner in which, within the law, they shall perform their duties. The committee shall have power to appoint such sub-committees as it may deem desirable to make reports to the committee upon which such action shall be taken as seems to the committee desirable.

b) All moneys disbursed on behalf of the society shall be authorized by the committee except as specified in rule 12(d).

c) The quorum for meetings of the committee shall be not less than **two thirds of the** members.

8. GENERAL MEETINGS
    a) There shall be two classes of general meetings-annual general meetings and special general meetings.
    b) (i) The annual general meeting shall be held not later than…31st December ……..in each year. Notice in writing of such annual general meeting, accompanied by the annual statement of account (see rule 11 (b) and the agenda for the meeting shall be sent to all members not less than 21 days before the date of the meeting.
    (ii) The agenda for any annual general meeting shall consist of the following:
        a) Confirmation of the minutes of the previous annual general meeting.
        b) Consideration of accounts.
        c) Election of office bearers and the committee members (and trustees where necessary in accordance with rule **10 (a).**
        d) Appointment of editors in accordance with rule 11(a).
        e) Such other matters as the committee may decide or as to which notice shall have been given in writing by a member to the secretary at least four weeks before the date of the meeting.
        f) Any other business with the approval of the Chairman
    c) A special general meeting may be called for any specific purpose by the committee.
    Notice in writing of such meeting shall be sent to all members not less than 7 days before the date thereof and practicable by Press advertisement not less than 7 days before the date of such meeting

    d) A special general meeting may also be requisitioned for a specific purpose by order in writing to the secretary of not less than **a third of the** members and such meetings shall be held with 21 days of the date of the requisition. The notice for such meeting shall be as shown in rule 8 (c) and no matter shall be discussed other than that stated in the requisition.
    e) Quorum for general meetings shall be not less than **two thirds of** the registered members of the society.

9. PROCEDURE AT MEETINGS
    a) At all meetings of the society the Chairman, or in his absence, the Vice-Chairperson, or in absence of both these offices, a member selected by the meeting shall take the chair.
    b) The chairman may at his discretion limit the number of persons permitted to speak in favour of and against any motion.

c) Resolutions shall be decided by simple voting by a show of hands. In the case of equality of votes, the Chairman shall have a second or casting vote.

10. TRUSTEES

a) All land, buildings and other immovable property and all investments and securities which shall be acquired by the society shall be vested in the names of not less than……**three**…….trustees who shall be members of the society and shall be appointed at an annual general meeting for a period of three years. On retirement such trustees shall be eligible for re-election. A general meeting shall have the power to remove any of the trustees and all vacancies occurring by removal, resignation or death, shall be filled at the same or next general meeting.
b) The trustees shall pay all income received from property vested in the trustees to the Treasurer. Any expenditure in respect of such property which in opinion of trustees is necessary or desirable shall be reported by the trustees to the committee which shall authorize expenditure of such moneys as it thinks is fit.

11. AUDITOR

a) An auditor shall be appointed for the following year by the annual general meeting. All the society's accounts, records and documents shall be opened to the inspection of the auditor at any time. The Treasurer shall produce an account of his receipts and payments and a statement of assets and liabilities made up to a date which shall not be less than six weeks and not more than three months before the date of the annual general meeting. The Auditor shall examine such annual accounts and statements and either clarify that they are correct, duly vouched and in accordance with the law or report to the society in what respect they are found to be incorrect, unvouched or not in accordance with the law.
b) A copy of the auditor's report on the accounts and statements together with such accounts and statements shall be furnished to all members at the same time as the notice convening the annual general meeting is sent out. An auditor may be paid such honorarium for his duties as may be resolved by the annual general meeting appointing him.
c) No auditor shall be an office bearer or a member of the committee of the society.

12. FUNDS

a) The funds of the society may only be used for the following purposes-
   i.
   ii.
   iii.
   iv. e.t.c

(NOTE.-These purposes should be as concise as possible and must be consistence with the objects set out in rule 2)

b) All moneys and funds shall be received by and paid to the Treasurer and shall be deposited by him in the name of the society in any bank approved by the committee.
c) No payments shall be made out of the bank account without a resolution of the committee authorizing such payment and all cheques on such bank account shall be signed by the Treasurer or the Assistant Treasurer and two other office bearers of the society who shall be appointed by the committee.
d) A sum not exceeding Sh. 100 may be kept by the Treasurer for petty disbursements of which proper account shall be kept.
e) The committee shall have power to suspend any office bearer who it has reasonable cause to believe is not properly accounting for any of the funds or property of the society and shall have power to appoint another person in his place. Such suspension shall be reported to a general meeting to be convened on a date not later than two months from the date of such suspension and the general meeting shall have full power to decide what further action should be taken in the matter.
f) The financial year of the society shall be from 1st January to 31st December.

13. BRANCHES

Branches of the society may be formed with the approval of the committee and the Registrar of Societies and they will adopt the same constitution as that of the headquarters with the following exceptions:

a) The aims and objects will not include the formation of branches.
b) Amendments to the constitution can only be made by the headquarters of the society in accordance with the provisions of rule 14.
c) The provisions of rule 15 shall apply to branches but, in addition, branches will not be dissolved without consultation with their headquarters.

(NOTES:

a) This rule should only be included in the constitution of the society if it wishes to form branches. See also note (iii) to rule 2 above.
b) All such branches are required to be registered under the Societies Act, 1968, in exactly the same way as the headquarters)

14. AMENDMENTS TO THE CONSTITUTION

Amendments to the constitution of the society must be approved by at least two-thirds majority of members at a general meeting of the society. They cannot, however, be implemented without the prior consent in writing of the Registrar, obtained upon application to him made in writing and signed by three of the office bearers.

(NOTE.-The last sentence of this rule should not be included if the society is applying for exemption from registration).

15. DISSOLUTION

a) The society shall not be dissolved except by a resolution passed at a general meeting of members by vote of two-thirds of the members present. The quorum at the meeting shall be as shown in rule 8 (e). If no quorum is obtained, the proposal to dissolve the society shall be submitted to a further general meeting which shall be held one month later. Notice of this meeting shall be given to all members of the society at least 14 days before the date of the meeting. The quorum for this second meeting shall be the number of members present.

b) Provided, however, that no dissolution shall be effected without prior permission in writing of the Registrar, obtained upon application to him made in writing and signed by three of the office bearers.

c) When dissolution of the society has been approved by the Registrar no further action should be taken by the committee or any office bearer of the society in connection with the aims of the society other than to get in and liquidate for cash all the assets of the society. Subject to payment of all the debts of the society, the balance thereof shall be distributed in such a manner as may be resolved by the meeting at which the resolution for dissolution is passed.

16. INSPECTION OF ACCOUNTS AND LIST OF MEMBERS

The books of account and all documents relating thereto and a list of members of the society shall be available for inspection at the registered office of the society by any officer or member of the society on giving not less than seven days notice in writing to the society. (This rule applies to registered societies only)

SOC/GEN/2 DEPARTMENT OF THE REGISTRAR GENERAL

10th June, 1969 P.O Box 30031 00100, NAIROBI KENYA

Annex 2: Specimen CFA Registration Certificate

FORM C

REPUBLIC OF KENYA

THE SOCIETIES RULES, 1968
(*Rule* 4)

CERTIFICATE OF REGISTRATION NO.27876

I, ... Registrar of Societies, hereby certify that I have this day registered the .....

.....

under section 10 of the Societies Act.

Dated at Nairobi this 9th day of August, 2007

Registrar of Societies

GPK 5140—20m—2/2007