



Kenya National Agroforestry Strategy Development Stakeholder Mapping Report

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Introduction

A systematic mapping of the relevant stakeholders to be involved in the agroforestry strategy development process was conducted. The stakeholder mapping exercise built upon an exercise conducted at the end of 2018 for the Regreening Africa project in Kenya. During that time a survey was conducted at the start of a workshop and received 33 responses. For the agroforestry strategy development, a survey of participants took place during the committee meeting in Nairobi on 21st January 2020. From there, snowball sampling was used where the new stakeholders mentioned by committee members were then sent the survey and so forth so that all possible stakeholders were captured. A total of 47 individuals completed the survey from 36 organizations. The tools used for the stakeholder mapping activity for the strategy development were reviewed by committee members and can be seen in Annex 1. Through the surveys we asked the participants to share their organizations role in agroforestry development in Kenya. Additionally, their access to and use of information/evidence and sources was captured, the data they believe is important in developing the agroforestry strategy and their interaction networks for agroforestry in the country. Finally, their organizations involvement in markets or incentives and the coordination mechanism that would work for agroforestry development were captured.

What is needed for agroforestry development in Kenya?

The word cloud shown in Figure 1 clearly shows the words mentioned most often when organizations representatives outlined their perception on what is needed for agroforestry development in Kenya, including; agroforestry, policy, farmers, products and value. Some examples of the sentences from which the word cloud was formed include:

- Situational analysis of agroforestry practices in Kenya.
- Capacity building and provision of incentives to farmers.
- A clear policy on agroforestry.
- Functioning agroforestry markets.



Figure 1. Word cloud illustrating the key words most mentioned by respondents on the requirements for agroforestry development

Detailed responses to this question are grouped and shown in Annex 2.

Organizations role in agroforestry development in Kenya

When respondents outlined their organizations role in agroforestry development in Kenya, the words mentioned most often (as shown in Figure 2) included: policy, agroforestry, development, capacity building and farmers. Some examples of the sentences from which the word cloud was formed include;

- Development of agroforestry technologies.
- Research and development.
- Development of policy.
- Information sharing with all other stakeholders.
- Key player in advocating adoption of farm forestry and the right farm practices.

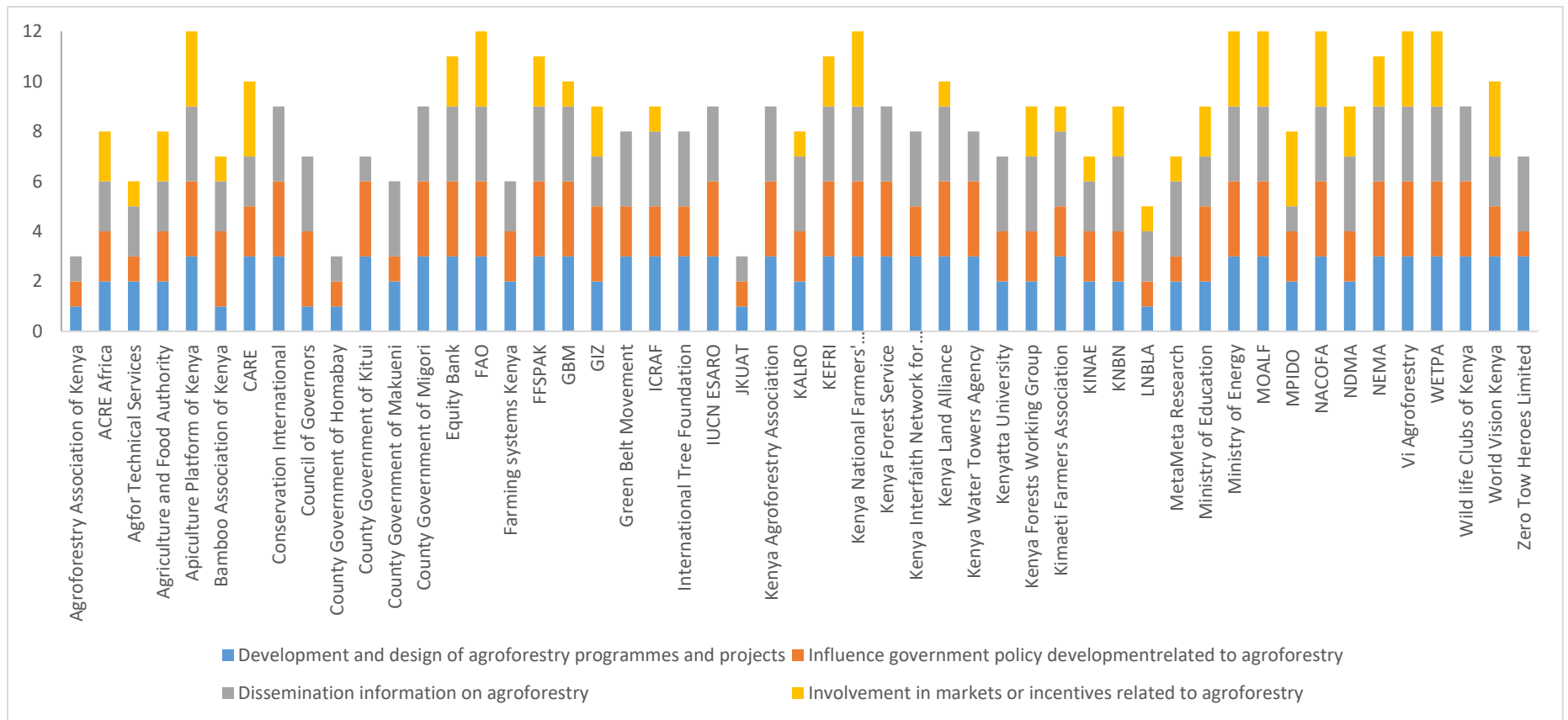


Figure 3. Perceived organization extent of involvement in development & designing of agroforestry programmes, influence in government policy related to agroforestry, dissemination of agroforestry information and involvement in markets or incentives related to agroforestry (0 is not at all, 1 is to a small extent, 2 to a medium extent and 3 to a large extent), with the total for each added cumulatively..

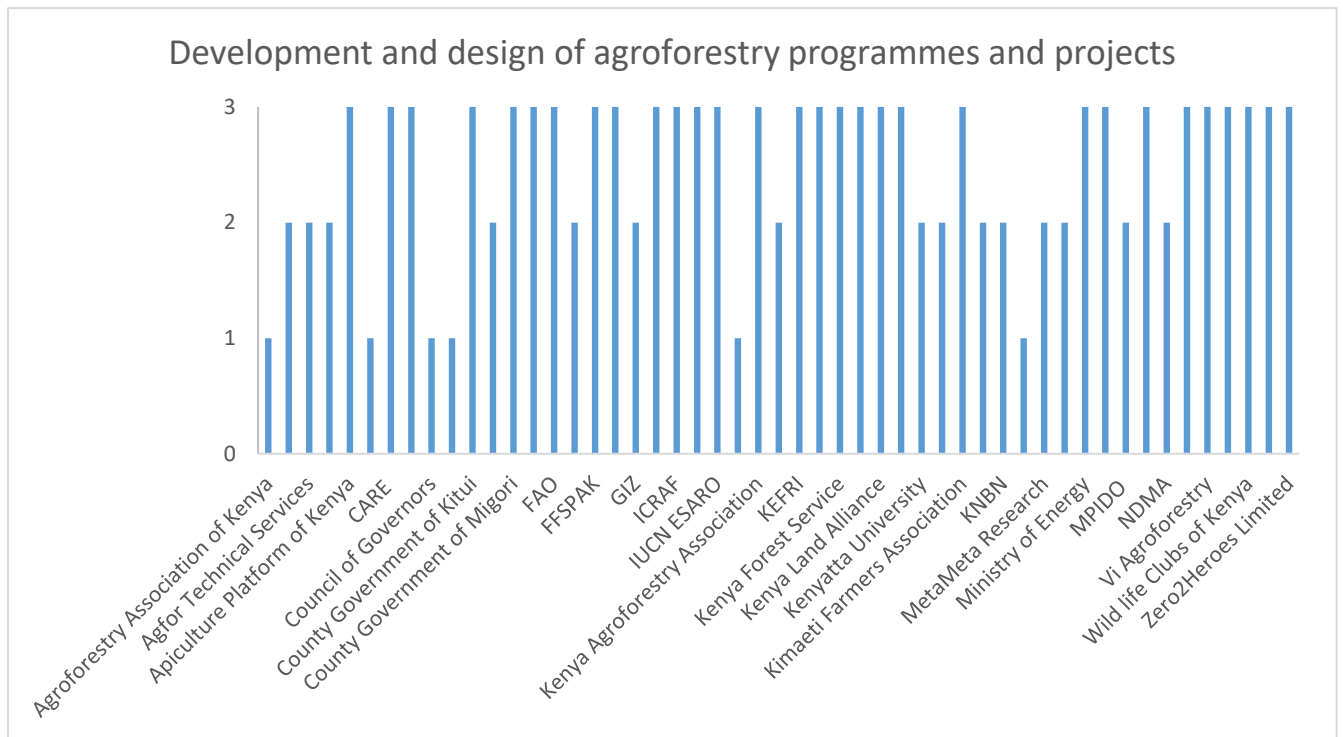


Figure 4. Perceived organization extent of involvement in development & designing of agroforestry programmes (0 is not at all, 1 is to a small extent, 2 to a medium extent and 3 to a large extent)

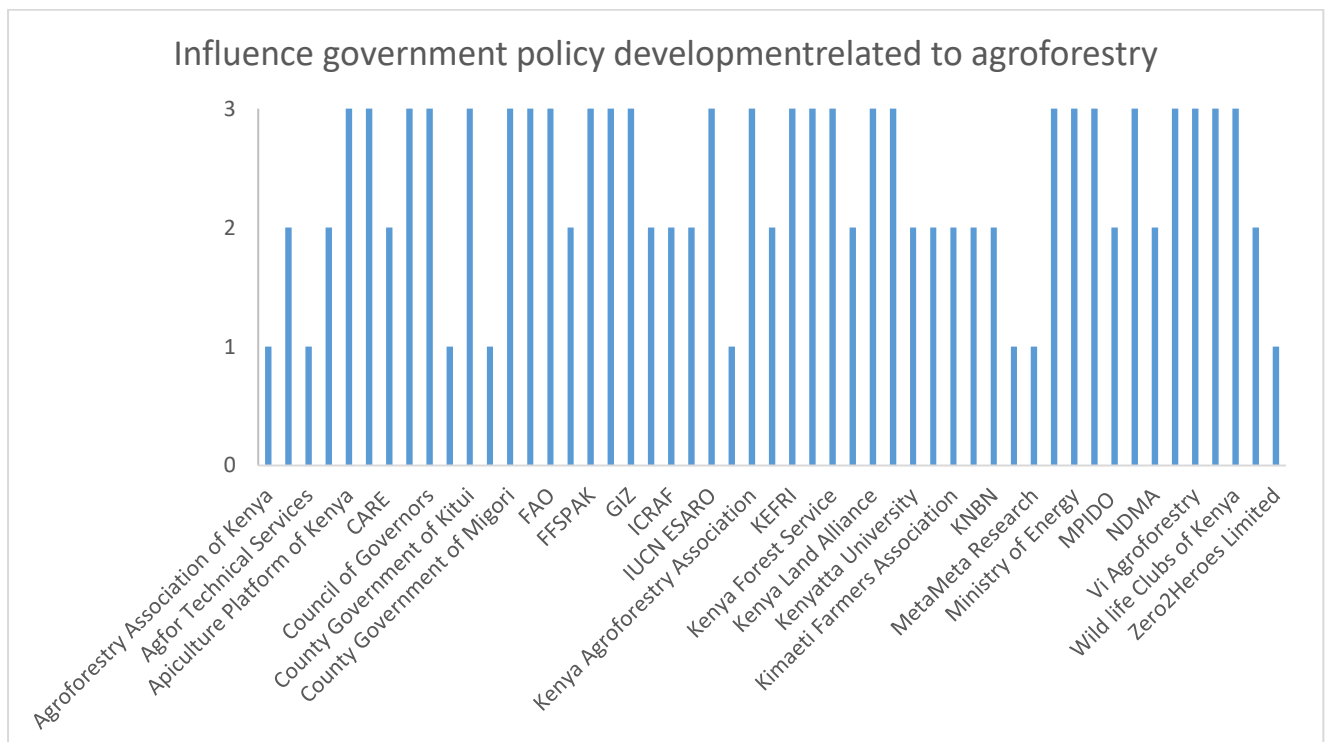


Figure 5. Perceived organization extent of involvement in government policy development (0 is not at all, 1 is to a small extent, 2 to a medium extent and 3 to a large extent)

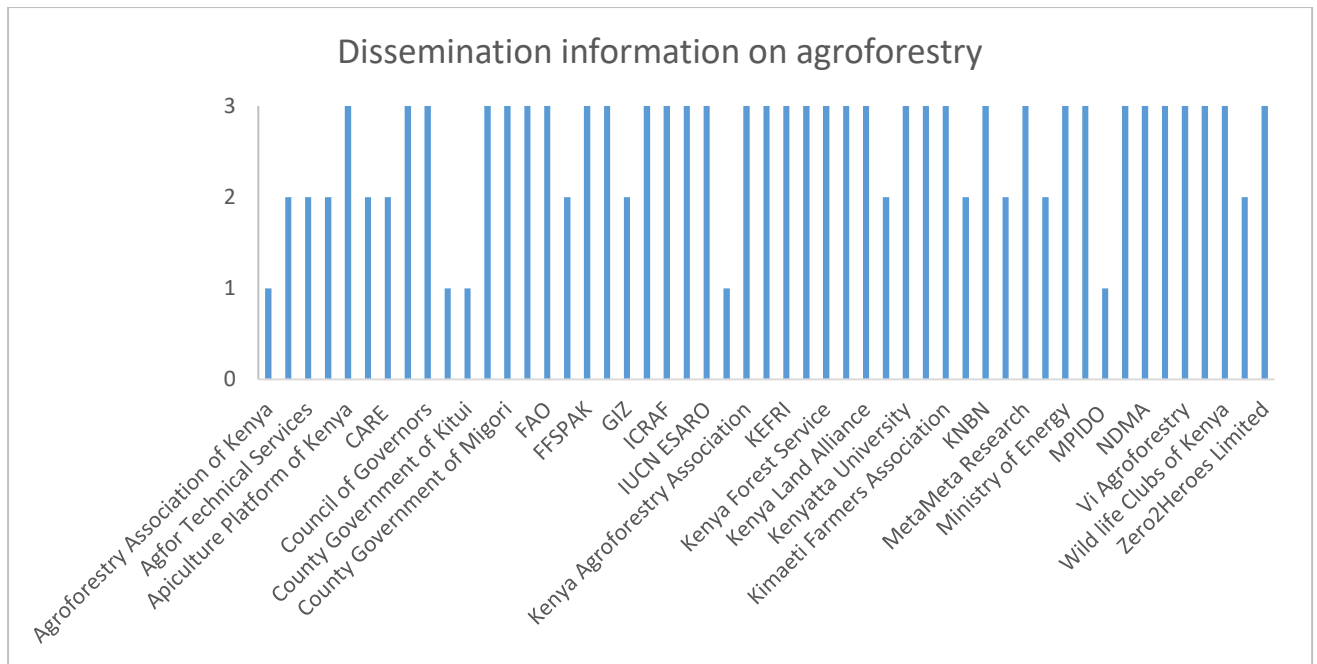


Figure 6. Perceived organization extent of involvement in dissemination of agroforestry information (0 is not at all, 1 is to a small extent, 2 to a medium extent and 3 to a large extent)

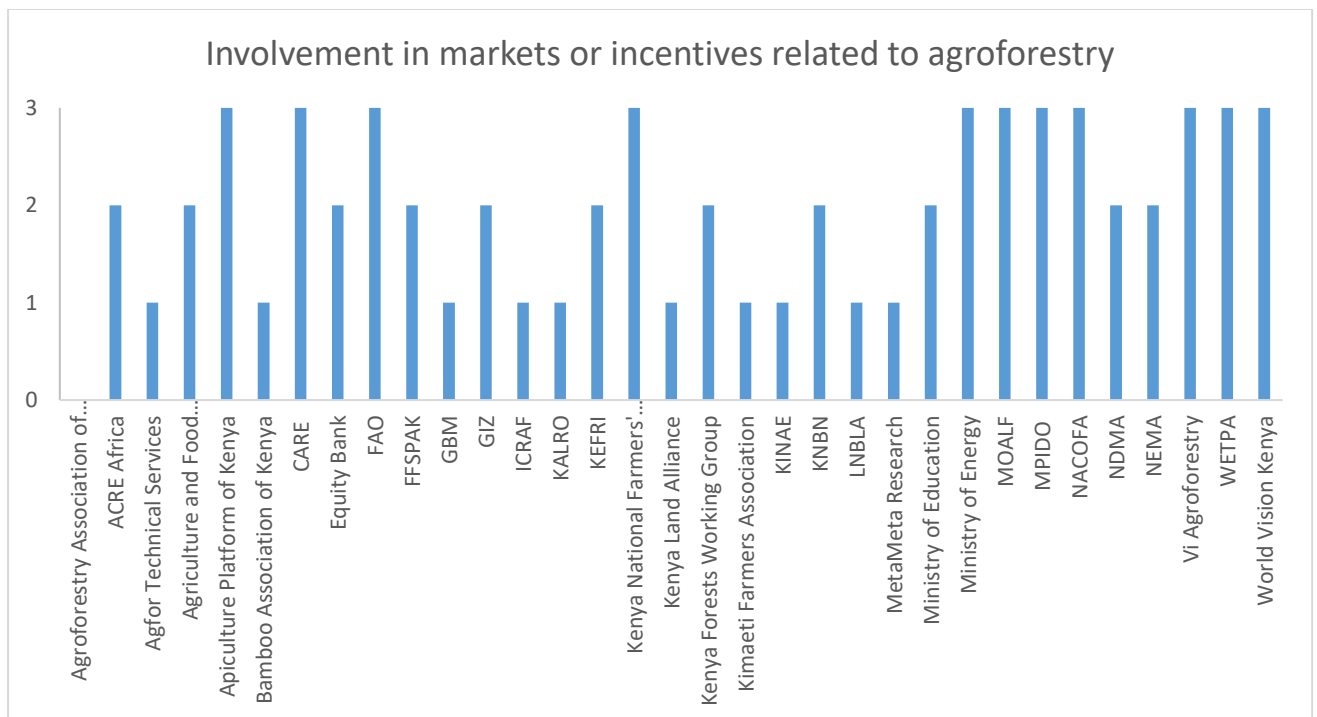


Figure 7. Perceived organization extent of involvement in markets or incentives related to agroforestry (0 is not at all, 1 is to a small extent, 2 to a medium extent and 3 to a large extent)

Data and information important in developing the agroforestry strategy for Kenya

Respondents were asked what information/data they believe is important when developing the agroforestry strategy for Kenya, the details are outlined in Table 1 below.

Table 1. Grouped information/data sources considered important by respondent for developing the agroforestry strategy for Kenya

Category	Type of data/information
Soil and Land health	<ul style="list-style-type: none"> • Carbon stocks • Soil fertility • Associated data on changes in rainfall patterns and soil profiles
Land	<ul style="list-style-type: none"> • Land sizes • Land cover • Land use and land use changes • Tenure dynamics • Coverage, forest cover maps over time to demonstrate the changes
Water	<ul style="list-style-type: none"> • Mapping of natural water resources • Expected and current state of water towers at national and county level
Climate Change	<ul style="list-style-type: none"> • Data on effects of climate change on agroforestry
Agroforestry practices and tree data	<ul style="list-style-type: none"> • Best practices • Types and productivity of agroforestry systems (various agroforestry trees and the performance) • Tree-crop relationships • Agroforestry status • Quantity and quality of stocks in farms • Tree inventory, County disaggregated agroforestry census, types of trees and uses – agroforestry tree species and their suitable agro-ecological zones • Biomass • Tree density and hectares • Farm level performance and evaluation data • Growth rate (maturity period) of different trees / crops • Data on tree cover in farms across all counties • Acreage /area under agroforestry practices and potential for agroforestry practices • Field management, harvesting, and post-harvest management
Value of agroforestry	<ul style="list-style-type: none"> • Valuation of agroforestry in various contexts – Data/information on the potential and co-benefits of agroforestry to other sectors/goals • Data on knowledge of importance of agroforestry
General information	<ul style="list-style-type: none"> • Accurate data to inform interventions • Lesson from past and current agroforestry projects /programs • Factors that are hindering the up-scaling of agroforestry practices • Government (both levels) facilitation of agroforestry • Existing indigenous technical knowledge on agroforestry practices for communities in Kenya • Availability of information on agroforestry technologies • Information dissemination strategies • Synthesis of current research papers/results • Proven working models
Seed / seedling supply	<ul style="list-style-type: none"> • Databases of nursery operators producing tree seedlings • Seed technology • Seed/planting materials including nurseries
Stakeholders	<ul style="list-style-type: none"> • Partnering organizations • Involvement of other environmental partners/associations
Market / Value chain	<ul style="list-style-type: none"> • Data on market/value chain opportunities - value chain data especially on agroforestry products • Value addition, trade and utilization/consumption of products • Tree based product market information and risks issues in the business • Agroforestry allied enterprises • Wood fuel consumption patterns in Kenya

Population and Inclusion	<ul style="list-style-type: none"> • Population of men, women, and youth involved in agroforestry • Clear gender disaggregated data to support advocacy initiatives • Population density per location, settlement patterns • Youth involvement in agroforestry
Policy	<ul style="list-style-type: none"> • Agriculture and forestry policy or acts • Policy review • County Integrated Development Plans • Latest monitoring and policy – information on legal environment • Funding for agroforestry

Use of data and evidence by organizations for prioritization and planning

Close to half (45%) of respondents said their organizations always use data and evidence for prioritization and planning as data is both available and of good quality. Slightly fewer (at 36%) reported often use of data and evidence but restricted by the quality of the available data and 19% said they use some data but are restricted by the availability of relevant data. Some of those who reported restriction by availability of data came from Kenya National Farmers' Federation (KENAFF), National Alliance Of Community Forest Association (NACOFA), National Drought Management Authority (NDMA) and Vi Agroforestry.

Information/evidence sources related to agroforestry and land restoration used by the organizations

Respondents reported that their organizations use a range of information/evidence sources. Training sessions or workshops followed by websites and research reports and papers were the most used sources (Figure 8).

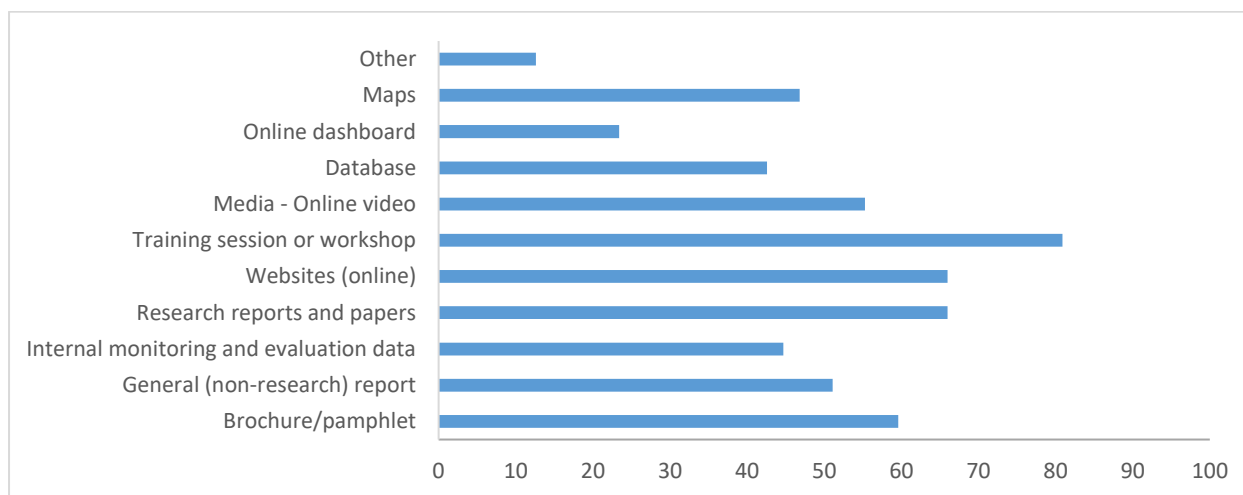


Figure 8. Information/evidence sources used by the organizations

Preferred way to interact with data

Majority of the representatives from different organizations preferred to interact with data online, either through online dashboards, websites, online databases or social media. That was followed by a preference in reports, maps and publications (hard copies and online materials), manuals or brochures, workshops and on-farm and farmers' meetings.

The Coordination mechanism that would work for agroforestry development

Respondents were asked to outline a coordination mechanism that would best work for agroforestry development in Kenya. Suggestions have been grouped and outlined below.

Secretariat/Steering Committee

- Well-funded secretariat especially at the ministry level to move the agroforestry agenda in the country. Co-chaired between MoALFC & ICRAF as conveners
- Steering Committee at national level led by MoALFC and MoEF together with Council of Governors and private sector and farmer representatives
- MoALFC assisted by an inter-agency team
- A Steering Committee that meets periodically to review status of strategy implementation and stakeholder forums where the topical issues in agroforestry are deliberated on continuous basis
- Overall by line ministry with strong link with county governments
- One Ministry to coordinate other relevant state and non-state actors
- a national driven function - resource wise - but working for County specific needs.
- committed government department to enable budgeting and action plans.
- Centralized coordinating organ under decentralized stakeholder units clustered around organizational types & mandates/ strategic & sectorial interests/administrative boundaries etc.
- Formation of national county and county steering committees with stakeholder involvement, having open days, conferences

Multi-stakeholder and sector process

- Multi stakeholder and inter sectoral involving both national and county governments, private sector, research, NGOs, donors, etc.
- Involve government, farmers, donor community, private sector, UN, and county governments.
- A multi stakeholders working group
- Multi stakeholder coordination at both national and county level
- A multi-agency collaboration, incorporating the national and county governments as well as NGOs and CBOs, with a central secretariat
- Multi sector task force
- Multi sectoral and inclusivity
- There is need for close cooperation by MoAFLC, MoEF, KFS, Counties, farmers, research entities and all relevant stakeholders in the sector; this will ensure sustained growth and formulation of strategies that address the needs accordingly.
- Stakeholder's platforms established at national level and domesticated to county level through the department of forestry or environment.
- Platforms for Stakeholders interactions.
- Sensitization of stakeholders, consultations meetings and media
- Database on all stakeholders in the sector and establish a forum for sharing information

Farmer led initiatives

- Establish and strengthen grassroots agroforestry farmers structures (cooperative model); and federate them for coordination, information and training, value addition, advocacy and trade/marketing
- Reinforce agroforestry policy, capacity building, formation of networks and develop a local incentive mechanism for smallholder farmers
- Use of community based mechanisms to develop participatory and sustainable agroforestry programs
- Strengthening county level forums to develop and implement agroforestry policies and programs, leverage on school and youth to include tree planting and protections part of learning project.

Inclusion of data/evidence - Monitoring & Evaluation

- M&E committee to gather data and for report writing
- Regular interactions with stakeholders in generating agroforestry data, development of action plans, implementation and monitoring and evaluation
- Integration of information from related organizations including farmers
- Invest in ICT (Agroforestry App) to compliment and catalyze the process development
- Have a country data base with aggregated data on form forestry accessible to users
- Train Village Based Agroforestry Advisors (VBAA) and lock them with agroforestry farmers' structures for extension/advise
- A national platform where stakeholders can feed data on interventions
- Pull players under a common forum to share data and information

Social networks for interaction on agroforestry in Kenya

Survey respondents were asked to share the names of organizations they interacted with on agroforestry as well as the organizations role, the value of their relationship with them and any contact details.

Social network analysis was used to display the stakeholder networks as sociograms (Figures 9 and 10), using the R-Studio igraph package (Csardi and Nepusz, 2006). Social network analysis is valuable as it visually displays the relationships between stakeholders in a network. It can indicate the stakeholders that are most connected as well as indicate where there are gaps in connections or in the stakeholders present in the network. When looking at the sociograms, the coloured circles are the stakeholders and their colour indicates the type. Lines between stakeholders show the reported relationships between stakeholders with the arrow showing the direction of the relationship and the number next to the line showing the value of the relationship as reported by the stakeholder from which the line comes.

From the network it is clear that a number of organizations are very connected while others have separate groups. Connectivity in a stakeholder network can be calculated through degree centrality which indicates the level of collaboration or importance of the organizations in the network. It measures the level of connectedness of the organizations and hence the level of integration or isolation in the network, (Wasserman & Faust 1994). It is measured through a sum of in-degree and out-degree. In degree, corresponds to the number of interactions with the actor reported by other network members (that is number links coming from other actors to the actor being measured). Out degree corresponds to the number of interactions with others reported by a certain actor (number of outgoing links), Table 2 shows the top eleven most connected based on their in degree. KEFRI, KFS, ICRAF and MoEF were the four organizations mentioned most often by survey respondents. Table 2 also illustrates the Eigen vector score, which shows the relationship between the stakeholders and their closeness. The eigen vector score moves beyond measuring the number of links (degree centrality) to also capture the importance of the actor from which the link originated. Actors in a network that have links with important (connected actors) are given a higher eigen vector score (Golbeck 2013).

As highlighted through the centrality measures, the most connected organizations in the agroforestry network are KEFRI, KFS, ICRAF and MoEF and they should make up the core group leading an agroforestry strategy process.

When observing the sociogram in Figures 9 and 10, it is clear there is a highly connected group of stakeholders at the core (shown in more detail in Figure 10), which is made up many types of organizations, a combination of government, research, NGO/UN, private sector and farmer organizations/networks. The multi-stakeholder, multi-sectoral and varied organizations working on agroforestry in Kenya as shown in the sociogram highlights the need to engage a wide range of organizations in the strategy development process.

Connected to the core group of stakeholders there is a periphery of organizations that often have their own unique networks that are not connected to the core, such as for tree crop nurseries, bee related organizations and timber. These more peripheral organizations may not be involved in all the stages of the strategy development but are important to bring in less connected organizations and ensure inclusion.

Fewer farmer and private sector organizations are represented in the core of the network as shown in Figure 10. Fewer stakeholders interacting with markets and incentives was also seen in Figure 7. Additionally, it is not clear how many organizations included in the network focus on women and youth. The stakeholder network therefore indicates that attention must be paid to ensuring inclusion in the stakeholders engaged in the strategy development.

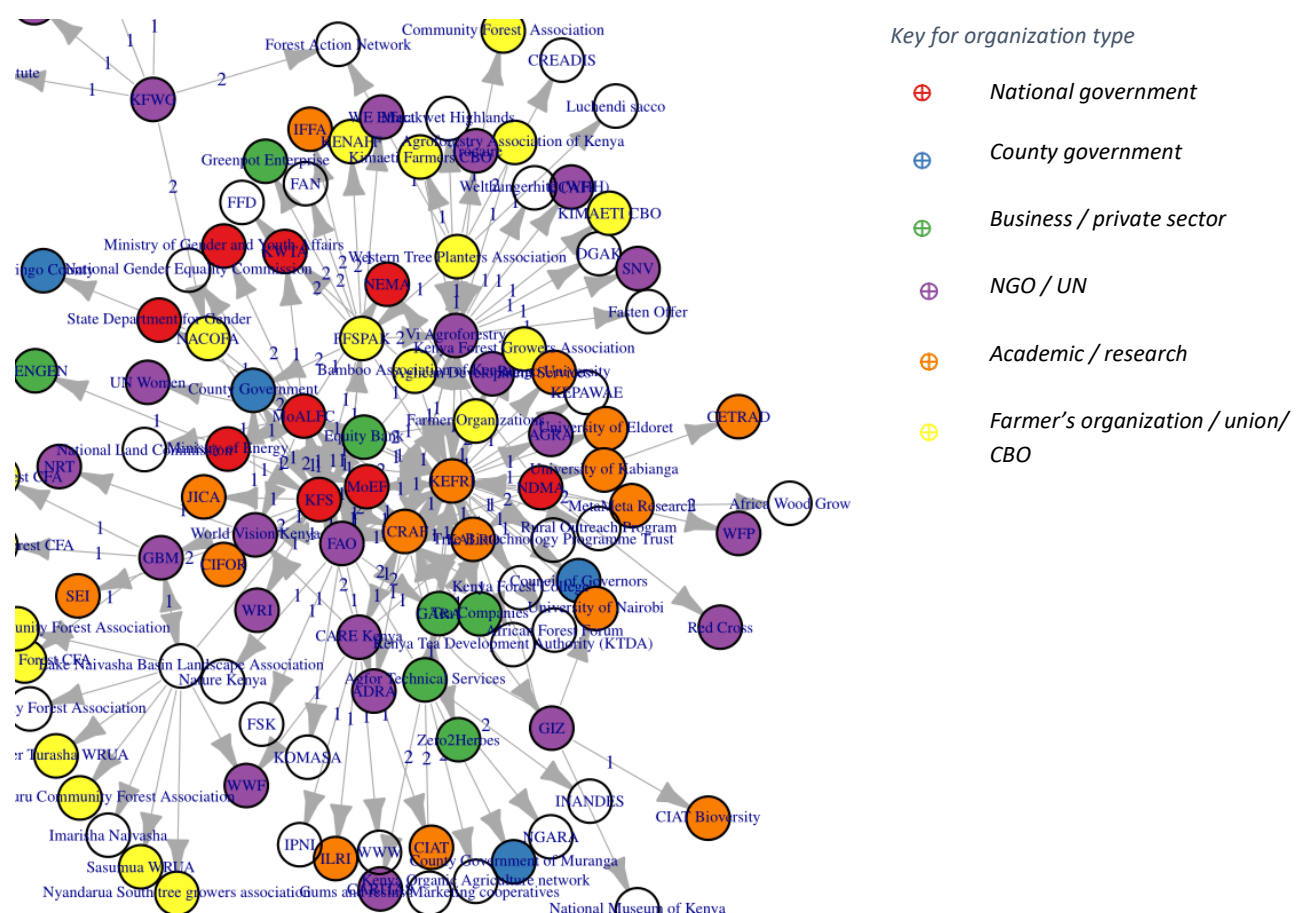
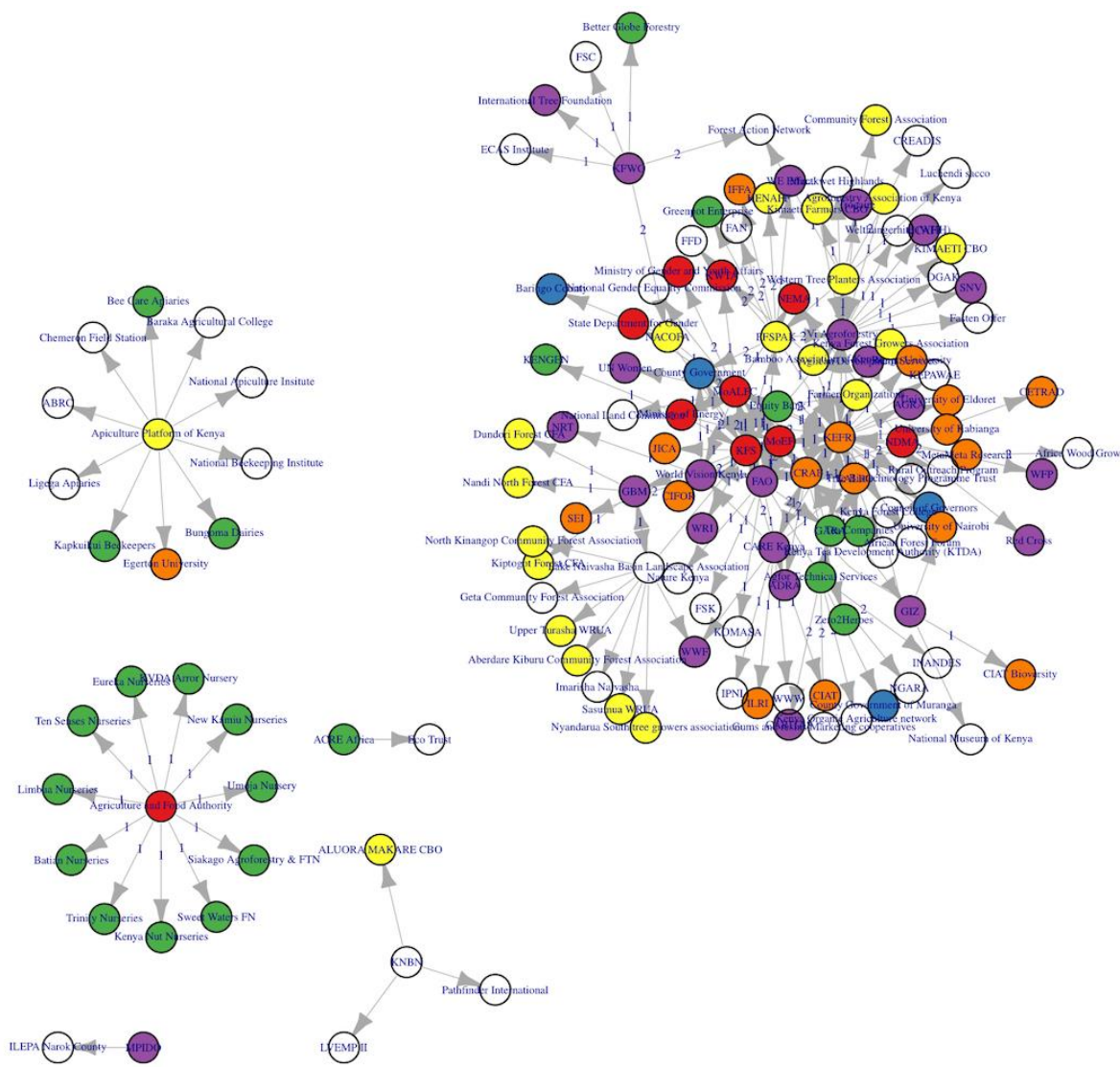


Figure 9. The core of the sociogram shown in Figure 10. Each circle is an organization and the type of organization is indicated in the key, numbers on the line indicate if the connection is 1 very valuable or 2 moderately valuable



Key for organization type

- ⊕ National government
- ⊕ County government
- ⊕ Business / private sector (for profit)
- ⊕ Non-Governmental Organization (NGO) / UN
- ⊕ Academic / research
- ⊕ Farmer's organization / union/ CBO

Figure 10. Stakeholder network for agroforestry in Kenya. Each circle is an organization and the type of organization is indicated in the key, numbers on the line indicate if the connection is 1 very valuable or 2 moderately valuable

Table 2. In degree, out degree and total degree and Eigen values of the eleven most connected organizations

Organization	In degree	Out degree	Total degree	Eigenvector
KEFRI	13	23	36	9.797190e-01
KFS	13	10	23	9.855064e-01
ICRAF	9	12	21	9.328451e-01
MoEF	9	0	9	5.320206e-01
Vi Agroforestry	8	10	18	4.535040e-01
MoALFC	6	18	24	1.000000e+00
KALRO	5	2	7	3.579745e-01
County Government	4	0	4	2.277540e-01
FAO	3	10	13	5.558805e-01
GARA	3	0	3	1.489496e-01
World Vision Kenya	3	5	8	3.466754e-01

The stakeholder mapping for the strategy builds on that completed for Regreening Africa project in Kenya. For that survey, respondents were asked to select from a list of organizations (each of which had been invited to the workshop) those that their organization has interacted with on agroforestry and restoration. The survey respondents indicated the level of collaboration their organization had with each of the organizations they selected ranging from limited through to close collaboration. The resulting social network sociogram is shown in Figure 11. Organizations that were selected most by survey respondents are shown to have larger circles, such as ICRAF, NEMA, KFW, KALRO, KEFRI, County Governments, MoEF and MoALFC. The organizations that are shown on the bottom right of the sociogram were those that were not on the original list but were added by respondents as additional important organizations. The lines between organizations are colored to show level of collaboration with orange being limited collaboration, blue some collaboration and green close collaboration.

The network in Figure 11 shows similar results as Figure 10 in that similar organization are most connected but with greater emphasis on regeneration for the Regreening Africa survey so it missed a number of the private sector and specific agroforestry stakeholders and captured some additional restoration stakeholders.

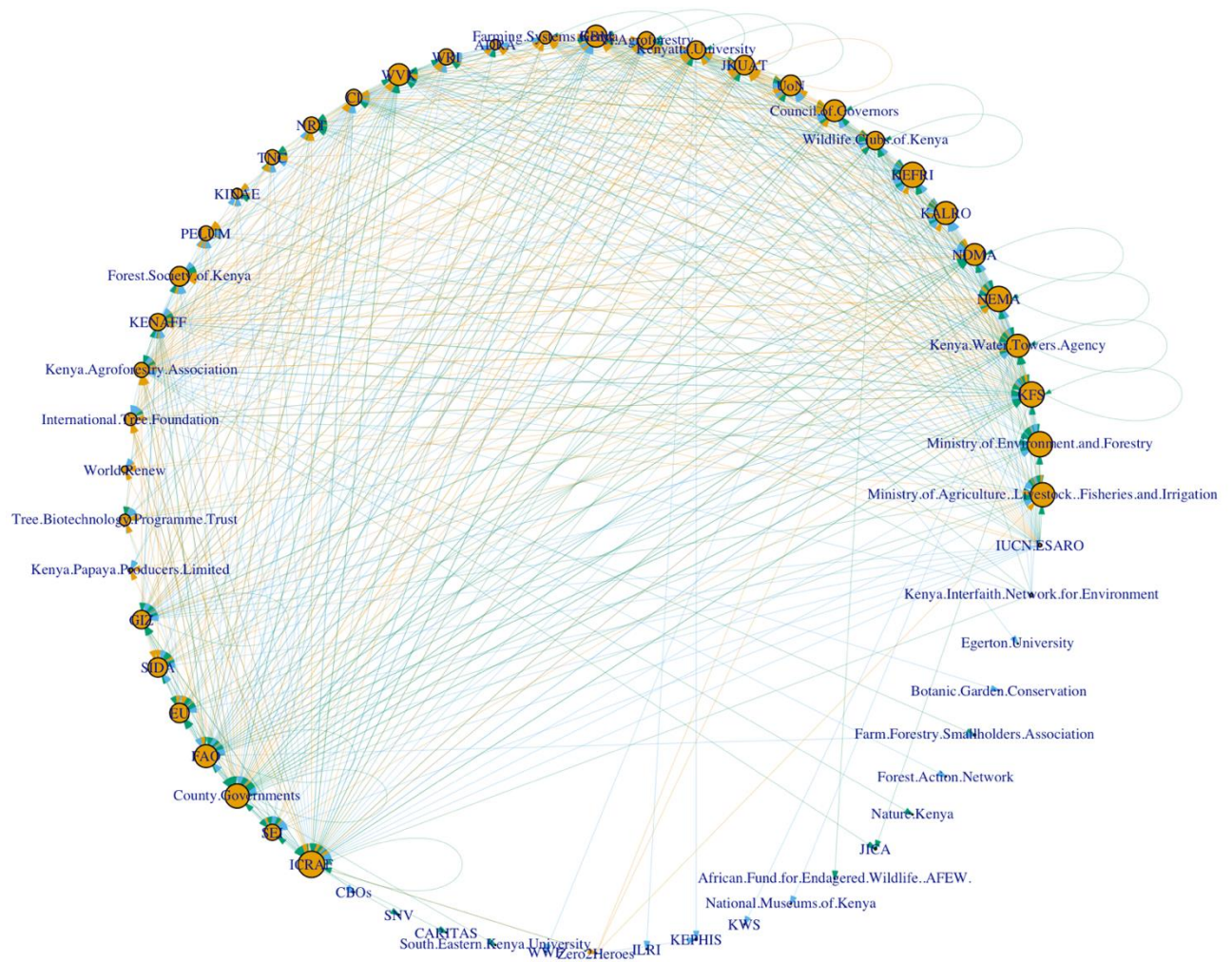


Figure 11. Sociogram showing connection between organizations. Size of nodes dependent on in-degree (the degree to which the organization is mentioned by others). Line colors represent level of collaboration with orange limited, blue some and green close.

Key lessons from the stakeholder mapping exercise for the strategy development are:

- The core team guiding the strategy development should involve the most connected actors, which were KEFRI, KFS, ICRAF and MoEF.
- A wide range of stakeholders from many sectors must be included in the development of the strategy.
- Special attention should be paid to ensuring farmer and private sector organizations are included in the strategy development and that organizations working on gender and social inclusion are represented.

Acronym list

AAK	Agroforestry Association of Kenya
ABRC	African BeeKeeping Resource Center
ACRE	Agriculture and Climate Risk Enterprise Ltd
ADRA	The Adventist Development and Relief Agency
AGRA	Alliance for a Green Revolution in Africa
CARE	Cooperative for Assistance and Relief Everywhere
CARITAS	Development and humanitarian arm of the Kenya Conference of Catholic Bishops
CBOs	Community Based Organizations
CCAFS	Climate Change, Agriculture and Food Security
CETRAD	Centre for Training and Integrated Research in ASAL Development
CFA	Community forest Associations
CI	Conservation International
CIAT	International Center for Tropical Agriculture
CIFOR	Center for International Forestry Research
CoG	Council of Governors
CREADIS	Community Research In Environment And Development Initiative
DGAK	Dairy Goat Association of Kenya
ECAS	Environmental Capacity and Sustainability Africa Institute
EU	The European Union
FAN	Forest Action Network
FAO	The Food and Agriculture Organization of the United Nations
FFD	Finish Funds for Development
FFSPAK	Farm Forestry Smallholders Producers Association of Kenya
FSC	Forest Stewardship Council
FSK	Farming Systems Kenya and Forest Society of Kenya
GARA	Gums and Resins Association
GBM	Green Belt Movement
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
ICRAF	World Agroforestry
IFFA	International Family Forest Alliance
ILEPA	Narok County Indigenous Livelihoods Enhancement Partners
ILRI	International Livestock Research Institute
INADES	Inades Formation of Kenya
IPNI	International Plant Nutrition Institute
IUCN	International Union for Conservation of Nature
ITF	International Tree Foundation
JICA	The Japan International Cooperation Agency
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KALRO	Kenya Agricultural and Livestock Research Organization
KEFRI	Kenya Forestry Research Institute
KENAFF	Kenya National Farmers' Federation
KENGEN	Kenya Electricity Generating Company
Kenya Met	Kenya Meteorological Department
KEPAWAE	Kenya Professional Women in Agriculture and Environment
KEPHIS	Kenya Plant health inspectorate Service
KFWG	Kenya Forests Working Group
KINAE	Kenya Interfaith Network of Action for Environment

KFS	Kenya Forest Service
KFWG	Kenya Forests Working Group
KNBN	Kenya National BMU Network
KWS	Kenya Wildlife Service
KWTA	Kenya Water Towers Agency
LNBLA	Lake Naivasha Basin Landscape Association
LVEMP II	Lake Victoria Environmental Project II
MoALFC	Ministry of Agriculture, Livestock, Fisheries and Cooperatives
MoEF	Ministry of Environment and Forestry
MPIDO	Mainyoito Pastoralist Integrated Development Organization
NACOFA	National Alliance of Community Forest Association
NDMA	National Drought Management Authority
NEMA	National Environment Management Authority
NGARA	Network of Natural Gums and Resins in Africa
NRT	The Northern Rangelands Trust
PELUM	Participatory Ecological Land Use Management
SEI	Stockholm Environment Institute
SIDA	The Swedish International Development Cooperation Agency
SNV	Stichting Nederlandse Vrijwilligers
TNC	The Nature Conservancy
UoN	University of Nairobi
UN Women	The United Nations Entity for Gender Equality and the Empowerment
WV	World Vision
WRI	World Resources Institute
WRUA	Water Resources Users Association
WWF	World Wildlife Fund

Reference

- Csardi G, and Nepusz T. 2006. *The igraph software package for complex network research*. InterJournal, Complex Systems.
- Giovanni P, Prete M and Gianluigi G. 2014. The dominant rationality of local stakeholder networks: The case of a southern Italian Province: *Local Economy* 29(6–7): 687–707.
- Wasserman S and Faust K. 1994. *Social Network Analysis: Methods and Applications*. Cambridge: Cambridge University Press.
- Golbeck J. 2013. *Analyzing the Social Web, Chapter 3 Network Structure and Measures*. Morgan Kaufmann, p.25-43. doi.org/10.1016/B978-0-12-405531-5.00003-1

Annex 1. Kenya Agroforestry Strategy Development. Stakeholder identification and mapping tool

Please fill out this survey to support stakeholder mapping for developing the agroforestry strategy

Question	Response
Please write your name	
Please indicate your gender (<i>tick one</i>)	<input type="checkbox"/> Female <input type="checkbox"/> Male
Please share your contact number / email address	
What is your view on what is needed for agroforestry development in Kenya	
Please write the name of the organisation you are representing	
What type of organisation is this? (<i>tick one</i>)	<input type="checkbox"/> Government (National) <input type="checkbox"/> Government (County) <input type="checkbox"/> Business / Private sector (for profit) <input type="checkbox"/> NGO (Non-Governmental Organisation) <input type="checkbox"/> Academic or research organisation <input type="checkbox"/> Farmer's organisation/union <input type="checkbox"/> Religious <input type="checkbox"/> Other (specify) _____
What is your main role (position) in this organisation or body? (<i>tick one</i>)	<input type="checkbox"/> Director/Chair/Leader <input type="checkbox"/> Unit Head/Manager <input type="checkbox"/> Program/Project/Extension Officer <input type="checkbox"/> Commissioner/chief <input type="checkbox"/> Other (specify) _____
What is your organisations role in agroforestry development in Kenya	

To what extent is your organisation involved in the development and design of agroforestry programmes and projects? <i>(tick one)</i>	<input type="checkbox"/> To a large extent <input type="checkbox"/> To a medium extent <input type="checkbox"/> To a small extent <input type="checkbox"/> Not at all
To what extent does your organisation influence government policy development related to agroforestry? <i>(tick one)</i>	<input type="checkbox"/> To a large extent <input type="checkbox"/> To a medium extent <input type="checkbox"/> To a small extent <input type="checkbox"/> Not at all
To what extent is your organisation involved in disseminating information on agroforestry? <i>(tick one)</i>	<input type="checkbox"/> To a large extent <input type="checkbox"/> To a medium extent <input type="checkbox"/> To a small extent <input type="checkbox"/> Not at all
To what extent is your organisation involved in markets or incentives related to agroforestry? <i>(tick one)</i>	<input type="checkbox"/> To a large extent <input type="checkbox"/> To a medium extent <input type="checkbox"/> To a small extent <input type="checkbox"/> Not at all
What data/information do you think is most important in developing the agroforestry strategy for Kenya? <i>(please write)</i>	
Which of the following best describes how your organisation uses data and evidence for prioritisation and planning? <i>(tick all that apply)</i>	<input type="checkbox"/> We do not use data or evidence at all <input type="checkbox"/> We use some evidence but are restricted by the availability of relevant data <input type="checkbox"/> We often use data and evidence but are restricted by the quality of the available data <input type="checkbox"/> We always use data and evidence as it is both available and of good quality <input type="checkbox"/> Other:
What information/evidence sources are used by your organisation related to agroforestry and land restoration? <i>(tick all that apply)</i>	<input type="checkbox"/> Brochure/pamphlet <input type="checkbox"/> General (non-research) report <input type="checkbox"/> Internal monitoring and evaluation data <input type="checkbox"/> Research reports and papers <input type="checkbox"/> Websites (online) <input type="checkbox"/> Training session or workshop <input type="checkbox"/> Media - Online video, newspaper, radio, social media <input type="checkbox"/> Database <input type="checkbox"/> Online dashboard <input type="checkbox"/> Maps <input type="checkbox"/> Other:
What is your preferred way to interact with data? <i>(please write)</i>	
What coordination mechanism do you think would work for agroforestry development?	

Annex 2. Requirements/needs for agroforestry development in Kenya as expressed by respondents

Policy

- A clear policy on agroforestry that is simplified and disseminated to enable communities to own the conversation.
- Creation of a forest policy
- The strategy should be integrated in frameworks for sustainable development in the agriculture sector
- An enabling policy environment both at national and county levels
- Harmonization of the various strategies and policies related to agroforestry
- There is a need to fast track operationalization of devolved forestry functions in all the counties; this is due to the fact that agroforestry aspect is normally covered under forest extension which is county service. There is also need for nationally guiding plans
- Better use of agroforestry data to inform decision and policy
- A clear strategy and action plan including budget and key players as well as their roles and responsibilities to implement the same
- Policy level at both National and County Governments should be well sensitized and own the process as well as the private sector before roll-out

Better knowledge / options

- A clear situational analysis agroforestry practices in the country
- Better knowledge on biodiversity and ecosystem services generated through clever agroforestry systems and the possibilities for value chains and income generation for farmers
- Sustained research and development of agroforestry options.
- Document plants that can be inter planted with crops to supplement human food, animal fodder, enrich the soils, provide nectar and pollen to the bees.
- In the ASALs focus more on combining agroforestry with pasture production, road water harvesting and keeping livestock. Free range grazing is becoming more and more difficult, grazing in forested pasture fields has a bright future.
- Improving bio-diversity, climate resilience and farmer's income.
- More farmers especially those whose farms border riparian areas adopting bamboo.
- Popularize Farmer Managed Natural Resources (FMNR) practices to strengthen to conservation and management of the naturally growing trees.
- Maximum sustainable utilization of farmland while paying attention to environmental conservation. It is a good idea because it will increase the forest cover.
- Promotion of widespread use of technologies through research and training.
- Integrating farm forest activities for best results
- Well-designed programmes.

Value chains and markets

- Functioning agroforestry value chain and markets
- Product certification
- It should be a blueprint for farmers in all enterprises.
- Involvement of the private sector.
- Deliberately develop, strengthen and coordinate Agroforestry value chain actors platforms in Kenya.
- Marketing and promotion of agroforestry as a sustainable business model, making it attractive to farmers, youth, women groups. It is not seen as something that gives you much benefit yet, and it is

quite slow in the uptake. However, if we can incorporate investment models, combining it with high-return tree products (nuts/fruits) it can really pick up much more.

- Value addition and pressing, of farm forestry products and non-wood forest products, integrating the youth and women, enhanced marketing of agroforestry products and developing suitable financial products for capitalizing agroforestry development,
- Establishment of incubation hubs for agroforestry enterprise.

Coordination / consultation

- A strategy to mobilize all the actors and guide on synergies.
- Ministries of Agriculture as well as Environment and Forestry should take the lead
- Consultations between the ministries involved and the stakeholders (farmers) to be able to get all the issues in agroforestry and develop measures to address them.
- Better institutional coordination.
- Proper co-ordination and linkages - Multidisciplinary teams - a multi-agency approach
- Good coordination between various actors, especially agriculture and environment ministries
- Multi stakeholders, multi-disciplinary approach to leverage on different expertise - multi sector approach to achieve the 10% forest cover in our country
- Coordination of effort by the different stakeholders towards a landscape approach in agroforestry.
- Shared learning and coordination of agroforestry projects/programmes.
- Coordinated planning and budgeting in national and county levels

Empowerment and inclusion

- Involvement and empowerment of women in agroforestry related activities.
- Empowerment of the farmers - Farmers have a huge role to play and any intervention should be designed factoring their needs both as individuals and as farmers.
- Centered around the social and economic wellbeing of local communities and aimed at environment and climate sustainability

Seed and seedling (germplasm) supply

- A robust tree seed system
- Establishment of sustainably accessible seed sources

Incentives, investment and finance mechanisms

- There is need for incentives and financing mechanisms
- Budget allocation for research and innovation, scaling.
- Strengthen national and county financing mechanisms.
- Budgetary allocation to strengthen management/improvement of agroforestry situation in Kenya.
- Provision of incentives and value addition of products for farmers who practice agroforestry.

Extension, knowledge management, capacity building

- Knowledge management and capacity building at all levels
- Have the issues of agroforestry and measures to address (mitigation) incorporated in school curriculum and made public in gatherings so that the whole community takes them up.
- Enhance extension advisory services.
- Stakeholder capacity building on practices, inputs, markets information and producer incentives.
- Publicity, sharing information and knowledge, providing extension services and awards.
- Information dissemination

- A campaign on the benefits of agroforestry and resources to implement the planned activities - incentives or direct funding of activities.
- Review/update/inclusion in low/mid and tertiary learning curricular.
- Promote agroforestry practices through sensitization/extension services so that farmers can be able to understand the dynamics of agroforestry.
- Frequent dissemination of the available data on various aspects of agroforestry
- Country-wide sensitization of the need to support agroforestry

Enforcement and compliance

- Infrastructure for enforcement and certifiable compliances.
- Enforcement of farm forestry rules.

Annex 3. Organizations roles in agroforestry development

Research and development

- Research and development.
- Client oriented research and development, mentoring youth and women in agroforestry research and development.
- Development of technologies and innovations in agroforestry; packaging and dissemination of information; building capacity of partners

Capacity development, implementation of programs, information sharing

- Capacity building at all levels.
- Information sharing with all other stakeholders.
- Supporting farmer groups.
- Programming and Implementation.
- Restoration of degraded farmlands.
- Capacity building and advocating the importance of agroforestry.
- Working with vulnerable communities to restore degraded land through natural resource management.
- Design and implement agroforestry development projects.
- Produce working and concepts in sustainable agriculture for smallholder farmers.
- Implement low cost models for agroforestry development e. g FMNR.
- Provide advisory services to the counties and farmers on suitable agroforestry practices and technical support.
- Empowering community tree nursery groups to plant trees on their farms
- Promotion of agroforestry practices amongst the farming and pastoral communities.
- Capacity building through trainings, community mobilization and sensitization meetings in agroforestry.
- Plans and programmes oriented toward our member promote the practice of agroforestry
- Promote biodiversity and ecosystem services in agricultural landscapes through agro-ecology, agrobiodiversity and sustainable agricultural practices such as agroforestry.
- Educate citizens on best practices in environment management through awareness creation including tree planting for soil and water conservation
- Ensuring achievement of 10% tree cover in land parcels owned privately/publicly during approval process of projects.

- Provision of tree seed of both indigenous and exotic species.
- Encouraging conservation of wetlands through planting of riparian friendly tree species in wetlands and riparian reserves.
- Capacity development to the farmers.
- Several projects that incorporate tree growing in one way or another
- Promotion of agroforestry in the ministry in water towers that are serving the Hydropower dams and also in our energy centers.
- Grassroots awareness's, promotion, mobilization, training.
- Up-scaling agro-forestry practices among the farming communities; capacity building on the various agro-forestry management practices and innovations; research to test or validate some of the agro-forestry practices and innovations.
- Implementing of natural resources management projects in Baringo, Samburu, counties, Marsabit, Laikipia, and Kuria counties that target greening through farmer Managed Natural resource management, community led conservation and development of climate smart value chains.
- Risk mitigation solutions for agroforestry actors.
- Inclusion and mainstreaming of agroforestry related content in the curriculum.
- Inclusion and mainstreaming of agroforestry related content in the curriculum.
- Participation of learners in national tree planting days and other activities related to agroforestry. There are clubs in schools such as wildlife clubs, environment clubs e.t.c to promote environmental education. We advocate the use of bamboo for conservation and small scale commercialization. We also support 10% forest cover on individual small holder and large scale farms.
- Capacity building/Practicing agro-forestry through PELIS and enhancing its integration in Agricultural Policies, Strategies and Capacity building of stakeholders.
- Support farmers in implementation of Agroforestry practices through capacity development, provision of Agroforestry materials and tree establishment.
- Provide weather information that may assist in decision making
- Capacity development for communities is also carried out to enlighten members and also promote agroforestry as a livelihood option. We also produce information materials with regard to forestry.
- Development of agroforestry technologies, supply of tree seed
- Regulate, promote and develop scheduled crops. Some of our scheduled crops are tree crops - Coconut, Cashew nut, Miraa, Avocado, Citrus fruit trees and Mangoes. In developing the tree crops, we work with nurseries on the production and distribution of superior planting material. . We also engage in agroforestry through our CSR programmes.

Finance

- Financing.
- Financial intermediation.
- Funding and implementing institution

Marketing, value chains

- Marketing of the agroforestry products.
- Establishment of demonstration/learning centers and linkage and networks.
- Utilization of Agroforestry materials.
- Support agroforestry as a vehicle to increase bee forages leading to increased production of bee products and to maintain bees for pollination.

Policy level

- Policy, Capacity development, funds mobilization research in development.
- Policy and practice advisory support.
- Policy development.
- Developing policies and strategies that will promote agroforestry within our farming community and cross all the value chains development actors.
- Support to public policy process in agriculture & subsector.
- Support to policy processes in the agricultural sector including environmental issues where agroforestry comes in.
- Driving forestry reforms in the country and counties. We have been assisting some counties to develop forestry legislations which will serve as reference points for replication in the other counties.

Coordination

- Coordinates and supervises development and implementation of county environment action plans.

Enforcement

- Collaboration with other partners to enforce agroforestry strategy development.
- Ensuring all environment management programs benefit from strategic environment Assessment

Advocating for rights

- Key player in advocating for adoption of farm forestry as well as advocating for rights of farmers as they take up the practice.
- We advocate for secure tenure.
- Supports environmental conservation through advocacy on agroforestry